

# Ecological Assessment

**Including Bat Survey Report**

**Woodside School, Halt Robin Road,  
Belvedere, DA17 6DW**

**Report for Bexley Borough Council,  
November 2020**



## Quality Assurance

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## About Us

Bakerwell Limited has two offices, led by directors Fiona Baker and Donna Popplewell. The Directors have collectively 18 years' experience in the ecological consultancy industry, hold relevant degrees, are qualified botanists, and are trained in the use of biodiversity metrics to calculate no net loss/gain.

All staff are members, or training to be members, of the professional body for the environmental industry, the Chartered Institute of Ecology and Environmental Management (CIEEM) and hold Natural England European protected species licences for great crested newts, bats and dormice. Bakerwell Limited has SMAS Worksafe Health and Safety Accreditation; all staff hold relevant CSCS cards.

Bakerwell Limited is a consultancy specialising in ecological planning advice and surveys. Bakerwell also work in collaboration with trusted associates to provide Landscape Architecture, Arboriculture and Energy assessments.

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**Figure 1 - Building Loft Bat Roost Assessment**

**Client: Bexley Borough Council**

Site: Land at Halt Robin Road, Belvedere, DA17 6DW

Job: KEDA17 204

Date: October 2020

Author/ Reviewer: MS / DP

**Key**

-  Site Boundary
-  Loft Not Accessible
-  Loft Accessed - Converted Roof
-  Accessed Loft Void - No Signs of Bats
-  Flat Roof Building
-  Bat Droppings - Within Lower Ground Floor Plant Room

**bakerwell**  
ecological expertise

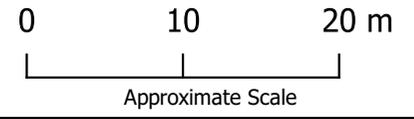
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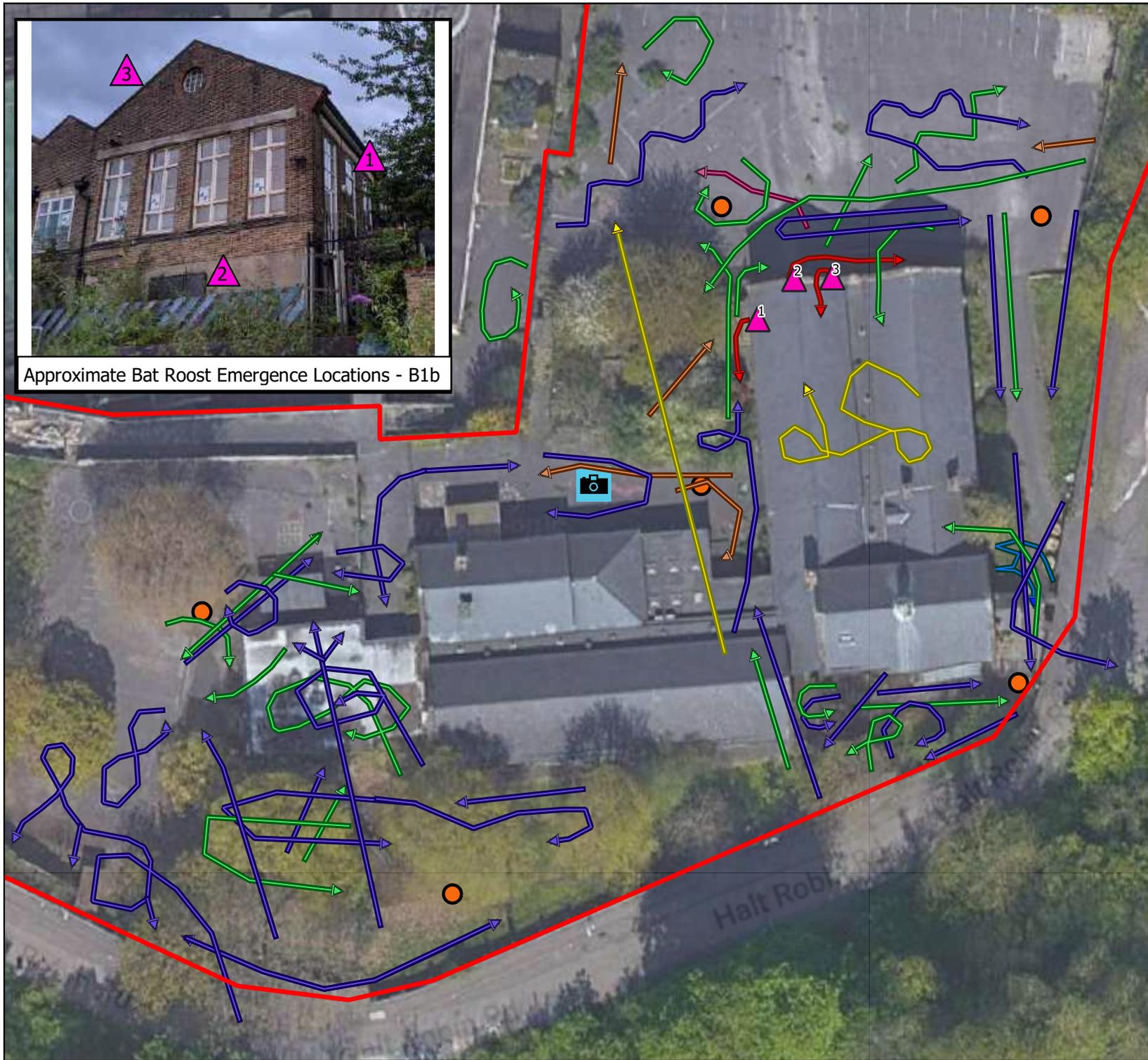
Approximate Bat Roost Emergence Locations - B1b

**Figure 2: Bat Survey Plan**  
- All Survey Data Collated

Site: Woodside School, Belvedere  
 Date: September 2020  
 Job: KEDA17 204  
 Author/ Reviewer: MS / DP



- Key**
- Site Boundary
  - Bat Surveyor Positions (n=6)
  - 📷 Infrared Camera Position
  - ▲ Bat Roost Positions
- Bat Flight Lines**
- ➔ Soprano Pipistrelle Roost Emergence
  - ➔ Soprano Pipistrelle Landing and Alighting
  - ➔ Soprano Pipistrelle
  - ➔ Common Pipistrelle
  - ➔ Nathusius Pipistrelle
  - ➔ Noctule
  - ➔ Unknown Bat

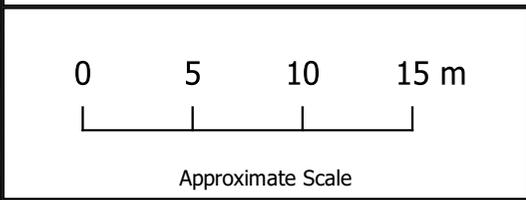


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### Figure 3: Reptile Survey Plan

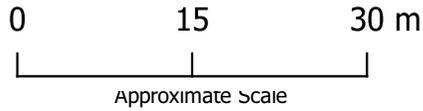
Site: Woodside School, Belvedere  
Date: September 2020  
Job: KEDA17 204  
Author/ Reviewer: MS / DP



**Key**  
[Red outline] Site Boundary  
[Green square] Reptile Refugia (n=30)



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Example of how wildflower meadow planting can be incorporated into new car parking area

Bat Boxes (n=6):  
x1 hibernation box  
x5 summer roost OR bat bricks incorporated into new building

Bird Boxes (n=5):  
x2 multiple access sparrow boxes  
x2 multi-species boxes for small bird species such as blue tit  
x1 multi-species box for mid-size birds including starling, woodpecker

Invertebrate boxes (n=2)

New log piles (n=2)

Indicative positions shown



Areas of vegetation are due to be retained. A mix of native and ornamental shrub will be incorporated across the site. Species planted should include nectar rich and fruit bearing trees to provide foraging opportunities for birds and invertebrates.

