HABITATS RISK ASSESSMENT

ASPHALT RECYCLING FACILITY
CAULDON LOW QUARRY
STONEY LANE
CAULDON
STOKE-ON-TRENT
ST10 3EW

Document Reference: AI1007/08.R0
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Project Quality Assurance
Information Sheet

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HABITATS RISK ASSESSMENT

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1.0 INTRODUCTION

1.1 Scope

1.1.1 Sirius Environmental Limited ('Sirius') have been commissioned by Aggregate Industries UK Limited (Aggregate Industries) to prepare an application for an Environmental Permit for the operation of an Asphalt Recycling Facility (ARF) at Cauldon Low Quarry, Stoke-on-Trent.

1.1.2 A Nature Conservation Screening Report provided by the EA (see **Appendix 1**) has identified 3 No. Sites of Special Scientific Interest (SSSIs) with 1km of the ARF that requires an assessment of the risk form the proposed activity.

1.2 Site Location and Layout Description

1.2.1 The ARF will be located within the confines of Cauldon Low Quarry, Stoney Lane, Cauldon, Stoke-on-Trent, Staffordshire, ST10 3EW. The proposed site is situated approximately on National Grid Reference (NGR) SK 07745 48751, as illustrated on Drawing No. AI1007/09/01. The elevation of the application site is ~280mAOD.

1.2.2 Cauldon Low Quarry is located in a rural setting approximately 20km west of Stoke-on-Trent. Cauldon village is located approximately 700m north- north-west of the site and Cauldon Low village lies ~900m southwest of the site. The application site operational boundary is shown in Drawing No. A11007/09/02.

1.2.3 Access and egress from the application site will be gained from the north via a network of internal haul roads through the wider quarry complex. The main quarry access is located ~350m west of the application site, and junction with an unclassified public road network, which provides access to the A52 located ~675m south of the junction.

1.3 Habitats Screening

1.3.1 Details of the nature conservation areas identified within 1km of the application site is presented **Table 1** and **Appendix 1.**

Table 1: Summary of nature conservation areas within 1km of the site.

Conservation Area	Designation	Approx. Closest Distance from Site	Direction
Rue Hill	Site of Specific Scientific Interest	341m	SSE/SE
Cauldon Low	Site of Specific Scientific Interest	335m	N
Cauldon Low Railway Cutting	Site of Specific Scientific Interest	812m	N

1.3.2 Descriptions and reasons for the designation of each site is presented below.

Rue Hill SSSI

1.3.3 The Rue Hill site is located in an area of former mineral workings which has given rise to an irregular, small-scale topography of spoil mounds interspersed with pits, banks and levels, rock outcrops and cliff faces. The disturbed ground has revegetated with plants that have gradually colonised from neighbouring unimproved limestone pastures, these are now largely destroyed or botanically impoverished. Rue Hill thus provides an important refuge for many species intolerant of modern grassland management.

Cauldon Low SSSI

1.3.4 The Cauldon Low SSSI is designated as an Earth Heritage site a Carboniferous Limestone section of considerable palaeogeographic and stratigraphic significance. The sequence exposed includes the Hopedale Limestone (Asbian) and the underlying Milldale Limestone (precise age uncertain) with, separating the two formations, the quartzose Cauldon Low Conglomerate.

1.3.5 The site is of significant geological importance only and is not therefore considered further in this risk assessment.

Cauldon Low Railway Cutting

1.3.6 The rock exposures within this site provide an important cross-section through shales and limestones of the Namurian Series originally formed during the Carboniferous Period about 325 million years ago. The shales and limestones contain unusually well-preserved fossil remains of marine animals that inhabited the Carboniferous sea. Of particular importance at this locality are the fossils known as goniatites which enable geologists to date the strata accurately and make detailed comparisons with rocks of similar age elsewhere in Britain. This is an important reference locality for detailed geological study of the Namurian Series.

