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Site at Ebridge Mill
North Walsham
Norfolk

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GLEN TREVATT

Preliminary Ecological Appraisal

Final - Updated

VERSION 3

3 October 2023

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Document History and Status

Revision	Date Issued	Reviewed By	Approved By	Date Approved	Revision Type
1	03/10/2023	RM			Draft for technical review
2	03/10/2023	MO	MO	03/10/2023	Final
3	07/12/2023	RM	RM	07/12/2023	Final - updated

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Client	Glen Trevatt
Name of Project	Site at Ebridge Mill, North Walsham, Norfolk
Name of Document	Preliminary Ecological Appraisal
Document Version	3
Document Status	Final - Updated

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Executive Summary

BiOME Consulting Ltd was commissioned by Glen Trevatt to undertake a Preliminary Ecological Appraisal (PEA) of a site located at Ebridge Mill, Happisburgh Road, White Horse Common, North Walsham, Norfolk. The site is proposed for development, although scope of this project is not known at present.

The aim of the PEA survey was to establish the baseline ecological conditions of the site identifying the type, quality and extent of habitats within the study area. In addition, the locations of any rare or notable plant species, including non-native invasive species, were identified (if present) and described accordingly. Consideration was also given to the likelihood of the site supporting protected or otherwise notable faunal species.

In relation to the proposed redevelopment of the site, the following potential ecological issues were identified during PEA, with consequent recommendations:

Designated Sites: No impacts to nearby statutory designated sites are anticipated given their locations, the results of the PEA and the reasons for designation. It should be ensured that appropriate environmental protection measures are employed during construction, which should be detailed within a Construction Environmental Management Plan.

Habitats: The site was dominated by the former retail shop and store buildings consisting of a small building and relatively large warehouse type building, and a former garage, surrounded by hard standing areas of shrub, tree saplings and patches grass and tall ruderal vegetation. The habitats present are common across England and are of limited ecological value.

Bats: Following a Preliminary Roost Assessment and two nocturnal bat surveys (single dusk emergence and dawn return to roost of Building 2), roosting bats are considered likely absent from the site. In the unlikely event that bats are disturbed during works, works must cease and the advice of a Suitably Qualified Ecologist (SQE) should be sought immediately. Mitigation with regards lighting and foraging bats is included.

Birds: The site supports common species of nesting birds. If possible, any vegetation/building clearance works should be completed outside the bird nesting season (1 March to 31 August). If such works must be undertaken during the nesting season, a check by a SQE to identify any nests which may be impacted will be required and protection measures employed. Should an occupied bird nest or a nest in the process of being constructed be encountered during works, clearance must cease in this area and should only re-commence once the birds have fledged or the nest is abandoned.

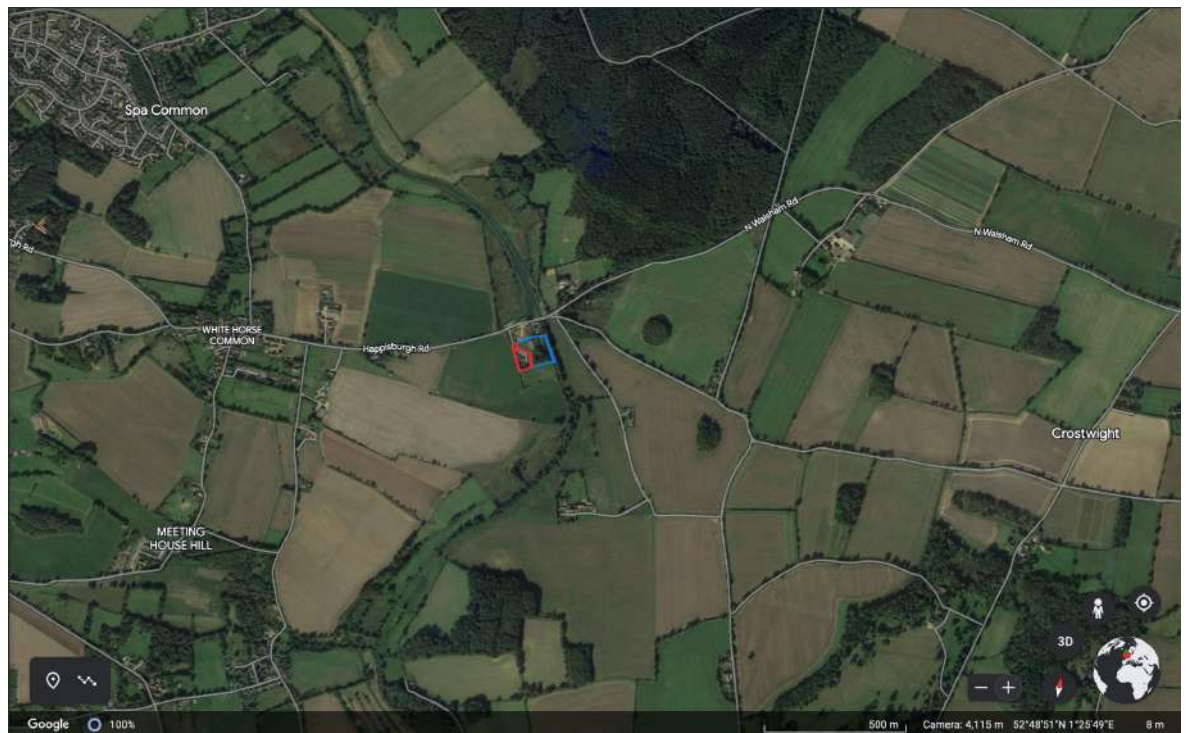
Other Species/Habitats: No other legally protected species or species/habitats of particular nature conservation value are considered likely to be present or represent a potential constraint to development.

Report Validity: The findings of this report are considered valid until September 2024. If works are delayed beyond this date then an updated assessment of potential impacts will be required.

1. Introduction

BiOME Consulting Ltd was commissioned by Glen Trevatt on 5 September 2023 to undertake a Preliminary Ecological Appraisal (PEA) and subsequent nocturnal bat surveys of a site located at Ebridge Mill, Happisburgh Road, White Horse Common, North Walsham, Norfolk ('the site') (**Figure 1**).

Figure 1. Site location plan; red line denotes site boundary and blue line ownership boundary



1.1. Background and Proposals

The site is the former weighbridge for Ebridge Mill, and more recently a retail shop and store although is now derelict.

