Asphalt Recycling Facility - Coxhoe Quarry

Bespoke Environmental Permit Application

Appendix 11 – Habitat Risk Assessment

Document Control

Version	Date	Report Reference	Author
Version 1	May 2025	TM.CH.0062.R02-A11 HRA	Swift Environmental Compliance Limited

Contents

1 INTRODUCTION

1.1 Report Scope

1.1.1 Swift Environmental Compliance Limited (Swift) have been instructed by Tarmac Trading Limited (Tarmac) to prepare an application for a bespoke environmental permit for an Asphalt Recycling Facility at Coxhoe Quarry, Coxhoe, County Durham DH6 4BB (the Site).

1.1.2 Basic pre-application advice response from the Environment Agency included a Nature and Heritage Conservation Screening Report (Ref EPR/BP3623LZ/P001), presented at Appendix 3 of this bespoke environmental permit application report.

1.1.3 This Screening Report confirmed the Site was not eligible for a Standard Rules Permit 'SR2009No.6 inert and excavation waste transfer station with treatment below 250kte' due to the proximity to Raisby Hill Grassland a Site of Special Scientific Interest (SSSI) and 'code 2' protected species identified within 1 kilometre of the Site. A Magic Map[1] search indicates that the protected species relates to the presence of Great Crested Newts within 1 kilometre of the Site. This Habitat Risk Assessment aims to consider the risk from the proposed activity on these sensitive receptors.

1.1.4 As part of this bespoke environmental permit application report it is also identified that Raisby Hill Quarry SSSI is located within 500 metres of the Site boundary and this is included in this Habitat Risk Assessment.

1.2 Site Details

1.2.1 The Asphalt Recycling Facility is situated in the northwestern section of the wider Coxhoe Quarry complex and is centred at National Grid Reference NZ 33979 35521, as illustrated at Appendix 1, Site Plans of this bespoke environmental permit application.

1.2.2 The Site is located approximately 9km southeast of Durham and approximately 500m south of the village of Kelloe in County Durham.

1.2.3 The area surrounding the Site comprises predominately of agricultural and open land with pockets of dwellings and industrial activities beyond. The nearest residential properties are located at approximately 350m northeast of the proposed permit boundary at its closest point.

1.2.4 Access to the Site is via the west, off Brdyll Street and then through a network of internal haul roads within the wider Coxhoe Quarry complex. Brdyll Street connects to the A177 approximately 1km west from Coxhoe Quarry site entrance.

1.2.5 Tarmac currently hold a Part B Permit Reference DCC/P221/12, issued on 5 December 2001, with Durham County Council allowing up to 50,000 tonnes of road plannings to be treated over any 3 year period with a directly associated activity at the Site. Due to the increased volume of wastes proposed to be treated, an application for a bespoke environmental permit is required to increase the annual throughput to 250,000 tonnes per annum. This application relates to Tarmac's proposal to continue to operate an Asphalt Recycling Facility at the Site with a greater capacity. There are no proposals to increase the existing Asphalt Recycling Facility boundary.

[1] *https://magic.defra.gov.uk*

2 HABITAT SCREENING

2.1 Environmental Designations

2.1.1 The Screening Report indicates that there is **one designated SSSI and one Code 2 Protected Species (Great Crested Newts) located within 500m from the site** listed in the Habitat and Conservation Screening Report.

2.1.2 The Screening Reports states that there are **no designated habitats** including Special Areas of Conservation, Special Protection Area, Marine Conservation Zone, Ramsar, Air quality Management area, National Nature Reserve, Local Nature Reserve, Local Wildlife Sites, Ancient Woodland, Watercourse, Groundwater Source Protection Zone 1/2/3, Flood Risk Zone 2/3 or Scheduled Monuments **within 500m from the site** according to the Environment Agency's Habitat and Conservation Screening report.

2.1.3 The site is **not located in a designated Air Quality Management Area** according to the Department for Environment Food and Rural Affairs website (available at AQMAs interactive map (defra.gov.uk)).

2.2 Raisby Hill Grassland – SSSI

2.2.1 Raisby Hill Grassland SSSI is located approximately 60m west of the Site and is; '*One of the few remaining examples of primary magnesian limestone grassland left in the country and is of national significance for its flora.*'

2.2.2 Durham Wildlife Trust (available at https://www.durhamwt.com) describes the designation as;

'An abandoned quarry site, it has limestone grassland, two ponds surrounded by marsh and fen habitats and areas of developing ash woodland.

The primary grassland contains plants typical of this internationally rare habitat, including blue moor grass, fairy flax, devils-bit scabious, burnet saxifrage and columbine.

The quarry flora includes a large number of orchid species including the rare dark red helleborine, fragrant and pyramidal orchid. Common rockrose is abundant and supports a small colony of northern brown argus butterfly. Other butterflies seen in large numbers include dingy skipper, common blue, ringlet and small skipper.

The marshy grasslands and ponds are dominated by lesser pond sedge and provide good habitat for dragonflies such as common hawker and darter.