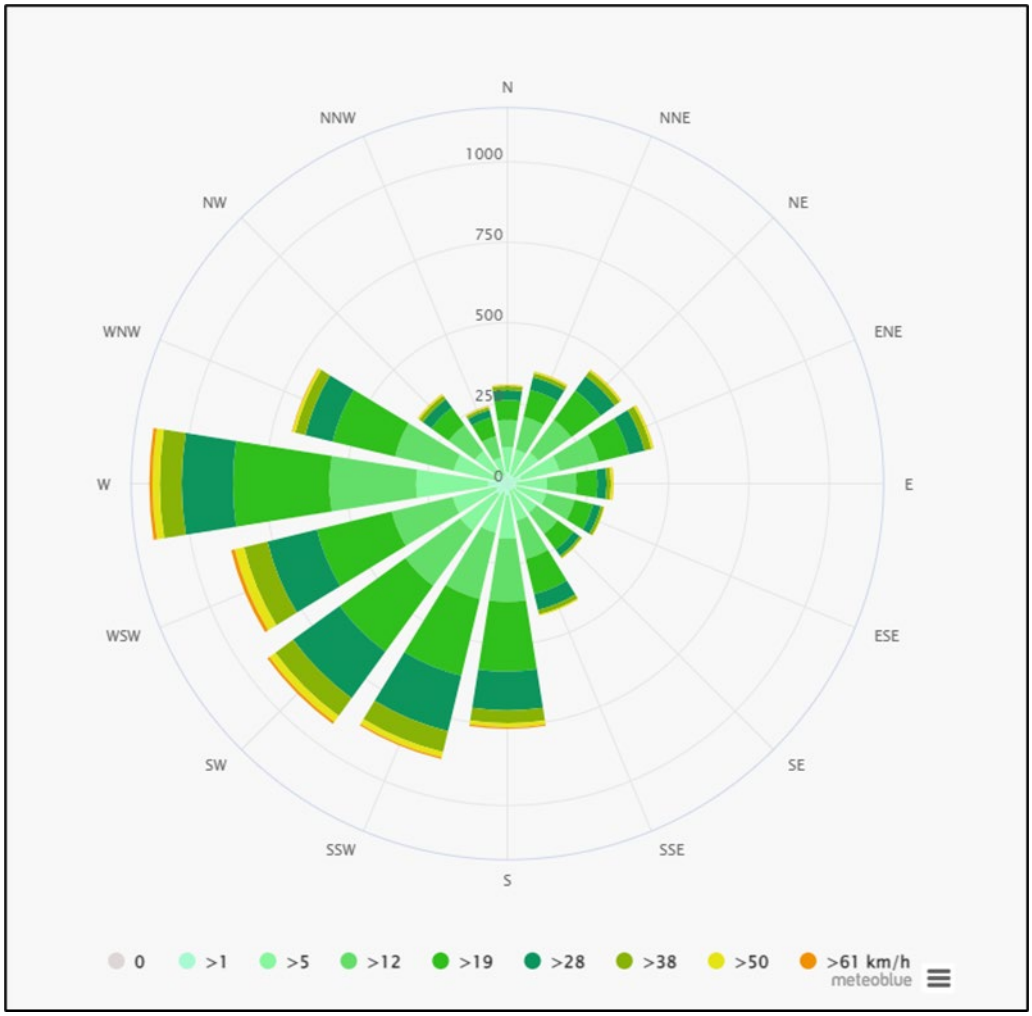
1.3.7 The site is of significant geological importance only and is not therefore considered further in this risk assessment.

1.4 Meteorological Setting

1.4.1 The local wind speed and direction data has been obtained from the Meteoblue Meteorological Website for Cauldon. The wind rose, as shown by **Figure 1** shows the percentage of wind vector that could be generated in each of the 16 points of a compass.

1.4.2 The wind rose indicates that the predominant wind directions are from the west and the south western quadrant. It can be observed from **Figure 1** that the prevailing wind is from the west.

Figure 1: Wind Rose for Cauldon



2.0 HABITATS RISK ASSESSMENT

2.1 Rationale

2.1.1 This Habitats Risk Assessment has been conducted using the Source-Pathway-Receptor conceptual model to account for potential risks arising from the site to the local wildlife and habitats. The probability and consequence of the source-pathway-receptor linkage has also been considered in this assessment, as well as the risk management / mitigation procedures and the residual risk to the specified habitat.