**Figure 4:**  
**Mitigation & Enhancements Plan**

Site: Woodside School, Belvedere  
Date: May 2021  
Job: KEDA17 204  
Author/ Reviewer: RD / FB



- Key**
- Site Boundary
  - Works to Building Roofs to Take Place Under Soft-Strip Methodology and Ecological Supervision
  - Works Under NE Licence to Roof and Lower Floor Plant Room
  - New Building
  - Retained Vegetation
  - Native and Ornamental Shrub Planting
  - Native Species-Rich Meadow Planting
  - Rough Grassland Planting
  - Raised Planters
  - Outdoor Teaching Space
  - Bat Box/Brick
  - Bird Box
  - Insect Box
  - Log Piles
  - New Tree Planting

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# 1 Executive Summary

- 1.1 Following the completion of a Preliminary Ecological Appraisal (Bakerwell, 2020), subsequent bat and reptile surveys were carried out at the former Woodside School grounds, Belvedere, to assess the presence / likely absence of these species on site.
- 1.2 Habitat suitable for reptiles was noted in the northern field on site (Bakerwell, 2020). No reptiles were found during eight survey visits conducted 21<sup>st</sup> June – 9<sup>th</sup> September 2020, and therefore reptiles are likely absent from the proposed development site.
- 1.3 Three dusk bat surveys were conducted of buildings B1a, B1b and B2 (see Figure 1) following the identification of potential roost features (PRFs) on the buildings. Examples of PRFs on the buildings included broken soffits, masonry cracks, lifted wood panelling, and an open lower ground plant room in B1b.
- 1.4 Three soprano pipistrelles *Pipistrellus pygmaeus* emerged from the northern and western aspects of B1b. Two emergences were from roof height, and the other from a lower ground floor secured window. Building B1b is therefore confirmed as a bat roost. As not all loft spaces were accessible during the bat roost assessment, it is possible that B1a and B1b are linked internally. Therefore, a Natural England (NE) European Protected Species Mitigation Licence (EPSML) is required prior to commencement of works to B1a and B1b.
- 1.5 Bat droppings were discovered in the lower ground plant room, accessed from the northern aspect of B1b. The droppings appear to be very old, but the capacious, dark interior was deemed to offer high bat roost potential, and various ingress points are present into the plant room, including from the covered window from which an emergence was recorded.
- 1.6 Following, and subject to, the grant of the NE EPSML, mitigation measures are provided to ensure no loss of favourable conservation status to the population of bats on site, including (but not limited to), the soft-strip under ecological supervision of any features of B1a or B1b which may be used by roosting bats, and provision of replacement roost opportunities. It may be possible for B1a to be sealed from B1b allowing works to come forward earlier under a NLMS. Once this information is available the ecologist further advice will be sought and followed.
- 1.7 A NE EPSML is not required for the proposed demolition of B2, as no bats were observed roosting within this building, however precautionary measures will be undertaken to ensure potential impacts to bats are negated.
- 1.8 Providing the measures set out in this report and any subsequent measures required by Natural England are followed the development will be compliant with all legislation pertaining to bats and will deliver enhancements for biodiversity in line with the National Planning Policy Framework (NPPF).

## 2 Introduction

- 2.1 Bakerwell Limited were commissioned by Bexley Borough Council, to undertake an Ecological Assessment (EA) of land at Halt Robin Road, Belvedere, DA17 6DW (henceforth referred to as the site). The EA comprises a summary of Phase 1 Habitats identified in the Preliminary Ecological Appraisal (PEA), bat surveys of buildings identified in the PEA with bat roost potential, and a reptile survey in suitable on-site habitat. This EA is provided to support a planning application for the school on site.
- 2.2 The PEA identified the broad habitat types on and in the vicinity of a given site. It identified habitats, species or the potential for species that are protected by European and UK law, or that are nationally or locally rare, or add biodiversity value. The EA includes the results of the protected species surveys recommended in the PEA, and provides recommendations to ensure that the development is compliant with UK and EU legislation, that any impacts to protected species are mitigated, and biodiversity enhancements are incorporated into the development.
- 2.3 The proposed development site is located in Belvedere, Borough of Bexley, central O.S. grid reference TQ 49822 78914. The site is comprised of the former Woodside School grounds and buildings. The Woodside School was closed in 2017 and has been disused since. The site has a total area of approximately 0.85ha.
- 2.4 Immediately surrounding the site to the west and northwest are further aspects of the Woodside School Grounds. To the east residential properties and roads are present. To the South lies Halt Robin Road, immediately beyond which is Frank's Park – a primarily wooded park of approximately 18ha.
- 2.5 The proposed development is to renovate the 1915 school buildings, demolish the single storey extension to the west, and build a new, larger extension in its place. The site is to be recommissioned as a school and will include accommodation.
- 2.6 This report has been produced to British Standard 42020:2020 Code of Practice for Planning and Development and the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2017) and Guidelines for Ecological Impact Assessment (2018).
- 2.7 Recommendations within this report aim to demonstrate the approved development will conserve and enhance biodiversity in accordance with Chapter 15 of National Planning Policy, Section 170.

### 3 Aims and Objectives

- 3.1 The aim of this assessment is to undertake a desk and field-based ecological assessment of the proposed development site to identify; the habitats present, evidence and potential for the presence of protected species on or in the immediate vicinity of the red line boundary; any direct or indirect effects of the proposed development to the on-site and off-site habitats or protected species.
- 3.2 The objectives of the surveys are to:
- Identify presence or likely absence of protected species.
  - Assess the impact of the development on protected species, if present
  - Provide outline recommendations for protected species mitigation, if required.
  - Provide outline recommendations for biodiversity enhancements.
  - To provide the above in the context of legislation, local planning policy and evaluation of any potential impacts.

### 4 Ecological Background

- 4.1 A Preliminary Ecological Appraisal (PEA) report was issued by Bakerwell Ltd in February 2020. The PEA comprised a desk study of local designated sites, a Phase 1 Habitat survey, protected species assessments for amphibians and reptiles, and a preliminary bat roost assessment. The results of these surveys are summarised below, and the full report can be found in Appendix 1.
- 4.2 The PEA site survey was undertaken on 23rd January 2020. The site is dominated by buildings and hardstanding, with areas of scattered trees, scrub, a field of poor semi-improved grassland, and a stagnant and overgrown pond area. There are also log piles and bird nests in trees on site.
- 4.3 An online desk study found that the site is situated directly adjacent to Frank's Park; a Site of Importance for Nature Conservation of approximately 18ha, comprised of mature woodland and acid grassland and one of the best recorded sites in the borough for bats (London Borough of Bexley, 2016).
- 4.4 Statutory designated sites are present within 2km of the site, with the closest being the Lesnes Abbey Wood Local Nature Reserve, approximate 0.9km west. The site is located within the Impact Risk Zone (IRZ) of the Lesnes Abbey Wood SSSI and Inner Thames Marshes SSSI. The Lesnes site is designated for geological reasons. Neither IRZ requires NE to be a consultee for projects relating to schools or redevelopment. Therefore, the

proposed development is not considered to impact biodiversity on designated sites and are discussed no further in this report. Furthermore, the desk study found that little natural connectivity is present between the site and other designated sites, as it is situated in a primarily urban environment.