Proposals for the site comprise converting the central buildings into a dwelling and attached annex with areas around these buildings changed into gardens and 'wilder' areas with e.g. wildflower plantings.

1.2. Site Description

The site included the former retail shop and store buildings (consisting of a small building and relatively large warehouse), and a detached former garage, surrounded by hard standing areas of shrub, tree saplings and tall ruderal vegetation.

The wider surrounding habitats consisted of a cleared area/shrubs/hardstanding track to the north, a grass paddock to the south, scrub and woodland to the east and an arable field to the west.

2. Relevant Legislation

Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Habitats Regulations convey special protection to a number of species, which are listed in Schedule 2 of the Regulations and are referred to as European Protected Species (EPS). Those potentially relevant to the Project include:

- All UK resident bat species
- Great Crested Newt (GCN) *Triturus cristatus*

Regulation 43 makes it an offence to:

- Deliberately capture, injure or kill any wild animal of a EPS;
- Deliberately disturb wild animals of such a species;
- Deliberately take or destroy the eggs of such a species;
- Damage or destroy a breeding site or resting place of such an animal.

Disturbance in the context of the offences above is disturbance which is likely to impair the ability of the animals to survive, to breed or reproduce, to nurture their young, to hibernate, to migrate; or to affect significantly the local distribution of the species.

Licences can be granted by the relevant Statutory Nature Conservation Organisation (SNCO) for developments (sometime referred to as EPS Licences or Derogation Licences) providing the purposes of the licence is for "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) provides protection to both EPSSs and other species including wild birds, Water Voles *Arvicola amphibius* and reptiles.

All wild birds, their nests and eggs are protected, with some rare species afforded extra protection from disturbance during the breeding season (these species are listed in Schedule 1 of the Act). It is illegal to take any wild bird or damage or destroy the nests and eggs of breeding birds. There are certain exceptions to this in respect of wildfowl, game birds and certain species that may cause damage.

In England some species are listed on Schedule 5 of the Act, receiving full protection since 2008. The Wildlife and Countryside Act 1981 together with amending legislation, lists the following offences:

- Intentionally killing, injuring, or taking these species by any method.
- Intentionally or recklessly damaging or destroying these species' place of shelter or protection.
- Intentionally or recklessly damaging disturbing these species whilst they are occupying such a structure or place it uses for shelter or protection.
- Intentionally or recklessly obstructing access to these species' place of shelter or protection.
- Selling, offering for sale, or possessing or transporting for the purposes of sale, any live or dead Schedule 5 species, or any part or derivative, or advertising any of these for buying or selling.

All native reptile species in the UK are subject to partial protection from intentional or reckless killing or injury only.

The Act also includes provisions for the control of invasive non-native species (INNS). Under these provisions it is an offence to:

- Release or allow to escape into the wild any animal which is not ordinarily resident or a regular visitor to Great Britain or is included in Schedule 9 of the Act.

- Plant or otherwise cause to grow in the wild any plant which is included in Schedule 9 of the Act.

People undertaking works in proximity to invasive non-native plant species should take all reasonable steps and exercise all due diligence to avoid committing an offence.

The Invasive Alien Species (Enforcement and Permitting) Order 2019

The order came into effect on the 1 December 2019 to allow for enforcement of EU Regulations (Regulation (EU) No. 1143/2014 on the prevention and management of the introduction and spread of invasive alien species in England and Wales) also known as the IAS Regulations.

It lists 66 species which are of European Union concern. There are currently 19 species listed in the Order:

- Chinese Mitten Crab *Eriocheir sinensis*
- Red Swamp Crayfish *Procambarus clarkii*
- Crayfish Signal *Pacifastacus leniusculus*
- Spiny Cheek Crayfish *Orconectes limosus*
- Muntjac Deer *Muntiacus reevesi*
- Ruddy Duck *Oxyura jamaicensis*
- Egyptian Goose *Alopochen aegyptiacus*
- Grey Squirrel *Sciurus carolinensis*
- Himalayan Balsam *Impatiens glandulifera*
- Fanwort (otherwise known as Carolina Water Shield) *Cabomba caroliniana*
- Giant Hogweed *Heracleum mantegazzianum*
- Water Hyacinth *Eichhornia crassipes*
- Parrots Feather *Myriophyllum aquaticum*
- Floating Pennywort *Hydrocotyle ranunculoides*
- Floating Water Primrose *Ludwigia peploides*
- Water Primrose *Ludwigia grandiflora*
- Giant Rhubarb *Gunnera tinctoria*
- Curly Waterweed *Lagarosiphon major*

 Nuttall's Waterweed *Elodea nuttallii*

Natural Environment and Rural Communities (NERC) Act 2006

The UK Biodiversity Plan (BAP) was a programme designed to help conserve the UK's biodiversity. It led to the production of 436 action plans between 1995 and 1999 to help many of the UK's most threatened species and habitats to recover. A review of the UK BAP priority list in 2007 led to the identification of 1,150 species and 65 habitats that met the BAP criteria at UK level.

Currently 56 Habitats of Principal Importance and 943 Species of Principal Importance are included within Schedule 41 of the NERC Act 2006 and these include species and habitats which were identified in the UK BAP and which continue to be considered to represent the conservation priorities of England in the UK Post-2010 Biodiversity Framework.

National Planning Policy Framework (NPPF) 2021

The National Planning Policy Framework sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.

Chapter 15 'Conserving and enhancing the natural environment' details what local planning policies should seek to consider with regard to planning applications:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

174 a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

174 b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

174 c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

174 d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

174 e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

174 f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."

3. Methodologies

3.1. Desk Study

Biological records data were obtained from Norfolk Biological Information Services (NBIS) on 2 October 2023. The provided data included:

- Protected and notable species records within 2km.
- Information in relation to non-statutorily designated sites within 2km.
- Information in relation to nationally and internationally designated sites within 2km.

The below information was obtained from MAGIC¹:

- Information in relation to internationally designated sites within 5km of the site boundary.
- Information in relation to nationally designated sites within 2km of the site boundary.
- Granted European Protected Species (EPS) mitigation licences within 2km of the site boundary.
- GCN Pond Surveys to inform for District Licencing within 2km of the site boundary.
- GCN class licence returns within 2km of the site boundary.

Habitats and Species of Principal Importance² and the Local Biodiversity Action Plan (LBAP) priority habitats and species were also reviewed to compare to those habitats and species either recorded within the site during the survey or recorded as having potential to be present (due to habitat suitability). The LBAP which covers this site is the Norfolk Biodiversity Action Plan³.