The ash woodland contains a large number of mature wych elm providing food for the larvae white-letter hairstreak butterflies and the scrub and woodland are very good for warblers, in particular grasshopper warbler. Brown hare are regularly seen boxing on the limestone spoil screes.'

2.3 Code 2 – Protected Species

2.3.1 Great Crested Newts (GCNs) have been detected within 500m of the site boundary. The discovery of GCNs were discovered by BSG Ecology, BSG Ecology website (Limestone Quarry: Significant New Habitat for Great Crested Newts - BSG Ecology) states:

'BSG was commissioned to undertake an ecological impact assessment of the proposed quarry extension site... Whilst the baseline ecology surveys found that the proposed extension site was of low botanical importance and with no protected species present, we discovered that the settlement lagoons within the

adjacent operational site supported a large population of great crested newts…

Working with the appointed hydrological consultants, it became clear that the lagoons supporting the newts were being artificially supported by water pumped from the quarry void. Consequently, without compensation, when the quarry eventually ceases operating the lagoons will dry up, putting the newt population at risk. We worked with the project team to devise a restoration scheme that would provide a series of groundwater-fed ponds within the base of the quarry. These ponds would ensure the long-term viability of the great crested newt population by providing enhanced habitats for them.

The outcome of the ecological impact assessment process, which was summarised in the Environmental Statement, was that all identified ecological impacts were addressed through mitigation and compensation. This contributed to the submission of a successful planning application, and planning permission was granted.'

2.3.2 As previously mentioned, the Asphalt Recycling Facility has been operational and regulated as a Part B and the proposals for this permit application is to be regulated by the Environment Agency as a Bespoke Environmental Permit. The footprint of the operations remain the same and it is not considered that there will be an impact to the groundwater-fed ponds within the base of the quarry associated with the presence of GCNs.

2.4 Raisby Hill Quarry – SSSI

2.4.1 Raisby Hill Quarry SSSI is located approximately 65m northeast of the Site and designated due to the geological significance. Defra website (available at raisbyhillquarrysssiconfirmedcitation.pdf) states:

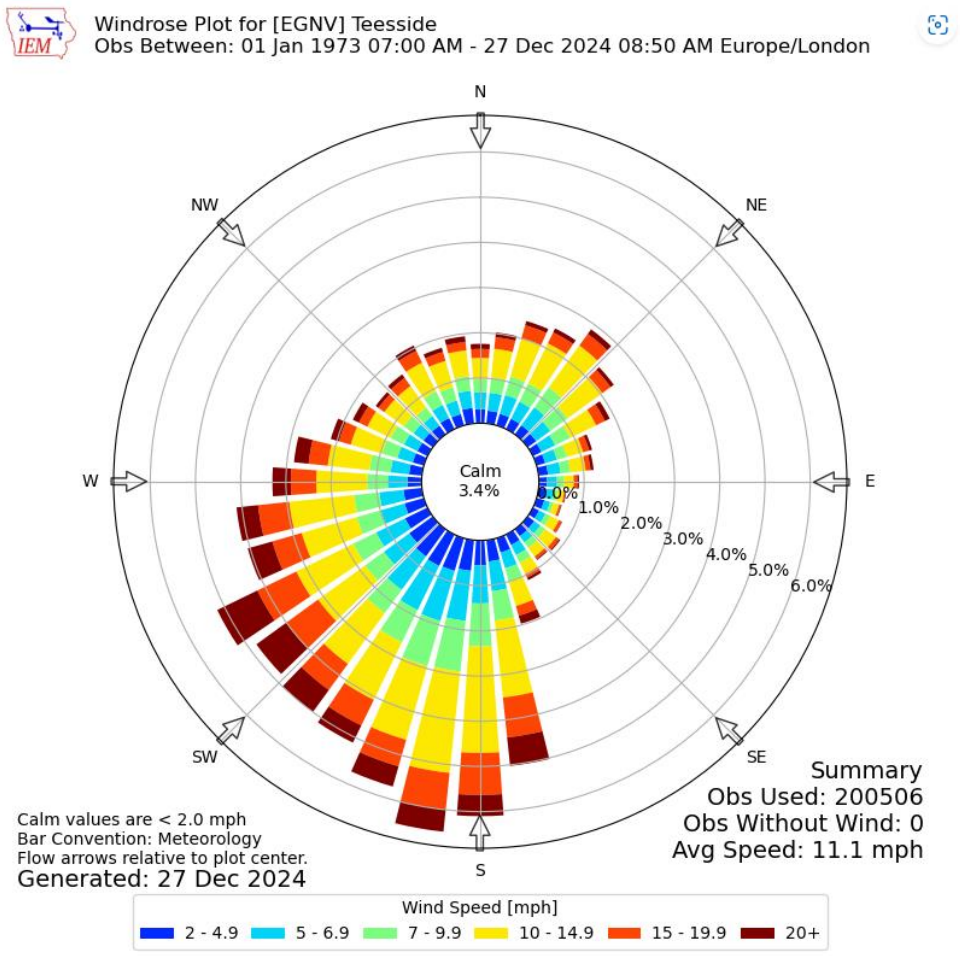
'Raisby Hill Quarry exposes the lowermost part of the Upper Permian Magnesian Limestone. Here this includes the Raisby Formation overlain by the lower part of the Ford Formation. This Magnesian Limestone sequence is underlain by the Permian Marl Slate and Yellow Sands which are occasionally exposed on the quarry floor. This site has been identified as of national importance in the Geological Conservation Review. Uniquely, the complete thickness of the Raisby Formation is present in the northern and eastern quarry faces. As such, Raisby Hill Quarry provides the type section for the Raisby Formation and is a key reference locality for current and future study.'