- 4.5 Several areas of woodland priority habitats within 1km are also noted in the desk study, including deciduous woodland habitat within Frank's Park. The PEA considers that the proximity of the site to Frank's Park may contribute to the biodiversity present within the local area, including the proposed development.
- 4.6 The preliminary bat roost assessment found three buildings with bat roost potential; with trees and other buildings found to have negligible roost potential. Further dusk emergence surveys of the three buildings with bat roost potential were recommended to establish if there is any presence of roosting bats on site.
- 4.7 The phase 1 habitat survey found that the northernmost field of poor semi-improved grassland, which had been left to grow long and encroached by scrub provides suitable reptile habitat. Reptile surveys of the field were recommended to establish if there is any presence of these protected species within the proposed development.
- 4.8 The stagnant, overshadowed, on-site pond and one off-site ditch within 250m of the site were subject to Habitat Suitability Index (HSI) assessments for great crested newts (GCN). The pond and ditch were found to be of 'low' and 'below average' suitability respectively for the species, respectively, and their situation amongst expanses of hardstanding, including large roads, resulted in the decision that no further surveys were recommended for GCN.
- 4.9 The site was found to provide potential for roosting, commuting and foraging bats, reptiles, nesting and foraging birds, nesting, and foraging hedgehogs, and foraging and commuting badgers.

## 5 Methodology

### Desk Study

- 5.1 Desk studies are conducted to ascertain which habitats and species are or have been recorded on or within the surrounds of a proposed site. This information highlights areas of local ecological importance and provides an indication of which habitats and species may be expected to be in the vicinity. Records were obtained from Greenspace Information for Greater London (GiGL) for protected, rare, scarce and invasive non-native species within 1km. For consistency, only records from observations within the last 10 years are discussed within this report.

### Bat Emergence Surveys

- 5.2 Following Collins (2016) guidance three dusk surveys of buildings with high bat roost potential were carried out (see Figure 2 and Appendix 2). Surveys were carried out in suitable weather conditions by surveyors as shown in Table 1. Calls were recorded using Echo Meter Touch Pro (EMT) recorders with iPads (fourth generation).

Table 1: Bat Survey Dates and Surveyors

Survey Date and Type	Surveyors
14/07/20 – Dusk Survey 1 (Survey Positions 1-4/6)	Rhianna Dix, Charlotte Gupwell, Alexandra Wressle, Michael Smith
30/07/20 – Dusk Survey 1 (Survey Positions 5-6/6)	Rhianna Dix, Voy Bach
18/08/20 – Dusk Survey 2	Michael, Voy, Anya Foxworthy-Bowers, Jess Marlow, Lucy Price, Tom Johnson Natural England (NE) Licence No 2020-44585-CLS-CLS (Level 1)
08/09/20 – Dusk Survey 3	Michael, Tom, Rhianna, Jack Bage, Stuart Adkin, Donna Popplewell NE Licence No 2020-45501-CLS-CLS - Level 2

- 5.3 The EMT automatically identifies calls in the field, using the Kaleidoscope Pro Bat Auto-identification software. However, auto identification is designed for records of single bats in free flight and uncluttered (e.g. open fields) environments and is not appropriate for roost emergence, multiple bats, cluttered environments (e.g. among tall vegetation) or social calls. Therefore, calls from the EMT were further analysed in line with published guidance (Reason et al, 2016) using Kaleidoscope.
- 5.4 Analysis of bat calls may not always provide a confident conclusion of the species recorded due to the overlap in range of peak frequencies of some species and the way that calls may change within cluttered environments. Collins (2016) highlights that published literature has shown that identifying *Myotis* species with confidence without observing species-specific behaviour is extremely difficult (Parsons and Jones, 2000; Walters et al, 2012). Where a confident conclusion cannot be drawn as to the species, calls are identified to genus level such as *Myotis spp.*

### Static Recorder Surveys

- 5.5 Two Anabat Swift detectors were deployed within and outside building B1b following the observation of bats emerging from roosting points on 18<sup>th</sup> August 2020. One was positioned within the corridor leading to the plant room, and the other externally by the secured window where the bat was seen to emerge on 18<sup>th</sup> August. The detectors were deployed on the 4<sup>th</sup> September 2020 and collected on the 8<sup>th</sup> of September.

- 5.6 The deployment of these detectors was intended to obtain additional data of potential activity from bats utilising the buildings internally, and if present to establish the timing of any such activity. Results are provided in Appendix 4.
- 5.7 Bat calls were analysed in line with published guidance (Reason et al., 2016) using Anlook Insight by Michael Smith. The BatClassify auto-ID plugin was used to identify all calls with a species certainty threshold of over 85%.

### Reptile Presence/Absence Surveys

- 5.8 Voy Bach, Charlotte Gupwell, Rhianna Dix and Michael Smith completed reptile surveys comprising seven visits over June and September 2020. Reptile refugia (roofing felt of a minimum of 50cm<sup>2</sup>) were laid in transects, at a minimum density of 30 per hectare, across the suitable habitat, see Figure 3. Surveys commenced one week following distribution of the refugia, to allow reptiles to become familiar with their presence. Visits were conducted in suitable weather conditions (temperatures between 9-18°C), in accordance with Froglife (1999). Results are provided in Appendix 5.
- 5.9 Where reptiles are found, the maximum count of adults found on a single survey (the peak count) can be used to estimate population size. This is based on an extended survey with an additional 13 visits (Froglife, 1999). However, where presence/likely absence surveys reveal a very low number of reptiles, additional visits may not be a proportionate approach, where they are unlikely to significantly change the results.
- 5.10 Froglife (1999) criteria, see Table 2, was used to estimate population size.

Table 2: Reptile Population Classes (Froglife, 1999)

Species	Adult Peak Count *		
	Low Population (Score 1)	Medium Population (Score 2)	High Population (Score 3)
Grass snake	<5	5-10	>10
Slow worm	<5	5-20	>20
Common lizard	<5	5-20	>20

### Ecological Impact

- 5.11 Ecological Impact Assessment (EclA) is most formally used to provide the ecological component of an Environmental Impact Assessment (EIA) required under EIA

Regulations. The alternative use of assessing the impact of a proposal to ecology as used for the purposes of this report, is to demonstrate the approved development accords with relevant planning policy and legislation. This approach is recommended by BS42020: 2013.

- 5.12 The impact assessment identifies, quantifies and evaluates likely significant effects on habitats and species. The methodology used in this assessment broadly follows guidelines in CIEEM (2016). Ecological features are classified in terms of importance at a geographic scale (Appendix 3). Evaluation of impacts follows the mitigation hierarchy. This involves avoiding impacts, mitigating unavoidable impacts, compensation for remaining significant residual effects and seeking enhancements for biodiversity.

## 6 Limitations

- 6.1 The results of surveys detailed within this report provide evidence of the presence of protected species of flora and fauna, or the potential for such species, evident at the time of the survey. Due to the transient nature of fauna such as bats and their habitats, the results of this survey are considered to be valid for 18 months from completion of the survey (CIEEM, 2019), unless there is sufficient justification to show otherwise in line with Natural England guidance.
- 6.2 Online desk studies are completed using data acquired from [www.magic.gov.uk](http://www.magic.gov.uk) interactive maps, managed by Natural England. Data present has not been updated consistently and the desk study does not contain information succeeding 2018.
- 6.3 The age of survey data and mitigation considered acceptable by Natural England for the purpose of assessing whether to grant a European Protected Species Mitigation Licence (EPSML) is subject to change by Natural England at any time. Survey data may need to be updated within the survey season immediately prior to the EPSML application.
- 6.4 Assessments within this report are based on the Bakerwell PEA (March 2020), including bat roost assessment, bat and reptile surveys undertaken June – September 2020, and the Proposed Site Plan Sketch by LSI Architects, dated 7<sup>th</sup> April 2020.
- 6.5 Assessment for the presence or absence of invasive species will depend on the accessibility of the site, and the time of year for example scrub or other dense vegetation will restrict access and visibility. Surveys carried out in winter may not capture plants where leaf growth has not started.
- 6.6 Surveys later than 23<sup>rd</sup> March 2020 were carried out following the Covid-19 guidelines issued by CIEEM in association with DEFRA, ensuring social distancing between surveyors, the sanitising of equipment, restrictions to travel and accommodation. Due to the specific travel and accommodation restrictions, dawn bat re-entry surveys were replaced by additional dusk emergence surveys, to remove the need for excessive travel

during pre-dawn hours presenting a health and safety concern in the light of no available accommodation.