¹ MAGIC (2020) [online] available at: www.magic.defra.gov.uk (accessed 5 September 2023)

² Habitats and Species of Principal Importance are listed under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006.

³ <https://www.norfolkbiodiversity.org/habitats-and-species/> (accessed 5 September 2023)

3.2. Preliminary Ecological Appraisal Survey

A PEA site survey^{4,5} was undertaken on 8 September 2023 by an experienced ecologist, Richard Moores BSc (Hons) MCIEEM with support provided by Olivia Barnes MSc (Hons). The survey was completed during suitable weather conditions (sunny and dry). Prior to the completion aerial imagery was reviewed⁶ to provide an indication of habitat types present within the site and in the surrounding area.

During the survey all areas within the site and adjacent areas were walked and habitat types assessed. Signs of protected species, invasive plants (*i.e.* those included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) and other notable species were also searched for, as well as noting habitats considered to have the potential to support protected species.

The ultimate purpose of this PEA was to identify potentially valuable habitats and plant species assemblages, and to identify the presence and/or potential for protected/controlled species. This report presents an assessment of the ecological significance of the features present and discusses the potential for the site to support legally protected species and/or species of conservation interest which may be impacted by the project.

3.3. Badger Survey

A Badger activity survey, following the method outlined within Harris *et al.* (1989)⁷, was completed of all areas within the site and a buffer of 30m (when accessible). The presence of Badgers is indicated through observations of latrines, hair, prints and setts.

4 Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London

5 CIEEM (2017) *Guidelines for preliminary ecological appraisal* [online] available at: <https://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpea-> (accessed 5 September 2023)

6 Google Maps [online] available at: <https://www.google.co.uk/maps> (accessed 5 September 2023)

7 Harris, S., Cresswell, P. & Jefferies, D. (1989). *Surveying Badgers*. The Mammal Society

3.4. Bats

3.4.1. Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) survey⁸ of all buildings to be impacted was undertaken concurrently with the PEA by Richard Moores MCIEEM (Natural England (NE) bat licence no. 2015-12259-CLS-CLS and 2015-12257-CLS-CLS). The survey involved the inspection of all buildings within the site to identify potential or actual bat access points and roosting sites, and to locate any evidence of bats such as live or dead specimens, bat droppings, urine splashes, fur-oil staining and/or squeaking/scratching noises. It should be noted that sometimes bats leave no visible sign of their presence on the outside of a building (and even when they do wet weather can wash away evidence).

The inspection was facilitated by the use of ladders, binoculars, a high-powered torch, endoscope and small dental mirrors to inspect accessible crevices with the potential to support bats.

The potential suitability of the survey area for roosting bats was assessed in line with relevant guidelines⁷ and allocated to one of the categories detailed within **Table 1**.

Table 1. Guidelines for assessing the potential suitability of proposed development sites for bats

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure/tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).

8 Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.). The Bat Conservation Trust, London

Suitability	Description of Roosting Habitats
Moderate	A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure/tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed Roost	Definitive evidence of roosting bats present.

3.4.2. Foraging and Commuting Habitat

An assessment was made of the suitability of the site and the immediately surrounding landscape to support foraging and/or commuting bats. The assessment was based on the presence of key habitat features such as woodland, scrub, hedgerows, grassland and open water, which are highly attractive to bats. Of potential importance is the presence of unlit (semi)-natural vegetation and habitat linkage between the site and the surrounding landscape.

The quality of bat foraging and commuting habitat has been assessed using the criteria detailed in **Table 2**.

Table 2. Valuing bat foraging and commuting habitat

Grading Criteria	Reason
Optimal Quality	Presence of optimal habitat features such as unlit woodland, scrub, hedgerows, grassland and open water with excellent linkage to similar habitats within the wider landscape. Presence of high potential buildings/trees and/or known roosts within immediate landscape. Sites are generally rural in character.
Moderate Quality	Presence of optimal habitat features such as woodland, scrub, hedgerows, grassland and open water with reasonable linkage to similar habitats within the wider landscape. Limiting factors may include size of site.
Low Quality	Presence of some limited habitat features such as scrub or hedgerows, with minimal linkage to suitable habitats within the wider landscape.

Poor Quality	No suitable habitat present or, if present, highly degraded/fragmented. Minimal unlit areas with no linkage to suitable habitat beyond site. Generally urban in character.
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3.4.3. Dusk Emergence/Dawn Re-entry Surveys

Following the identification of bat dropping evidence and some limited Potential Roost Features (PRFs) associated with Building 2 during the PEA, two nocturnal bat surveys were completed to further assess the status of roosting bats.

To ensure coverage of all potential bat access points/roost features, the surveys were completed by two surveyors (**Figure 2**), located on opposite corners of the building (southwest and northeast). Surveys were completed by BiOME Ecologists Richard Moores, Olivia Barnes and David Bratt. Both Olivia and David have undertaken in excess of 10 bat surveys each during the last two years, and have been trained by Richard over this period.



Surveyors were equipped with electronic bat detectors (EM Touch Pro 2) and sound files were analysed with appropriate bat analysis software (Kaleidoscope) once the surveys were completed, if required. Infra-red cameras (Canon XA60) and additional infrared lighting (Nightfox XB5 IR and flood lamps), were used during surveys, located alongside the surveyors. Following the survey, recorded footage was analysed.

The nocturnal bat surveys were undertaken in weather conditions considered appropriate for surveys of this kind (Table 3).

Table 3. Nocturnal bat activity survey information

Date	Surveyors	Sunrise/ Sunset	Time		Cloud	Wind (Beaufort/ Direction)	Temp (°C)	Precip.
			Start	Finish				
11/09/2023	OB, DB	19.19	19.04	20.49	6	2 W	22	Nil
29/09/2023	RM, OB	06.51	05.20	07.00	8	2 W	15	Occasional light drizzle

3.5. Limitations

The findings presented in this report represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys can be limited by factors affecting the presence of plants and animals, such as the time of year, migration patterns and behaviour.

Whilst not a full protected species or botanical survey, a PEA allows an experienced ecologist to obtain a sufficient understanding of the ecology of a site in order to either evaluate the conservation importance of the site, and assess the potential for impacts on habitats and species likely to represent a material consideration in planning terms, or to ascertain that further surveys will be required before such an evaluation can be made.