2.2 Risk Assessment Criteria

2.2.1 The magnitude of risks is qualified by the probability and consequence, the criteria to be adopted for the risk assessment is presented in **Table 2**.

Table 2: Risk Assessment Criteria

Probability ⇨ Consequence ⇩	Very Low	Low	Moderate	High
Very Low	Negligible	Very Low	Low	Low-Moderate
Low	Very Low	Low	Low-Moderate	Moderate
Moderate	Low	Low-Moderate	Moderate	High
High	Low-Moderate	Moderate	High	Very high

2.2.2 **Tables 3-6** assess the following risks for each identified nature conservation area identified in the screening report presented in **Appendix 1**:

- Fugitive emissions to air (dust and particulates which could cause habitat smothering)
- Odour
- Litter
- Noise and vibration
- Infestations of scavenging Birds, Vermin and Insects
- Fugitive emissions to water

2.3 Risk Assessment Matrices

2.3.1 Risk assessment matrices for each potentially sensitive habitat are presented in **Table 3.**

Table 3: Risk Assessment Matrix - Rue Hill SSSI

Hazard / Source	Pathway	Probability	Consequence	Magnitude	Justification for Risk Level	Risk Management	Residual Risk
Odour	Air	Very Low	Very Low	Negligible	No known research to confirm that wildlife are sensitive to odours. The likelihood of odours arising as a result of the permitted operations is minimal to non-existent due to the material consisting mainly of road planings which are inherently non-odorous. There is also no heat involved in any of the treatment processes that could result in the production of an odour.	Waste types accepted for processing (non-degradable road plainings) are not of the type that could be odorous as received or become odorous once stored. Notwithstanding this the following procedures will be adopted: Incoming loads of waste will be visually checked at either the site entrance or during off-loading in the inert waste recycling area. Odorous wastes will be rejected or stored in enclosed receptacles in the quarantine area. Daily inspection of the site for odours will be performed as part of the management procedures.	Negligible
Release of particulate matter (dust), from deliveries/ dispatches of waste loads, and the storage and treatment operations resulting in smothering of habitats	Air	Low	Moderate	Low-Moderate	Prevailing winds are from the west and south-western quadrant. Rue Hill SSSI is located ~341m to the SSE/SE and thus unlikely to be adversely affected by potential emissions of dust.	All haul routes will be maintained in good condition and be kept clean and free of debris. Loading of all vehicles, including internal traffic, will be supervised to ensure vehicles/containers are not overloaded. All loads will be checked prior to dispatch to ensure that vehicles are clean and free from debris. Vehicles will be thoroughly washed down as necessary prior to onward movement off site. All waste storage will be conducted to the highest of housekeeping standards. This will include specifically constructed bays for materials used in the treatment and production process. Water sprays (bowser and/or fogs) will be utilised where required to dampen surfaces and reduce dust emissions. Daily inspections of the site for aerial emissions will be performed as part of the management procedures. A site speed limit will be enforced to limit dust suspension by vehicle wheels.	Very Low