- 6.7 Findings and recommendations within this report are based on the professional opinion of qualified and experienced ecologists and do not constitute professional legal advice.

## 7 Results and Discussion

- 7.1 In this section the results and subsequent implications of the surveys are discussed and assessed in context of previous ecological assessments and the potential impacts of the approved development. Local planning policy context is given in Section 8. Recommendations for mitigation, in the context of relevant guidance and legislation are provided in Section 9. Recommendations for enhancements to meet the aims of the NPPF are provided in Section 10.

### Local Biological Records

#### Bats

- 7.2 Results from the GiGL search found at eight species of bat recorded within the 1km search radius. Table 3 summarises these records. In addition, bat records with low-resolution grid references include serotine bat records within 1km of the site.

Table 3: Bat Records Summary within 1km

Species Common Name	Species Latin Name	Distance and Direction of Nearest Record to Site	Number of Records
Noctule	<i>Nyctalus noctula</i>	0.3km SE	4
Leisler's	<i>Nyctalus leisleri</i>	0.3km SE	2
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	0.3km SE	6
Nathusius' pipistrelle	<i>Pipistrellus nathusii</i>	0.7km N	1
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	0.3km SE	5
Pipistrelle sp.	<i>Pipistrellus spp.</i>	0.6km SW	3

Species Common Name	Species Latin Name	Distance and Direction of Nearest Record to Site	Number of Records
Myotis sp.	<i>Myotis spp.</i>	0.7km N	1
Bat sp.	<i>Vespertilionidae</i>	0.7km SE	8
Serotine	<i>Eptesicus serotinus</i>	Within 1km	3

#### Birds

- 7.3 The record search yielded over 50 bird species records within 1km, however many of these were recorded in the marshes and wading habitat nearer the Thames and concerned species of little relevance to the on-site habitats. Species recorded within the last ten years which may be represented on site include: linnet *Linaria cannabina*, grey wagtail *Motacilla cinerea*, dunnock *Prunella modularis*, firecrest *Regulus ignicapillus*, goldcrest *Regulus regulus*, starling *Sturnus vulgaris*, house sparrow *Passer domesticus* and tree sparrow *Passer montanus*. All of these species are London Local Species of Conservation Concern, and/or higher conservation designations.

#### Mammals

- 7.4 Water vole *Arvicola amphibius* records are present around 0.8km north, however there is no suitable habitat available for the species on-site. Hedgehog form the only other terrestrial mammal records within 1km, with the closest record 0.5km to the south east. Suitable tree, log and compost pile habitat on site could also support the species on-site.

#### Amphibians and Reptiles

- 7.5 Two species of herpetofauna have been recorded within 1km of the site, summarised in Table 4.

Table 4 – Reptiles and Amphibian Records Summary within 1km

Species Common Name	Species Latin Name	Distance and Direction of Nearest Record to Site	Number of Records
Common frog	<i>Rana temporaria</i>	0.1km E	3
Slow worm	<i>Anguis fragilis</i>	0.3km SE	3

## Bat Roost Assessment

### *Bat Building Roost Assessment*

- 7.6 Bats and their roosts are protected under the EU Habitats Directive (transposed into UK law as the Conservation of Species and Habitats Regulations 2010), and the Wildlife and Countryside Act 1981 (WCA) (as amended). This protects bats from killing, injury, capture and disturbance of their roosts from damage, destruction and obstruction.
- 7.7 Over the course of the bat dusk emergence surveys and deployment of static bat detectors, searches for evidence of bat roosts within the buildings has taken place in accordance with the methodology set out in PEA. On the bat survey conducted 30<sup>th</sup> July 2020, a further inspection of the lower ground floor plant rooms of B1b took place, and some droppings were found in the room to the northeast of the building which had the size, appearance and crumbly composition of bat droppings. Therefore, the plant room of B1b is considered a confirmed bat roost.
- 7.8 Further attempts to access the loft voids of B1a and B1b were also made during subsequent survey visits, however entry to these spaces was not possible. The roofs between B1a and B1b may be linked, and as inspection was not possible of all spaces, bat roost potential may be present which has not been possible to identify.

### Bat Emergence Surveys

- 7.9 Bat surveys of B1a, B1b and B2 were carried out July - September 2020 in accordance with Collins (2016) for buildings with high bat roost potential. A summary of weather conditions during surveys can be found in Table 5 a summary of bat activity during the surveys can be found in Table 6, and seen in Figure 2, with full survey results given in Appendix 2.

*Table 5: Weather Conditions During Emergence Surveys*

Date	Sunrise/ Sunset time	Start time	End time	Cloud cover (%)	Temp. start- finish (°C)	Wind (Beaufort scale)	Rain (%)
14/07/2020	21:11	20:56	22:41	100	18-17	1	0
30/07/2020	20:50	20:35	22:20	10	24-22	1	0
18/08/2020	20:15	20:00	21:45	0	22-19	1	0
08/09/2020	19:31	19:16	21:01	0	22-21	1	0

- 7.10 The first survey was conducted in two parts on the 14<sup>th</sup> and 30<sup>th</sup> July. Bat activity was frequent with over 450 passes by noctule, Nathusius', common and soprano pipistrelles recorded.
- 7.11 On the second survey (18<sup>th</sup> August) three soprano pipistrelles were recorded emerging from B1b from three separate points along the northern and western aspects (Figure 2). Two of the emergence points were close to the roof, with the other around 1.5m off the ground, from around a secured, covered window. The north and western aspects of the B1b roofline, and plant room secured window are considered as confirmed bat roosts. In total over 250 bat passes were recorded on the second survey, with species comprising those recorded in the first surveys.
- 7.12 No bats were recorded emerging from the buildings on the third survey (8<sup>th</sup> September). Over 360 bat passes were recorded, of the same four species recorded in prior surveys.
- 7.13 Across each of the surveys, bats were recorded commuting and foraging frequently across and around all aspects of buildings B1 and B2, including above the roofs, as well as the trees, playground and other habitats adjacent to the buildings.
- 7.14 A summary of activity observed on the dusk surveys is provided in Table 6.