Although bat dropping evidence was found internally within Building 2, it was considered that the droppings likely originated from flying bats only. It was assessed that the building had low potential to support roosting bats based on the very limited number of PRFs identified and normally (following best practice guidance) a single survey (before the end of August) would suffice to confirm likely absence. However, BiOME were not commissioned until early September, and two nocturnal surveys were completed in fine weather conditions during

September to provide further confidence in the survey results – likely absence of roosting bats. As such, given that the potential for a maternity colony in the building is considered negligible, the fact that the nocturnal bat surveys commenced in early September (as opposed to by the end of August) is not considered to have compromised the aims/results of the survey.

The semi-natural habitat parcels were generally very small and intermixing; as such, the habitat map detailed in **Figure 3** includes 'poor grassland', 'tall ruderal' 'shrubs' and 'bare ground' together, for ease of mapping.

The absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

4. Results

The results of the desk study (**Section 4.1**) and the site survey (**Section 4.2**) are presented below.

4.1. Desk Study

4.1.1. Designated Sites

There were two internationally statutorily designated sites within the 5km search area and no nationally statutorily designated site within 2km; details in relation to which are provided within **Table 4**. No non-statutory sites within the relevant search area were identified.

Table 4. Statutorily designated within the relevant search areas

Site	Approx. distance from site boundary	Qualifying Features
The Broads Special Area of Conservation (SAC)	4.9km/SE	<p>Annex 1 habitats that are a primary reason for selection of this site:</p> <p>H3140 Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.; Calcium-rich nutrient-poor lakes, lochs and pools.</p> <p>H3150 Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i>-type vegetation; Naturally nutrient-rich lakes or lochs which are often dominated by pondweed.</p> <p>H7140 Transition mires and quaking bogs; Very wet mires often identified by an unstable `quaking` surface.</p> <p>H7210 Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i>; Calcium-rich fen dominated by great fen sedge (saw sedge) (Priority Habitat).</p> <p>H7230 Alkaline fens; Calcium-rich springwater-fed fens</p> <p>H91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>); Alder woodland on floodplains (Priority Habitat).</p> <p>Annex 1 habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <p>H6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>); Purple Moor-grass meadows</p> <p>Annex II species that are a primary reason for selection of this site:</p> <p>S1016 <i>Vertigo moulinsiana</i>; Desmoulin`s Whorl Snail</p> <p>S1355 <i>Lutra lutra</i>; Otter</p> <p>S1903 <i>Liparis loeselii</i>; Fen Orchid</p> <p>S4056 <i>Anisus vorticulus</i>; Little Whorlpool Ram's-horn Snail</p>

<p>Broadland Special Protection Area (SPA)/Ramsar</p>	<p>4.9km/SE</p>	<p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:</p> <p>During the breeding season; Bittern <i>Botaurus stellaris</i>, 3 individuals representing up to 15.0% of the breeding population in Great Britain (Count as at 1998) Marsh Harrier <i>Circus aeruginosus</i>, 21 pairs representing up to 13.1% of the breeding population in Great Britain (Count as at 1995).</p> <p>Over winter; Bewick's Swan <i>Cygnus columbianus bewickii</i>, 320 individuals representing up to 4.6% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6). Bittern <i>Botaurus stellaris</i>, 6 individuals representing up to 6.0% of the wintering population in Great Britain. Hen Harrier <i>Circus cyaneus</i>, 22 individuals representing up to 2.9% of the wintering population in Great Britain (5 year peak mean 1987/8-1991/2). Ruff <i>Philomachus pugnax</i>, 96 individuals representing up to 13.7% of the wintering population in Great Britain (5 yr peak mean 87/8-91/2) Whooper Swan <i>Cygnus cygnus</i>, 133 individuals representing up to 2.4% of the wintering population in Great Britain (5 year peak mean 93/4-97/8).</p> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter; Gadwall <i>Anas strepera</i>, 605 individuals representing up to 2.0% of the wintering Northwestern Europe population (RSPB: Count 99/00) Pink-footed Goose <i>Anser brachyrhynchus</i>, 3,290 individuals representing up to 1.5% of the wintering Eastern Greenland/Iceland/UK population (5 yr peak mean 94/5-98/9), Shoveler <i>Anas clypeata</i>, 401 individuals representing up to 1.0% of the wintering Northwestern/Central Europe population (RSPB: Count 99/00).</p> <p>Assemblage qualification: A wetland of international importance. The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl. Over winter, the area regularly supports 22,603 individual waterfowl (RSPB, Count 99/00) including: Cormorant <i>Phalacrocorax carbo</i>, Bewick's Swan <i>Cygnus columbianus bewickii</i>, Whooper Swan <i>Cygnus cygnus</i>, Ruff <i>Philomachus pugnax</i>, Pink-footed Goose <i>Anser brachyrhynchus</i>, Gadwall <i>Anas strepera</i>, Bittern <i>Botaurus stellaris</i>, Great Crested Grebe <i>Podiceps cristatus</i>, Coot <i>Fulica atra</i>, Bean Goose <i>Anser fabalis</i>, White-fronted Goose <i>Anser</i></p>
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Site	Approx. distance from site boundary	Qualifying Features
		<i>albifrons albifrons</i> , Wigeon <i>Anas penelope</i> , Teal <i>Anas crecca</i> , Pochard <i>Aythya ferina</i> , Tufted Duck <i>Aythya fuligula</i> , Shoveler <i>Anas clypeata</i> .

4.1.2. Flora and Fauna

Biological records data provided by NBIS and obtained from Magic.gov.uk are summarised within **Section 4.2** when relevant.