2.5 Meteorological Conditions

2.5.1 A Windrose dated December 2024 from the Site's nearest meteorological station at Teesside Airport is presented at Diagram 1.

2.5.2 The Windrose indicates that the predominant wind direction in the vicinity of the Site is towards the north and north-east**.**

Diagram 1 Teesside Windrose, Observations between July 1973 - December 2024[2]



2.5.3 Neither the Raisby Hill Grassland SSSI or presence of GCNs ponds are in the predominant downwind direction of the Asphalt Recycling Facility.

2.5.4 Raisby Hill Quarry SSSI is located within the predominant downwind direction of the Site, the exposed quarry faces are designated due to their geological significance.

3 HABITAT RISK ASSESSMENT

3.1.1 The Habitat Risk Assessment (HRA) methodology aims to consider the source-pathway-receptor linkages for the risks posed by the proposed activity and proposed control measures to manage risks.

3.1.2 The HRA (Appendix A) assesses each potential source identified in Section 2.2, assesses the likelihood of those hazards impacting on receptors taking into consideration the pathways and control measures being implemented.

3.2 Summary of Habitat Risk Assessment

3.2.1 This HRA indicates that the proposed activity will have no significant impact with regards to odour, dust, fire, noise and fugitive emissions on the identified designated Habitats within 500m of the site boundary.

APPENDIX A – HABITAT RISK ASSESSMENT MATRIX

Table 1 Habitat Risk Assessment Matrix

Hazard	Receptor	Potential Impact	Pathway	Probability of potential impact	Consequence of risk	Risk Management	Residual risk (following mitigation)
Releases of particulate matter (dusts)	Raisby Hill Grassland, Code 2 (GCNs) and Raisby Hill Quarry	Depositional dust on grasslands Habitat disturbance	Air transport then deposition	Medium	Medium	The site will be operated in accordance with the Dust and Emissions Management Plan. The Dust and Emissions Management Plan concludes that the risk of noise at the Site is considered 'low'. Permitted waste types do not include dusts, powders or loose fibres. The site is not located in an Air Quality Management Area. The habitat receptors are not located downwind of the predominant wind direction. Depositional dust is not considered a risk to a protected vertical quarry face. Mitigation methods include dampening down of internal access roads and waste piles in dry conditions. Vehicles delivering and exporting materials will be sheeted and contents enclosed.	Low
Odour	Raisby Hill Grassland, Code 2 (GCNs) and Raisby Hill Quarry	Habitat disturbance	Air transport then inhalation	Low	Low	No known research to confirm that wildlife are sensitive to odours Permitted waste types for storage and transfer are not degradable and have a low potential to produce odour. Strict waste storage timescales are adhered to in accordance with the Environmental Management System and Permit conditions.	Very Low
Litter	Raisby Hill Grassland, Code 2 (GCNs) and Raisby Hill Quarry	Habitat disturbance	Air transport then deposition	Medium	Medium	Permitted waste types are unlikely to generate litter. Regular inspections of the site will be undertaken in accordance with the Environmental Management System. In the event of litter being detected a litter picker will be deployed to reduce the potential for litter escaping outside of the Permit boundary.	Very Low
Noise and vibration	Raisby Hill Grassland, Code 2 (GCNs) and Raisby Hill Quarry	Habitat disturbance	Noise through the air and vibration through the	Medium	Medium	The waste operations will not result in any significant increased noise and vibrations beyond the existing operations. Equipment on site is maintained and serviced in	Low

Hazard	Receptor	Potential Impact	Pathway	Probability of potential impact	Consequence of risk	Risk Management	Residual risk (following mitigation)
			ground.			accordance with manufacturers recommendations. Noise silencing is deployed on vehicles used on site. A Noise Impact Assessment has been completed as part of the permit application. The Noise Impact Assessment completed in accordance with BS:4142 concludes that the risk of noise at the Site is considered 'not likely to result in adverse impacts' and 'are likely to have a low impact'.	
Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Raisby Hill Grassland, Code 2 (GCNs) and Raisby Hill Quarry	Habitat disturbance	Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Medium	Medium	The Site is engineered with a permeable, compacted aggregate hardstanding to minimise the risk of pluvial water flooding accumulating within the operational areas. The Site is located in a Flood Zone 1, low chance of flooding. No point source emissions to water are permitted as part of this activity.	Low

SWIFT

ENVIRONMENTAL
COMPLIANCE