Hazard / Source	Pathway	Probability	Consequence	Magnitude	Justification for Risk Level	Risk Management	Residual Risk
Noise and vibration resulting in habitat disturbance	Air and ground	Very Low	Low	Very Low	The waste operations will not result in any significant increased noise and vibrations beyond the existing quarrying operations. Significant intervening distance.	All machinery used on site will be operated and maintained in accordance with manufacturers' recommendations. Vehicles will adhere to specified speed limits when entering and exiting the site along the Main road. Unloading, processing and loading the materials will be undertaken within strict operational parameters, to ensure that noise and vibration from this activity is mitigated as necessary. Noise monitoring will be undertaken if necessary. Should unacceptable emissions of noise or vibration occur, the incident will be noted, and a record made. Implementation of additional screening to operations if found to be required.	Negligible
Litter generation resulting in physical harm to wildlife	Air and ground	Very Low	Low	Very Low	Waste types to be permitted at the site very unlikely to generate litter. The proposed site is located within a wider Cauldon Low Quarry complex.	Types of waste accepted (road planings) are unlikely to lead to issues due to the lack of light fraction windblown elements. All vehicles hauling waste will be sheeted / netted or enclosed. Non-conforming wastes will be hand or mechanically extracted and stored within an enclosed receptacle. Strict compliance with waste acceptance procedures will be required at all times. Good housekeeping will be promoted in order to keep storage areas, treatment areas and haul roads as clean as possible. Daily inspection of the site for windblown fraction will be performed.	Very Low
Runoff/Loss of Containment of liquid wastes, leachates, fire water and other potential polluting substances resulting in nutrient enrichment siltation or toxic	Groundwater and Surface Water	Very Low	Low	Very Low	Habitat not dependant on groundwater or surface water resources. No point source off site discharges are associated with the facility Wastes (road planings) are non-hazardous in nature.	Materials storage and processing will be undertaken in specific areas which will have engineered drainage controls in place to ensure containment of uncontrolled surface water run off (e.g. drainage to sealed lagoon/sump). Highest risk operations (e.g. refuelling plant) will be undertaken with the necessary primary, secondary and tertiary containment measures. Regular monitoring will be undertaken to ensure compliance. Spill kits, absorbent granules are available throughout the site ready for immediate deployment. Good housekeeping will be promoted in order to keep storage areas as clean as possible. Daily inspection of the site for spillages / leaks etc will be performed as part of the management procedures.	Negligible

Hazard / Source	Pathway	Probability	Consequence	Magnitude	Justification for Risk Level	Risk Management	Residual Risk
Birds, vermin, and insects resulting in disease, habitat disturbance/ loss and predation	Air and over land	Very Low	Low	Very Low	The types of waste proposed to be accepted for processing at the facility are not of the nature that could typically attract pests, i.e. non-putrescible.	Incoming loads of waste will be visually checked at either the site entrance or during offloading in the appropriate area. Infested wastes will be rejected or stored in enclosed receptacles in the quarantine area. First in, first out principles will be employed to prevent excessive waste storage timings. Daily inspection of the site for infestations will be performed as part of the management procedures. Regular visits from a registered pest controller can be programmed, if required.	Negligible

3.0 REPORT CLOSURE

3.1.1 A Habitats Risk Assessment (HABRA) has been prepared in support of an Environmental Permit Application for a Asphalt Recycling Facility at Cauldon Low Quarry, Stoke-on-Trent.

3.1.2 The risk assessment considers the potential hazards, risk sources, pathways, and receptors as well as the probability and consequence of each risk linkage to the protected habitats and species identified within the Habitats and Nature Conservation Screening Report.

3.1.3 The risk assessment also considers the mitigation measures that will be implemented by Aggregate Industries UK Limited to prevent environmental harm. The resulting risk levels to these habitats and species is considered to be Low to Negligible.

3.1.4 This document will be subject to on-going review and revision where necessary. This review will be undertaken in response to events which may occur on site, and also to ensure that it accords with the latest regulations and associated guidance documents. Any revisions made to this document will be recorded and details of said revisions will be described as part of the required record relating to document review.

APPENDIX 1
Nature Conservation Screening Report

Nature and Heritage Conservation

Screening Report: Bespoke Waste

Reference	**EPR/MB3002MU/A001**
NGR	**SK 07771 48763**
Buffer (m)	**90**
Date report produced	**09/05/2023**
Number of maps enclosed	**1**

The nature and heritage conservation sites and/or protected species and habitats identified in the table below must be considered in your application.