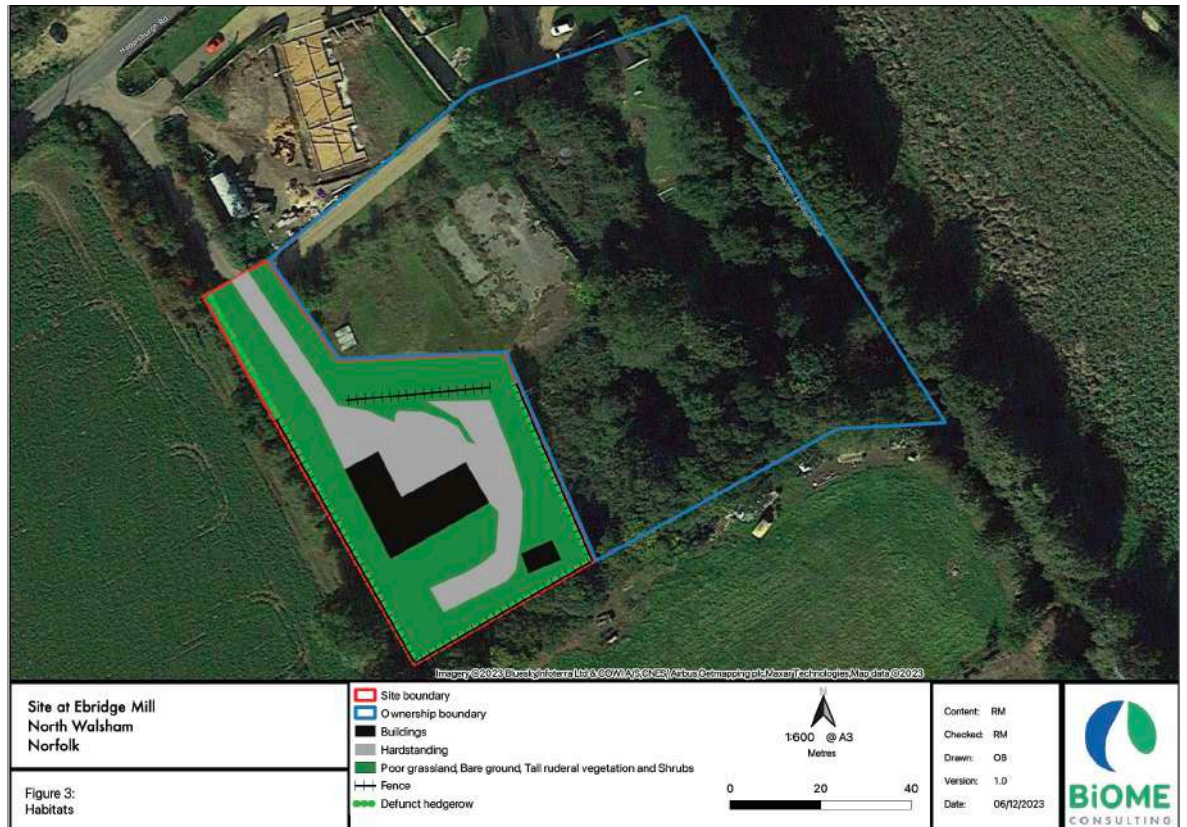
4.2. Extended Phase 1 Habitat Survey

4.2.1. Habitats

The site was dominated by the former retail shop and store buildings consisting of a small building (Building 1), relatively large warehouse (Building 2), and a former garage (Building 3), surrounded by hard standing and areas of shrub, tree saplings and grass patches with tall ruderal vegetation (**Figure 3**).

The semi-natural habitat parcels were generally very small and intermixing; as such, the habitat map detailed in **Figure 3** includes 'poor grassland', 'tall ruderal' 'shrubs' and 'bare ground' together, for ease of mapping.

Figure 3. Habitat Plan



Patches of tall ruderal vegetation and common grasses were present, scattered around the site.

The north boundary was formed by metal posts, and comprised of a cleared area, scrub and the track (**Photograph 1**).

Photograph 1. North part of site, looking east (with northern boundary on left)



The eastern boundary was formed by a chainlink fence with enveloping bramble. A grassy area with occasional forbs was present near the eastern boundary (**Photograph 2**).

Photograph 2. East part of site, looking south (east boundary on left)



This area included Common Daisy *Bellis perennis*, Ribwort Plantain *Plantago lanceolata*, Spear Thistle *Cirsium vulgare*, Common Nettle *Urtica dioica*, Common Ragwort *Senecio jacobaea*, Black Medic *Medicago lupulina*, Sow Thistle *Sonchus oleraceus*, Perforate St John's-wort *Hypericum perforatum*, clovers *Trifolium* spp., Dove's-foot Crane's-bill *Geranium mole*, Dandelion *Taraxacum*, Heal-all *Prunella vulgaris*, Greater Stitchwort *Stellaria holostea*, Green Alkanet *Pentaglottis sempervirens* and Forget-me-not *Myosotis sylvatica*.

The southern boundary was formed by post and wire fencing with associated hedgerow, including mature Sycamores *Acer pseudoplatanus*, Holly *Ilex aquifolium*, and Hawthorn *Crataegus monogyna*) (**Photograph 3**).

Photograph 3. South and west parts of site, looking southwest to southwest corner



Along the south side of Building 2 (**Photograph 4**), vegetation growth included Common Nettle, saplings of Sycamore, fuchsia *Fuchsia* spp., Hedge Bindweed *Calystegia sepium*, Creeping Thistle *Cirsium arvense*, bramble *Rubus fruticosus*

agg., Hairy Willowherb *Epilobium hirsutum*, White Dead-nettle *Lamium album* and Bitter Dock *Rumex obtusifolius*.

Photograph 4. South side of Building 2



The west boundary was formed by a chain link fence (with associated hedgerow (including semi-mature Sycamore *Acer pseudoplatanus*, Hawthorn *Crataegus monogyna*, semi-mature English Oak *Quercus robur* and Bukhara Fleecflower *Fallopia baldschuanica*).

4.2.2. Habitat Evaluation

The habitats present within the site are common across England, and locally, and were assessed to be of very limited intrinsic ecological value.

4.3. Protected and Notable Species

4.3.1. Badger

The desk study returned 15 records of Badger, most recently in 2020.

A comprehensive Badger survey did not identify any indication of presence within the survey area, although it is considered possible that Badger may use the site and the surrounding habitats for foraging/commuting on occasion.

4.3.2. Bats

4.3.2.1. Desk Study Data

The desk study identified three granted EPS development licences in relation to bats within the search area, detail is provided within **Table 5**.

Table 5. Granted EPS (bats) development licences (2km)

Species	Distance/Direction	Details
Bat: Brown Long-eared Bat, Common Pipistrelle <i>Pipistrellus pipistrellus</i> , Soprano Pipistrelle	0.75km/N	2014: Impact on a breeding site, Damage of breeding site, Damage of a resting place, Destruction of breeding site & Destruction of a resting place
Bat: Brown Long-eared Bat, Common Pipistrelle	0.55km/SE	2015: Destruction of a resting place
Bat: Barbastelle Bat, Brown Long-eared Bat, Common Pipistrelle, Natterer's Bat, Soprano Pipistrelle	0.9km/NE	2014: Damage of a resting place & Destruction of a resting place

Biological records from NBIS returned the following information:

- Western Barbastelle *Barbastella barbastellus* – four records, most recently in 2015.
- Unidentified Chiroptera – two records in 2001.
- Serotine *Eptesicus serotinus* – one record in 2015.
- Leisler's Bat *Nyctalus leisleri* – one record in 2019.
- Common Pipistrelle – four records, most recently in 2015.
- Soprano Pipistrelle *Pipistrellus pygmaeus* – five records, most recently in 2015.
- Brown Long-eared Bat *Plecotus auritus* – 22 records, most recently in 2020.
- Whiskered Bat *Myotis mystacinus*/Brandt's Bat *Myotis brandtii* – 2 records in 2008.
- Unidentified Myotis bat *Myotis* – one record in 2013.