*Table 6: Summary of Dusk Survey Results*

Date	Species	First/ Last Pass	No. Passes	Activity Type / Observations
14/07/2020 and 30/07/2020	Common pipistrelle	21:03 – 22:40	235	Commuting and foraging behaviour seen and heard. Social calls heard.
	Soprano pipistrelle	21:02 – 22:41	186	Commuting and foraging behaviour seen and heard. Social calls heard.
	Nathusius' pipistrelle	21:29 – 22:23	12	Commuting and foraging behaviour seen and heard. Social calls heard.
	Noctule	21:12 – 22:16	19	Commuting and foraging behaviour seen and heard. Social calls heard.
	Pipistrelle sp.	21:23	1	Commuting
	Unknown bat	21:27	1	Faint call, heard not seen
18/08/2020	Common pipistrelle	20:30 – 21:37	183	Commuting and foraging behaviour seen and heard. Social calls heard.
	Soprano pipistrelle	20:32 – 21:30	56	Commuting and foraging behaviour seen and heard. Social calls heard. One bat seen alighting building side along eastern aspect of B1b
	Soprano pipistrelle	20:40 – 20:44	3	Emergence from three positions on the north and west aspects of B1b
	Nathusius' pipistrelle	21:06 – 21:34	5	Heard not seen

	Noctule	21:06 - 21:34	2	Heard not seen
	Unknown bat	2041 - 2056	2	Foraging and commuting bats, seen not heard
08/09/2020	Common pipistrelle	19:53 – 20:59	331	Commuting and foraging behaviour seen and heard. Social calls heard.
	Soprano pipistrelle	19:56 – 20:51	24	Commuting and foraging
	Nathusius' pipistrelle	20:08 – 20:24	7	Commuting, heard not seen
	Noctule	19:35 - 20:51	45	Commuting and foraging behaviour seen and heard. Social calls heard.
	Pipistrelle sp.	19:55	2	Two bats foraging above playground north of B1b
	Unknown bat	19:55	2	Two bats chasing one another, not calling

#### *Static Bat Detector Results*

- 7.15 The static detector placed within the plant room area of B1b showed no recordings of bats had taken place during the four days of its installation. This demonstrates that whilst the plant room is open and suitable for roosting bats, it was most likely to be used intermittently. The bat droppings found on 30<sup>th</sup> July confirms bats to be using the plant room, and the dark, humid environment, with many internal crevices and gaps may provide suitable hibernation roost areas for bats in the winter months as well as the summer. Bat hibernation surveys are required to inform the EPSML and timing of works where appropriate conditions are present, see Section 9.
- 7.16 The static bat detector placed externally picked up 561 calls over the period of its installation, with species comprised of noctule, soprano and common pipistrelles, largely reflecting the results of the dusk emergence surveys, but with no Nathusius' pipistrelle recordings. A summary of results from static bat detectors is provided in Appendix 4.

#### *Bat Survey Results Summary*

- 7.17 Bat roost assessments, bat dusk emergence surveys and static bat detector surveys showed that of the buildings surveyed, B1b was the only confirmed bat roost, with roost emergences of three soprano pipistrelles observed, and bat droppings found in the cellar of the lower ground floor plant room.

*Table 7. Bat Survey Results Summary for Buildings*

<b>Building Id</b>	<b>Bat Roost Potential Category</b>	<b>Confirmed Bat Roost?</b>
B1a	High	No

Building Id	Bat Roost Potential Category	Confirmed Bat Roost?
B1b	High	Yes – roost emergence observed, and droppings found in plant room
B2	High	No
B3	Negligible	No

*Ecological Importance of Bats on Site in Light of the Development*

- 7.18 All bats occurring in the UK are protected by European and UK law. Soprano pipistrelles are common and widespread bat species in England, and in Kent (Young et al, 2015). The small soprano pipistrelle roost and low level of activity recorded on site and indicates this site is of local (site) importance.

*Evaluation of Bats in Light of the Development*

- 7.19 Bats, and their roosts, are protected under the EU Habitats Directive (transposed into UK law as the Conservation of Species and Habitats Regulations 2017), and the Wildlife and Countryside Act 1981 (as amended). This protects bats from killing, injury, capture and disturbance and their roosts from damage, destruction and obstruction.
- 7.20 A soprano pipistrelle bat roost is present in building B1b with roosts recorded to the northern aspect within the roof void, crevices within the external façade below the roof line and around a covered window leading to the basement area. The proposed development seeks to renovate B1a and B1b and demolish B2. Renovation works to B1a and B1b will “make good” the lower ground plant rooms, incorporate accommodation, and install a new mechanical ventilation system at roof level. Full details of these works have not yet been finalised, however, works in the areas where bat roost positions were observed are likely to damage, or result in loss of, a roost.
- 7.21 A European Protected Species Mitigation Licence (EPSML) will therefore be required prior to the commencement of works to buildings B1b. It may be possible for B1a to be sealed from B1b allowing works to come forward earlier under a NLMS. Once this information is available the ecologist further advice will be sought and followed. Works to B2 will be completed under a non-licensed method statement for bats to ensure no impacts to the roost present. Mitigation for bats is detailed in Section 9.
- 7.22 No bats were observed to be roosting in B2. However, bats are known to regularly change roosting position and it is in close proximity to buildings B1a and B1b. Therefore, precautionary measures will be undertaken during demolition to ensure no impacts to bats as detailed in Section 9.

### Reptiles

- 7.23 Reptiles are protected from killing/injury under the Wildlife and Countryside Act 1981 (as amended). Thirty reptile refugia were placed in habitat suitable for reptiles on site, as shown in Figure 3. No reptiles were found and therefore reptiles are considered to be likely absent from site. Full survey results are provided in Appendix 5.
- 7.24 No mitigation for reptiles is therefore required on site and works to the northern field may proceed without further measures. The desk study showed records of slow worm 0.3km south of the site, and therefore the development will include enhancements for the benefit of reptiles as detailed in Section 10.

### Birds

- 7.25 All active bird nests are protected under the WCA 1981 from damage/destruction. The vegetation and buildings present on the site provide suitable habitat for nesting birds. Great tit *Parus major*, blue tit *Cyanistes caeruleus*, chaffinch *Fringilla coelebs*, wood pigeon *Columba palumbus*, carrion crow *Corvus corone*, and ring-neck parakeet *Psittacula krameri* were noted on site whilst undertaking the Phase 1 Habitat Survey. Recommendations for mitigation for birds are provided in Section 9.

## 8 Planning Context

- 8.1 Relevant protected species legislation is given in Appendix 6.

### National Planning Policy

- 8.2 Biodiversity, in particular protected species and habitats, is a material consideration of all planning applications. The National Planning Policy Framework (NPPF) was adopted in March 2012 (amended February 2019), and Chapter 15 Section 170 “Conserving and enhancing the natural environment” states that this should be achieved by:

*“..minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures..”*

- 8.3 The NPPF requires that the local planning authority should aim to enhance biodiversity when determining planning applications, and opportunities to incorporate biodiversity in and around developments should be encouraged, especially where this can secure measurable net gains for the environment. Local planning authorities should also apply the following principles, that:
- 8.4 *“..If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately*

*mitigated, or, as a last resort, compensated for, then planning permission should be refused..”*

### **Regional/Local Planning Policy**

- 8.5 The Bexley Core Strategy, adopted February 2012, provides legislation concerning measures to protect biodiversity in the borough. The plan has recently undergone consultation, and an updated Draft Local Plan is expected in Summer 2020. In the current Core Strategy policy pertaining to biodiversity is covered in Policy CS18:

#### ***Policy CS18 Biodiversity and geology***

*“The Council will protect and enhance its biodiversity and geological assets, whilst complying with national and regional policy and guidance by:*

- a. Ensuring development in Bexley does not adversely affect the integrity of any European site of nature conservation importance (including Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites) outside the borough. In particular, consideration will be given to potential impacts on the Thames Estuary and Marshes SPA through increased visitor pressure and reduced water quality, and on Epping Forest SAC through reduced air quality;*
- b. Protecting, conserving and enhancing Bexley’s Sites of Special Scientific Interest (SSSI) and Sites of Importance for Nature Conservation (SINC);*
- c. Resisting development that will have a significant impact on the population or conservation status of protected species and priority species as identified in the UK, London and Bexley Biodiversity Action Plans;*
- d. Protecting and enhancing the natural habitat as far as practicable, seeking biodiversity enhancements and improved access to nature, particularly in areas of deficiency, through new development, including new residential development and projects that help deliver the Open Space Strategy. Preference will also be given to enhancements which help to deliver the targets for habitats and species set out in the London Plan and Bexley Biodiversity Action Plan;*
- e. Recognising the value of landforms, landscapes, geological processes and soils as contributors to the geodiversity of the borough, and evaluating whether it is appropriate to designate any Regionally or Locally Important Geological Sites (RIGS or LIGS) in the borough;*
- f. enabling environmental education opportunities at the borough’s schools, and investigating opportunities to involve the wider community in biodiversity or geodiversity restoration and enhancement through projects; and*
- g. Seeking opportunities to provide for greening of the built environment, including green roofs and walls in new buildings.*

## 9 Mitigation Measures

### Trees

- 9.1 Mature trees will require removal to make way for the new school building to the west of the site. Tree loss will in the first instance be avoided where possible, and where unavoidable replacement tree planting will take place. The new trees will be at least 2m in height at the time of planting and comprise native species only, aiming to replace the species lost in the first instance. Examples of native trees and shrubs suitable for planting on site are provided in Table 8, with proposed planting locations indicated in Figure 4.