Nature and heritage conservation sites	Screening distance (m)	Further Information
Sites of Special Scientific Interest (SSSI)	1000	Natural England

Rue Hill

Cauldon Railway Cutting

Caldon Low

Please note we have screened this application for protected and priority sites, habitats and species for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

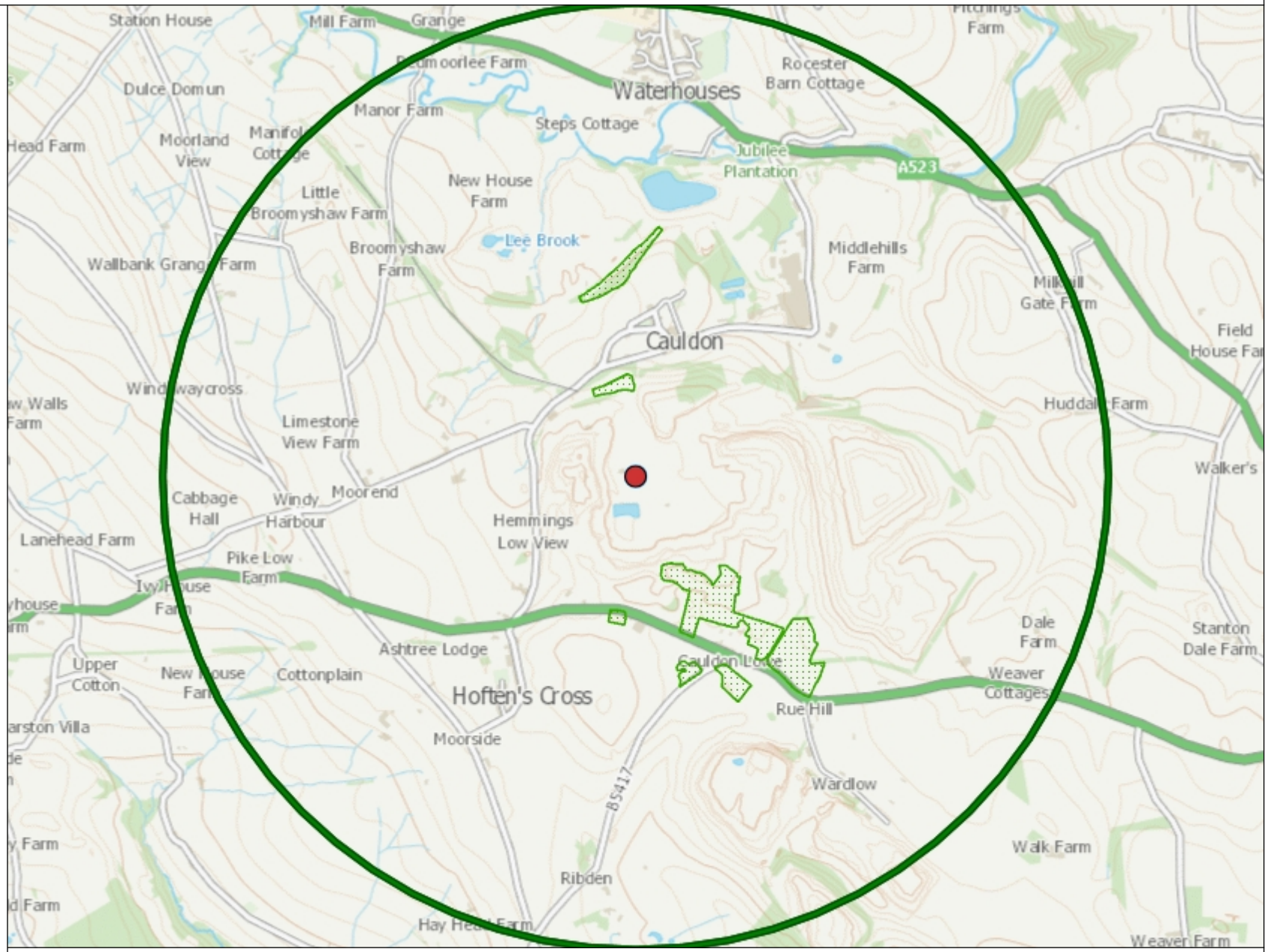
Please note the nature and heritage screening we have conducted as part of this report is subject to change as it is based on data we hold at the time it is generated. We cannot guarantee there will be no changes to our screening data between the date of this report and the submission of the permit application, which could result in the return of an application or requesting further information.

Sites of Special Scientific Interest

Environment Agency

Legend

SSSI (England)



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