4.3.2.2. Preliminary Roost Assessment

The buildings within the site included a small building (Building 1), large warehouse (Building 2) and former garage (Building 3) (**Figure 4**).

Figure 42. Building References



Building 1 (Photographs 5 & 6)

Building 1 was constructed of corrugated overlapping metal sheet walls, feather-edged wood cladding along the east and south sides of the building and a corrugated asbestos sheet roof. A single roof void was present, constructed on a metal frame and corrugated Perspex sheets. Many mouse droppings were found but no bat evidence or Potential Roost Features (PRFs) were identified (Photograph 6).

Photograph 5. Buildings 1 (on the right) and 2 (on the left) – north aspect



Photograph 6. Void in Building 1



The building was classed as being of negligible potential value to roosting bats due to the absence of bat evidence/PRFs (Table 1).

Building 2 (Photographs 7, 8 & 9)

Building 2 was constructed of a breezeblock base, feather-edged wood cladding and corrugated asbestos sheet roof. The external inspection did not record any bat evidence, but a limited number of potential bat access points/PRFs were identified: at the east gable end, the soffit boxing exhibited slight gaps between the soffit and wood cladding, although these gaps were mostly filled with debris; at the west gable end, the soffit boxing was tight and filled with no obvious gaps.

Internally, the main section was lined with plasterboard (or similar), timber framed with a vaulted ceiling (Photograph 7).

Photograph 7. Building 2, interior where scattered old bat droppings were present on the ground



The internal inspection revealed 10+ pipistrelle-type droppings (old and scattered, present only singly) and 15+ Brown Long-eared Bat droppings (old and scattered, present only singly) (**Photograph 8**) none of which were obviously associated with any PRFs. It was considered that the droppings likely originated from flying bats only (as opposed to roosting bats), from a time when bats could fly in and out due to the doors at the eastern end being left open (per client). No 'piles'/aggregations of droppings, indicative of roosting bat/s were present.

No apparent potential for a large or important roost e.g. maternity was present.

The small second storey area had no bat evidence (**Photograph 9**).

Photograph 8. Pipistrelle-type dropping (left) and Brown Long-eared Bat dropping (right).



Photograph 9. Second storey section of Building 2



Overall, this building was classed as having low potential to support roosting bats (Table 1); whilst scattered old bat droppings were recorded on the floor inside the building, they were considered to have originated from flying bats only – no PRFs were in the vicinity of the droppings. The number of PRFs around the building’s exterior were also very limited.

Building 3 (Photographs 10 & 11)

The former garage was constructed of metal (including the roof and ridge). Internally, the building was metal lined with a metal girder frame (Photograph 11). The internal inspection revealed two scattered pipistrelle-type droppings. This evidence was considered to originate from bats flying inside and not roosting in the building. No PRFs were identified. The building was classed as being of negligible potential value to roosting bats (Table 1).

Photograph 10. Former garage (Building 3)



Photograph 11. Building 3 – interior



4.3.2.3. Foraging and Commuting Habitat

Following the PEA, and nocturnal surveys, the site was assessed to be of moderate value (**Table 2**) to foraging/commuting bats.

4.3.2.4. Dusk Emergence/Dawn Re-entry Surveys

Following the assessment of Building 2 as having ‘low’ potential to support roosting bats, two nocturnal (single dusk emergence and single dawn return to roost) surveys were completed.

11 September 2023 (dusk)

No bats were recorded roosting during the survey.

Regular foraging by several Common Pipistrelles and Soprano Pipistrelles were recorded throughout the survey. Noctules were recorded high over the site at 19.31, 19.35, 19.37, 19.46 and 20.37. A Brown Long-eared Bat was seen foraging at 19.38 along the hedge to the west. A single Barbastelle was recorded at 20.06.

29 September 2023 (dawn)

No bats were recorded roosting during the survey.

Soprano Pipistrelles were recorded foraging at 05.58, 06.00, 06.04 and 06.15 to the west of the building. Common Pipistrelles were recorded at 05.42, 06.21 and 06.27 to the east of the building. Noctules were also recorded high over the site at 06.18, 06.29 and 06.34.

4.3.3. Other Section 41 Mammals

It is considered likely that the site supports Hedgehog. This species is most abundant where grassland is in close proximity to woodland, scrub or hedgerows⁹. The desk study yielded four records of this species, the closest located 1.55km/W of the site.

NBIS also returned:

- Five records of Brown Hare *Lepus europaeus*, the closest located 0.5km/SE of the site;
- Ten records of Water Vole *Arvicola amphibius*, the closest located 0.31/NE of the site;
- Two records of Otter, the closest record of this species is located approximately 1.62km/S of the site.

Aside Hedgehog, the site supports habitat suitable for Polecat and potentially Harvest Mouse. No further survey work in relation to Section 41 mammal species is considered necessary.

4.3.4. Amphibians

No granted EPS licences in relation to GCN, or GCN class licence returns or pond surveys (to inform GCN district licencing) were available on MAGIC. Further, no records of GCN were provided by NBIS within 2km of the site.

NBIS did return:

⁹ Harris, S. & Yalden, D.W. (eds.) (2008). *Mammals of the British Isles: Handbook*, 4th Edition. The Mammal Society

- Two records of Common Toad *Bufo bufo*, closest located 1.05km/NE of the site.
- One record of Common Frog *Rana temporaria* located 0.45km/E of the site.
- Two records of Smooth Newt *Lissotriton vulgaris* located 1.36km/NE of the site.
- Four records of Palmate Newt *Lissotriton helveticus*, closest located 1.05km/NE of the site.

No ponds were present within the site or a buffer of 0.25km of the site (GCN typically have a maximum routine migratory range of 0.25km from breeding waterbodies during terrestrial phases¹⁰ and further studies suggest that 95% of newt summer refuges are within 63m of breeding ponds¹¹).