Table 8. Native Tree and Shrub Species for Mitigation and Enhancement Planting

Common Name	Latin Name	Common Name	Latin Name
Field Maple	<i>Acer campestre</i>	Wild Privet	<i>Ligustrum vulgare</i>
Alder	<i>Alnus glutinosa</i>	Crab Apple	<i>Malus sylvestris</i>
Juneberry	<i>Amelanchier lamarcki</i>	Wild Cherry	<i>Prunus avium</i>
Silver Birch	<i>Betula pendula</i>	Bird Cherry	<i>Prunus padus</i>
Dog Wood	<i>Cornus sanguinea</i>	Blackthorn	<i>Prunus spinos</i>
Hazel	<i>Corylus avellana</i>	English Oak	<i>Quercus robur</i>
Hawthorn	<i>Crataegus monogyna</i>	Rowan	<i>Sorbus aucuparia</i>
Spindle	<i>Euonymus europaeus</i>	European Yew	<i>Taxus baccata</i>
Beech	<i>Fagus sylvatica</i>	Guelder Rose	<i>Viburnum opulus</i>

### Grassland

- 9.2 The northern field of semi-improved grassland and ruderal vegetation will be lost to a new car parking area. To mitigate this loss, the western perimeter of the new car parking area will be planted with a native wildflower meadow mix that is of higher quality than the existing grassland. Emorsgate EM5 Meadow Mix for Loamy Soils or similar will be used to match the local soil type. In addition, a strip of rough grassland will be planted to the west of the site. Indicative planting areas can be seen in Figure 4.

## Protected Species

### *Bats*

- 9.3 Due to the confirmed soprano pipistrelle day roost in building B1b and possibly B1a, a NE EPSML will be obtained prior to the commencement of works to B1b. It may be possible for B1a to be sealed from B1b allowing works to come forward earlier under a NLMS. Once this information is available the ecologist further advice will be sought and followed. Mitigation measures detailed below will ensure that the conservation status of the bats present is maintained and enhanced. This will be subject to approval from NE during the EPSML application process. Works to B2 can take place without a NE EPSML but will follow the methodology for B1 as below.
- 9.4 Works to renovate buildings B1a and B1b and demolish B2 will follow the mitigation measures below:
- As the roosts at height are summer day roosts works to the façade and roof of the building will avoid the breeding period (May to August) when bats are at their most vulnerable and most likely to be present.
  - No major works are planned for the lower ground plant room of B1b, however renovations will take place to “make good” the area. The plant room may support hibernating bats, and due to the presence of bat droppings found within one of the rooms further hibernation surveys will be required to inform an NE EPSML for works to this roost area. This will comprise undertaking monthly surveys during the winter period (November – February) by leaving static detectors within the space for a minimum of five days each month and undertaking visual checks of the area for signs of hibernating bats. This information will be included within the NE EPSML application along with any subsequent mitigation proposals.
  - To mitigate the loss or damage to the roost positions, prior to any works commencing, five bat boxes will be erected on the building (as close to the pipistrelle roost location as possible), see Figure 4.
  - A pre-works inspection by a suitably qualified and licensed ecologist will be carried out to ensure the position of the bat box is correct, and to carry out an inspection of suitable features for bats to check for presence immediately prior to works.
  - In the event that any bats are found during works, they will be temporarily relocated to a bat box. The bat box will remain in situ, to provide an additional long-term roosting opportunity.
  - Prior to the start of works to B1 and B2, all contractors/staff will be given a toolbox talk by a bat licensed ecologist or accredited agent, with records kept of dates and attendees. This will ensure that all contractors will be aware of the

working methodology to be applied, ecology of the protected species present, legislation pertaining to these species and their responsibilities in regards to the licencing and legislation.

- Works to the confirmed or potential roosting features (PRFs) will follow a soft strip methodology under ecological supervision. The soft strip of PRFs will require removal by hand of wooden lap boards, soffit features and any other material providing a crevice or opening suitable for bats. This will be carried out under ecological supervision by the licenced ecologist or accredited agent of the licenced ecologist.
- Construction works will take place in suitable weather conditions only.
- Should works to the roof of B1a or B1b be required, traditional roofing felt will be used as other damp-proof material has been found to trap bats causing mortality.
- Due to lack of access to loft spaces in B1a and B1b, scaffolding will be erected to allow safe entrance into the lofts for bat roost assessments of the internal voids.

9.5 The lighting design for the development will follow the below steps to avoid impact on roosting, commuting and foraging bats:

- Construction works will take place during daylight hours only, no artificial lights will be used to light the boundary habitats during the construction period
- The lighting for the scheme will comply with the latest guidance, currently *Guidance Note 08/18: Bats and artificial lighting in the UK* (Bat Conservation Trust, 2018) and take account of commuting and foraging bats, by ensuring that there is no excess light spillage on mature trees on or off site or features introduced for bats
- Where practicable baffles, downward-facing lights or bollard-level lighting will be used, and these will be low-wattage lights with limited lighting within the UV spectrum
- Security lights will be hooded, motion-sensor controlled and timed to be on for as short a time as possible

#### *Bat Boxes and Replacement Bat Roost Opportunities*

9.6 The new development will incorporate bat boxes/bricks to provide replacement bat roost opportunities. These will be installed on retained buildings and/or retained trees within the site boundaries. Six bat boxes will be provided comprising:

- One hibernation box (such as Schwegler 1WQ, or similar)
- Five standard roost boxes (such as Schwegler 1FE with back plate, or similar)

- 9.7 Indicative box positions can be seen in Figure 4. Provided the measures above (or as determined by the granted NE EPSML) are carried out the proposal will comply with all known legislation regarding bats

#### ***Birds***

- 9.8 Hedge and tree removal and pruning works will, where possible, avoid the bird nesting season, March to August inclusive. If this is not possible removal will occur under the supervision of a suitably qualified ecologist who will check for any active nests. If found to be present, a buffer zone, where no development activities will occur, will be cordoned off by the supervising ecologist until the young have fledged. Provided the above recommendations are adhered to, the proposed development of the site will not contravene any legislation or planning policy pertaining to breeding birds.

#### ***Hedgehogs***

- 9.9 Due to the possibility of hedgehog commuting and foraging through the site, precautionary measures are required during construction to avoid trapping the species in trenches or holes, and disturbing potential nesting areas. These will comprise covering any steep sided holes or trenches or leaving a sturdy ramp or plank within to provide an escape route, and carefully moving any log or compost piles by hand. Any temporary fencing will leave a gap of 13cm at the base to ensure that permeability of the site remains in place. Providing these measures are followed the development will be compliant with all known legislation and planning policy pertaining to hedgehogs.

## **10 Enhancement Measures**

- 10.1 The NPPF requires that the local planning authority should aim to enhance biodiversity when determining planning applications and opportunities to incorporate biodiversity in and around developments should be encouraged.