The very few potential refugia on site were searched within the site, and no amphibians were encountered.

GCN and significant populations of other amphibians are considered likely absent from the site. No further survey work is considered necessary.

4.3.5. Reptiles

Habitats favoured by reptiles tend to be sunny, well-drained and often south-facing. Typical habitats include grass and heather heathland, chalk downland, coppiced woodland, sand dunes, disused allotments, suburban wasteland, road/railway embankments, golf course roughs, rough grassland, open woodland and woodland edge, immature plantation forestry, sea cliffs, moorland, disused quarries, non-intensive farmland and wild gardens. In addition, Grass Snakes *Natrix helvetica* favour damp habitats¹².

The desk study returned three records of Common Lizard *Zootoca vivipara*, closest located 1.05km N/E of the site, and a record of a Slow-worm *Anguis fragilis* located 1.15km/N of the site.

10 Cresswell, W. & Warren, ER. (2004). An assessment of the efficiency of capture techniques and the value of different habitats for the Great Crested Newt *Triturus cristatus*. English Nature report

11 Jehle, R. (2000). The terrestrial summer habitat of radio-tracked Great Crested Newt *Triturus cristatus* and Marbled Newts *T. marmoratus*. Herpetological Journal 10: 137-142.

12 Froglife (1999). *Froglife Advice Sheet 10; Reptile Survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*

The site is considered unsuitable habitat for any reptile species.

4.3.6. Birds

A variety of bird species were recorded within and overflying the site, including a number of species that are likely to breed within/near the site (**Table 6**).

Table 6. Birds observed during PEA site survey

English Name	Scientific Name	Comments
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Flying over site
Rook	<i>Corvus frugilegus</i>	Flying over site
Wren	<i>Troglodytes troglodytes</i>	Several in area
Robin	<i>Erithacus rubecula</i>	Two in area
Dunnock	<i>Prunella modularis</i>	Two in area
Grey Wagtail	<i>Motacilla cinerea</i>	Two calling to east
Goldfinch	<i>Carduelis carduelis</i>	Three flew over
Cetti's Warbler	<i>Cettia cetti</i>	One singing near river (to east). No suitable nesting habitats in areas where disturbance could occur.
Chiffchaff	<i>Phylloscopus collybita</i>	One calling on site
Carrion Crow	<i>Corvus corone</i>	Several flew over
Long-tailed Tit	<i>Aegithalos caudatus</i>	Feeding flock
Blue Tit	<i>Cyanistes caeruleus</i>	Two

Two old Swallow *Hirundo rustica* nests were found in the 'porch' of Building 2 (**Photograph 13**). In Building 3, old Jackdaw *Corvus monedula*, Song Thrush *Turdus philomelos* and Blackbird *Turdus merula* nests were found.

Photograph 13. Old Swallow nests (located above the central light and NW corner on metal framing) in 'porch' of Building 2



The desk study returned a wide variety of bird species including the following Schedule 1 species: Barn Owl *Tyto alba*, Red Kite *Milvus milvus*, Marsh Harrier *Circus aeruginosus*, and Greylag Goose *Anser anser*.

Building 3 contained a very old Barn Owl pellet, indicative of an old roost site. All buildings were considered unsuitable for nesting by this species.

4.3.7. Invertebrates

The desk study returned a wide variety of invertebrate species. The following species returned from the desk study are listed on Schedule 5 of the Wildlife and Countryside Act 1981 for England and Wales:

- High Brown Fritillary *Fabriciana adippe* – one record in 1974. Extinct in Norfolk.
- Large Tortoiseshell *Nymphalis polychloros* – two records in 1899 and 1948.
- Norfolk Hawker *Anaciaeschna isosceles* – one record in 2003.

Given the nature of habitats within the site, it is considered unlikely that the site supports any important species/populations. Invertebrates are not considered further.

4.3.8. Invasive Plants

The desk study returned five species of Schedule 9 invasive plants, these are as followed; New Zealand pigmyweed *Crassula helmsii*, Himalayan Balsam *Impatiens glandulifera*, Japanese Knotweed *Fallopia japonica*, Variegated Yellow Archangel *Lamium galeobdolan subsp. Argentatum* and Parrot's-feather *Myriophyllum aquaticum*.

One invasive non-native species of plant (INNS) (listed on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended)) was observed within the site: Himalayan Balsam *Impatiens glandulifera* was recorded in patches to the north and south side of Building 3 (**Photograph 14**).

Photograph 14. Himalayan Balsam present to the north of Building 3



5. Conclusions and Recommendations

5.1. Statutory and Non-Statutory Sites

The desk study identified two internationally statutory designated sites within the search area. It should be ensured that appropriate environmental protection measures are employed during construction, which should be detailed within a CEMP.

Considering the reasons for designation and assuming environmental best practice during construction, no impacts to designated sites are anticipated.

5.2. Habitats

The site was dominated by the former retail shop and store buildings consisting of a small building and relatively large warehouse, and a former garage, surrounded by hard standing areas of shrub, tree saplings and grassland with tall ruderal. Areas of tall ruderal vegetation and common grasses were present scattered around the site.

The habitats present within the site are common across England, and locally, and were assessed to be of very limited ecological value.

5.3. Badger and other ground dwelling fauna

The occasional presence of foraging Badgers in the site is considered possible. To ensure that Badgers or other ground dwelling fauna come to no harm during construction the following measures are recommended:

- covering trenches at the conclusion of each working day, or include a means of escape for any animal falling into excavations, and
- any temporarily exposed open pipe system should be capped in such a way as to prevent Badgers gaining access.

5.4. Bats

5.4.1. Roosts

Following a PRA and two nocturnal bat surveys (single dusk emergence and dawn return to roost of Building 2), roosting bats are considered likely absent from the site.

Although some limited old, scattered bat dropping evidence was found internally within Building 2, it was considered that the droppings likely originated from flying bats only, from a time when bats could fly in and out due to the doors at the eastern end being left open (per client). No 'piles'/aggregations of droppings, indicative of roosting bat/s were present; similarly, none of the droppings were found in association with any PRF/s.

It was assessed that the building had low potential to support roosting bats based on the very limited number of PRFs identified and normally (following best practice guidance) a single survey (before the end of August) would suffice. However, BiOME were not commissioned until early September, and two nocturnal surveys were completed in fine weather conditions during September to provide further confidence in the survey results. As such, given that the potential for a maternity colony/significant roost in the building is considered negligible, the fact that the nocturnal bat surveys commenced in early September (as opposed to by the end of August) is not considered to have compromised the aims/results of the survey.

No further survey work in relation to roosting bats is considered necessary. In the unlikely event that any bats are encountered during works, works must cease and the advice of an SQE sought.

5.4.2. Foraging/commuting habitat

The site was assessed as being of moderate potential value to foraging/commuting bats. Potential impacts to foraging/commuting bats should be minimised through the production of a sympathetic site lighting plan.

Artificial lighting can result in impacts to bats via a variety of mechanisms¹³. Many night flying species of insect are attracted to light, especially those lamps that emit

¹³ Bat Conservation Trust (2018). *Guidance Note 08/18; Bats and Artificial Lighting in the UK.*

an ultra-violet component, and particularly if it is a single light source in a dark area. Studies have shown that Noctule, Leisler's *N. leisleri* Serotine and pipistrelle *Pipistrellus* spp. bats swarm around white mercury street lights (this would also apply to metal halide) feeding on the insects attracted to the light. Such behaviour is not true for all bat species, notably the slower flying broad-winged species such as long-eared bats *Plectotus* spp, *Myotis* species and Barbastelle. In addition, it is also thought that insects are attracted to lit areas from further afield. This is thought to result in adjacent habitats supporting reduced numbers of insects. This is a further impact on the ability of the light-avoiding bats to be able to feed. It is noticeable that most of Britain's rarest bats are among those species listed as avoiding light. Clearly, effective mitigation where there is potential for impacts on bats has importance in the conservation of these species.

Artificial lighting is thought to increase the chances of bats being preyed upon. Many avian predators will hunt bats which is one reason why bats avoid flying in the day. Observations have been made of a diurnal raptor, Kestrel *Falco tinnunculus*, hunting at night under the artificial light along motorways.

Lighting can be particularly harmful if used along river corridors, near woodland edges and near hedgerows used by bats. Artificial lighting disrupts the normal 24-hour pattern of light and dark which is likely to affect the natural behaviour of bats. Bright light may reduce social flight activity and cause bats to move away from the lit area. Studies have shown that continuous lighting along linear features (i.e. roads/paths) creates barriers which some bat species cannot cross. For example, Daubenton's Bats move their flight paths to avoid streetlamps.

The lighting scheme for the development should be sympathetic to bats, this should include:

- The use of low-pressure sodium lamps or high-pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics.
- Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

- The height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. However, there are cases where a taller column will enable light to be directed downwards at a more acute angle and thereby reduce horizontal spill. For pedestrian lighting this can take the form of low-level lighting that is as directional as possible and below 3 lux at ground level. The acceptable level of lighting may vary dependent upon the surroundings and on the species of bat affected.
- The light should be as low as guidelines permit. If lighting is not needed, don't light.
- The times during which any lighting is on should be limited to provide some dark periods.
- If the light is fitted with a timer this should be adjusted to the minimum to reduce the amount of 'lit time'.
- The light should be aimed to illuminate only the immediate area required by using as sharp a downward angle as possible. This lit area must avoid being directed at, or close to, any roost access points or flight paths from the roost. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.

5.5. Other Section 41 Mammals

It is considered possible that Hedgehog, Polecat and Harvest Mouse occur within the site. Mitigation during construction in relation to Badger will ensure that no Section 41 mammals are harmed. No further work in relation to other Section 41 mammals is considered necessary. It is recommended to include ground level gaps in any new fencing, to allow free movement of small fauna around the site.

5.6. Amphibians

GCN are considered likely absent from the site based on desk study and absence of water features within 0.25m of the site. No further survey work in relation to GCN is considered necessary.

In the apparently unlikely event that any GCN or significant numbers of common amphibian species are disturbed during works, works must cease and the advice of a SQE should be sought.

5.7. Reptiles

The site is considered unsuitable for any reptile species.

No further work in relation to reptiles is considered necessary, however, in the unlikely event that any reptiles are disturbed during works, works must cease and the advice of an SQE should be sought.

5.8. Breeding Birds

The site (buildings and vegetation) is likely to support small numbers of common nesting bird species. If possible, vegetation/general site clearance should be completed outside the bird nesting season (1 March to 31 August), although it should be noted that the nesting period may extend beyond these dates (for example, pigeons can breed in any month of the year in the UK). Should an occupied bird nest or a nest in the process of being constructed be encountered during works, clearance must cease in this area and should only re-commence once the birds have fledged or the nest is abandoned.

If works must be undertaken during the nesting season, a survey to identify any nests which may be impacted will be required. This survey should be undertaken by a suitably experienced person. Again, should an occupied nest or nest under construction be found, works must cease in this area until the birds have fledged or the nest has been abandoned.

5.9. Invertebrates

The site is considered unlikely to support significant populations/species of invertebrates.

No further survey work in relation to invertebrates is considered necessary.

5.10. Other Species

Considering the results of the site walkover survey, the nature of the site and the results of the desk study, no further works in relation to other species are considered necessary at this time.

5.11. Opportunities for Enhancement/Biodiversity Net Gain

The National Planning Policy Framework (NPPF) sets out national planning policies for the protection of biodiversity (and geological) conservation through the planning system. A key principle of NPPF is that, '*Opportunities to incorporate biodiversity in and around developments should be encouraged*'. Taking the requirements of NPPF into account, opportunities should be sought where possible for nature conservation enhancement at this site. Opportunities may exist to create valuable habitats and to manage existing habitats to maximise ecological benefit/gain to include:

- Wildflower plantings.
- Barn Owl nest box – ideally within the re-developed/renovated garage but if this is not feasible then on a mature/semi-mature tree along the southern/eastern site ownership boundary.
- Artificial nest boxes for bats on re-developed buildings (e.g. Beaumaris woodstone bat box placed as high as possible away from sources of disturbance and artificial lighting) and on boundary trees (e.g. 2F Schwegler placed as high as possible away from sources of disturbance and artificial lighting)
- Artificial bird boxes e.g. tit boxes, open-fronted boxes, Starling boxes, Swift boxes, Stock Dove boxes. Located away from sources of disturbance and artificial lighting.
- Small mammal gaps in any boundary fencing.

5.12. Report Validity

The findings of this report are considered valid until September 2024¹⁴. If works are delayed beyond this date then an updated assessment of potential impacts will be required.

¹⁴ CIEEM (2019). *Advice Note on The Lifespan of Ecological Reports and Surveys* [online] available at: <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>