#### ***Habitats***

- 10.2 The landscaping proposals will include native fruit or nectar bearing plants and trees, to benefit foraging and refuge opportunities for wildlife including bats, birds, small mammals and invertebrates. These will be planted within areas of retained shrub and vegetation, as well as along proposed replacement grassland and native and ornamental shrub planting areas. Examples of appropriate flowering, fruiting and seed-producing species are shown in Table 8.
- 10.3 The Bexley Biodiversity Action Plan, adopted 2011, includes the Black Poplar Species Action Plan 2010-2015, and specifically Target BP02 which aims to “Plant 120 additional black poplars at appropriate locations by 2015. 20 of these will be delivered through new development”. The action plan recognises that 100% survival of trees planted is

unlikely, and that ongoing monitoring and replanting will be necessary to ensure the success of the plan. The proposed development offers the potential to contribute to the black poplar Action Plan by planting new trees of this species in suitable available space within the red line boundary.

- 10.4 The national and regional planning policies require the enhancement of natural habitats. The proposed recommissioning of the school provides an opportunity to incorporate CS18(f) by “enabling environmental education opportunities at the borough’s schools”, given the nearby Franks Park and the presence of habitats on site which could be enhanced to provide habitat for biodiversity and provide opportunities for environmental education at the school.

#### *Outdoor Teaching Space*

- 10.5 An improved outdoor teaching space will be provided to replace the existing pond and nature garden. The inclusion of native and ornamental shrub planting, tree planting, raised flower beds and species enhancements such as an invertebrate box and bird box will allow a natural and immersive space to the outdoor teaching area and serve a greater purpose than the existing space. The pond is currently fenced off due to health and safety reasons. The pond liner is torn and no longer holds water, therefore it does not function as a good quality wildlife feature and will be improved by this proposal.

#### *Native and Ornamental Shrub Planting*

- 10.6 The landscaping proposals for the development will include native planting of fruit or nectar-bearing plants and trees, to encourage a greater diversity of insects for bats to feed on. This will also provide increased opportunities for nesting and foraging birds.

#### *Bats*

- 10.7 Five Habitat 001 bat bricks and/or Schwegler 2F bat boxes (or similar) will be incorporated onto the buildings and trees of the proposed development as a further enhancement of the site for bats. In addition, a hibernation box will also be provided. Research into bat mitigation by the University of Exeter and the Chartered Institute of Ecology and Environmental Management (2018) has shown bats are unlikely to use bat boxes where less than five are installed as bats roost transiently, requiring several to be available at a time to facilitate roost selection based on weather conditions and the other factors.

#### *Birds*

- 10.8 Five bird nest bricks / boxes will be incorporated into the proposed development, at least 3m above ground level, facing east, northeast or northwest, away from prevailing winds. These will include two multi access boxes for house sparrows, and two for mixed species use. Indicative box positions can be seen in Figure 4.

*Enhancements for Multiple Species*

- 10.9 Two invertebrate boxes will be provided on site, such as the Vivara Corsica Insect Hotel. One will be installed within the outdoor teaching space, in a sunny location amongst the vegetation, and the other a suitable unshaded south-facing location situated amongst vegetation. Indicative positions can be seen in Figure 4.
- 10.10 Two new log piles will be created and placed in sunny, undisturbed locations around the site border. Indicative positions can be seen in Figure 4. These will provide shelter and hibernation opportunities for a range of vertebrates, as well as attracting invertebrates. The specification for construction of the log piles is shown in Appendix 7.

## 11 Conclusion

- 11.1 Whilst most of the habitats on site are common and widespread, the site has good connectivity to the adjacent Frank's Park and the habitats have intrinsic importance to wildlife, such as bats and breeding birds.
- 11.2 A soprano pipistrelle day roost is confirmed to buildings B1a and B1b. Providing measures detailed in Section 8 and 9 are followed, including obtaining a NE EPSML prior to the commencement of works to these buildings, the proposals will be compliant with legislation and policy pertaining to these species.
- 11.3 The lower ground floor plant room within B1b provides an environment suitable as a bat hibernation roost, and evidence observed suggests bats are using the room to roost. Hibernation surveys are therefore required to inform an NE EPSML for works to this roost area.
- 11.4 Measures detailed in Section 9 will ensure that the site continues to provide opportunities for other protected species which may use the site.
- 11.5 Measures detailed in Section 10 provide enhancement opportunities, which in line with Chapter 15 of the NPPF, offers the opportunity to enhance the site for biodiversity and contribute towards the objectives of the NPPF, Bexley Local Plan and Biodiversity Action Plan.

## 12 References

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## Appendices

Appendix 1: Preliminary Ecological Appraisal Report – Bakerwell (April 2020)

Appendix 2: Full Bat Dusk Emergence Survey Results

Appendix 3: Levels of Importance

Appendix 4: Static Bat Detector Results Summary

Appendix 5: Full Reptile Survey Results

Appendix 6: Relevant Protected Species Legislation

Appendix 7: Log Pile Design

# **Appendix 1. Preliminary Ecological Appraisal – Bakerwell Limited (March 2020)**

## Appendix 2. Full Bat Dusk Emergence Survey Results

Date	Location	Surveyor Position	Surveyor	Time	Species	No. Bats	No. Passes	Activity/Observations
14/07/2020	B1a / B2	1/6	CG	2122-2136	Soprano Pipistrelle	2	55+	Foraging consistently between trees south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2130	Soprano Pipistrelle	1	1	Commuting east to west along south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2132 - 2218	Common Pipistrelle	1	25	Intermittent foraging south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2137-2145	Common Pipistrelle	1	5	Commuting south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2157-2238	Common Pipistrelle	1	48	Intermittent commuting and foraging, heard not seen
14/07/2020	B1a / B2	1/6	CG	2213-2233	Soprano Pipistrelle	1	16	Intermittent commuting and foraging, heard not seen
14/07/2020	B1a / B2	1/6	CG	2216-2223	Nathusius' Pipistrelle	1	2	Heard not seen
14/07/2020	B2	2/6	AW	2122-2126	Soprano Pipistrelle	3	35+	Foraging and commuting south of and over the roof of B2
14/07/2020	B2	2/6	AW	2126	Common Pipistrelle	1	1	Heard not seen
14/07/2020	B2	2/6	AW	2130	Common Pipistrelle	1	1	Commuting south to north over B2
14/07/2020	B2	2/6	AW	2133-2159	Common Pipistrelle	3	25+	Commuting and foraging, heard not seen
14/07/2020	B2	2/6	AW	2203	Noctule	1	1	Heard not seen
14/07/2020	B2	2/6	AW	2207	Common Pipistrelle	1	5	Commuting over roof of B2
14/07/2020	B2	2/6	AW	2217-2227	Common Pipistrelle	1	5+	Commuting and foraging, heard not seen

14/07/2020	B2	2/6	AW	2223-2241	Soprano Pipistrelle	1	5+	Commuting and foraging intermittently, heard not seen
14/07/2020	B2/B1a	3/6	RCD	2123	Pipistrelle sp.	1	1	Commuting through trees south of B2
14/07/2020	B2/B1a	3/6	RCD	2123-2129	Soprano Pipistrelle	1	7	Foraging through trees south of B2 and above roof of B2
14/07/2020	B2/B1a	3/6	RCD	2127	Common Pipistrelle	1	1	Commuting pass along playground southwest to northeast
14/07/2020	B2/B1a	3/6	RCD	2129	Common Pipistrelle	1	2	Heard not seen
14/07/2020	B2/B1a	3/6	RCD	2130-2135	Noctule	1	1	Commuting intermittently, heard not seen
14/07/2020	B2/B1a	3/6	RCD	2130-2155	Common Pipistrelle	1	6	Foraging over playground and around trees
14/07/2020	B2/B1a	3/6	RCD	2123-2156	Soprano Pipistrelle	4	11	Foraging over playground and above trees
14/07/2020	B2/B1a	3/6	RCD	2143	Nathusius' Pipistrelle	1	1	Heard not seen, commuting
14/07/2020	B2/B1a	3/6	RCD	2144-2215	Soprano Pipistrelle	1	9+	Heard not seen, commuting and foraging intermittently
14/07/2020	B2/B1a	3/6	RCD	2208	Common Pipistrelle	1	5	Commuting southwest to northeast
14/07/2020	B2/B1a	3/6	RCD	2216	Nathusius' Pipistrelle	1	6	Heard not seen
14/07/2020	B2/B1a	3/6	RCD	2216-2240	Common Pipistrelle	1	50+	Heard not seen
14/07/2020	B1a/B1b	4/6	MS	2127	Unknown bat	1	1	Faint call, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2129	Noctule	1	1	Commuting west to east high above playground
14/07/2020	B1a/B1b	4/6	MS	2131-2133	Common Pipistrelle	1	2	Commuting/foraging southwest to northeast

14/07/2020	B1a/B1b	4/6	MS	2135	Soprano Pipistrelle	1	1	Sudden appearance on northern aspect of B1b, proceeding to fly up and over the building roof. Emergence not confirmed, but likely roosting nearby
14/07/2020	B1a/B1b	4/6	MS	2141	Soprano Pipistrelle	1	1	Commuting/foraging along eastern aspect of B1b and then north across playground
14/07/2020	B1a/B1b	4/6	MS	2145-2158	Soprano Pipistrelle	2	8	Commuting and foraging, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2152-2159	Soprano Pipistrelle	1	2	Foraging in zig-zag flights across playground
14/07/2020	B1a/B1b	4/6	MS	2200	Common Pipistrelle	1	2	Commuting east to west
14/07/2020	B1a/B1b	4/6	MS	2202	Soprano Pipistrelle	1	1	Commuting east to west
14/07/2020	B1a/B1b	4/6	MS	2202	Noctule	1	1	Commuting, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2204-2239	Common Pipistrelle	1	10	Commuting/foraging, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2211-2239	Soprano Pipistrelle	1	14	Commuting/foraging, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2213	Common Pipistrelle	1	1	Foraging in zig-zag flight across playground
14/07/2020	B1a/B1b	4/6	MS	2128	Noctule	1	1	Commuting, heard not seen
30/07/2020	B1b	5/6	VB	2102	Soprano Pipistrelle	1	1	Flying along eastern side of site
30/07/2020	B1b	5/6	VB	2111	Common Pipistrelle	1	1	Commuting south
30/07/2020	B1b	5/6	VB	2112	Noctule	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2116	Soprano Pipistrelle	1	1	Pass from near building B1b
30/07/2020	B1b	5/6	VB	2120	Soprano Pipistrelle	1	1	Pass along eastern aspect of B1b
30/07/2020	B1b	5/6	VB	2129-2216	Nathusius' Pipistrelle	1	2	Intermittent passes, heard not seen

30/07/2020	B1b	5/6	VB	2132	Noctule	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2134	Soprano Pipistrelle	1	1	Pass along eastern aspect of B1b, flying north
30/07/2020	B1b	5/6	VB	2138	Common Pipistrelle	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2139	Soprano Pipistrelle	1	1	Pass from roof of B1b north to playground
30/07/2020	B1b	5/6	VB	2141	Soprano Pipistrelle	1	1	Foraging east to west
30/07/2020	B1b	5/6	VB	2143	Common Pipistrelle	1	1	Foraging east to west
30/07/2020	B1b	5/6	VB	2143- 2216	Noctule	1	5	Intermittent passes, heard not seen
30/07/2020	B1b	5/6	VB	2147	Common Pipistrelle	1	1	Foraging along eastern aspect of B1b
30/07/2020	B1b	5/6	VB	2156- 2207	Common Pipistrelle	1	3	Intermittent foraging over roof of B1b
30/07/2020	B1b	5/6	VB	2205	Soprano Pipistrelle	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2213- 2220	Common Pipistrelle	1	2	Heard not seen
30/07/2020	B1b	6/6	RCD	2102	Soprano Pipistrelle	2	3	Passes, heard not seen
30/07/2020	B1b	6/6	RCD	2103- 2112	Common Pipistrelle	1	2	Passes, heard not seen
30/07/2020	B1b	6/6	RCD	2109	Soprano Pipistrelle	1	1	Pass along southern aspect of B1b, west to east
30/07/2020	B1b	6/6	RCD	2111- 2134	Soprano Pipistrelle	1	9	Foraging and commuting alongside and over the roof of B1b
30/07/2020	B1b	6/6	RCD	2112- 2210	Noctule	1	7	Passes, heard not seen
30/07/2020	B1b	6/6	RCD	2121- 2159	Common Pipistrelle	1	15+	Foraging and commuting alongside and over the roof of B1b

30/07/2020	B1b	6/6	RCD	2128-2220	Common Pipistrelle	1	15+	Commuting and foraging, heard not seen
30/07/2020	B1b	6/6	RCD	2216	Nathusius' Pipistrelle	1	1	Pass, heard not seen
18/08/2020	B1a/B2	1/6	MS	2030-2032	Common Pipistrelle	1	2	Pass, heard not seen
18/08/2020	B1a/B2	1/6	MS	2032-2036	Soprano Pipistrelle	1	2	Pass, heard not seen
18/08/2020	B1a/B2	1/6	MS	2037-2050	Common Pipistrelle	3	10	Commuting and foraging south of B2
18/08/2020	B1a/B2	1/6	MS	2038-2047	Soprano Pipistrelle	1	8	Commuting and foraging, heard not seen
18/08/2020	B1a/B2	1/6	MS	2052-2101	Common Pipistrelle	1	32	Commuting and foraging, heard not seen
18/08/2020	B1a/B2	1/6	MS	2102-2133	Common Pipistrelle	1	7	Foraging along southern site boundary (Halt Robin Rd)
18/08/2020	B2	2/6	VB	2033-2103	Soprano Pipistrelle	2	11	Commuting and foraging north and west of B2
18/08/2020	B2	2/6	VB	2033-2133	Common Pipistrelle	1	100+	Commuting and foraging north and west of B3
18/08/2020	B2	2/6	VB	2102	Noctule	1	1	Heard not seen
18/08/2020	B2	2/6	VB	2117-2134	Nathusius' Pipistrelle	1	2	Heard not seen
18/08/2020	B2/B1a	3/6	AFB	2039-2130	Soprano Pipistrelle	1	10	Heard not seen
18/08/2020	B2/B1a	3/6	AFB	2041	Unknown bat	1	1	Foraging bat seen not heard
18/08/2020	B2/B1a	3/6	AFB	2047-2137	Common Pipistrelle	1	13	Heard not seen
18/08/2020	B2/B1a	3/6	AFB	2056	Unknown bat	1	1	Commuting bat seen not heard
18/08/2020	B2/B1a	3/6	AFB	2107	Nathusius' Pipistrelle	1	1	Heard not seen

18/08/2020	B2/B1a	3/6	AFB	2113	Soprano Pipistrelle	1	1	Foraging west to east
18/08/2020	B2/B1a	3/6	AFB	2125	Common Pipistrelle	1	1	Foraging between buildings
18/08/2020	B1a/B1b	4/6	JM	2040	Soprano Pipistrelle	1	1	Emergence from building B1b, from area above window on the eastern aspect
18/08/2020	B1a/B1b	4/6	JM	2043	Soprano Pipistrelle	1	1	Emergence from B1b, from ground floor by secured windows on the northern aspect
18/08/2020	B1a/B1b	4/6	JM	2044	Soprano Pipistrelle	1	1	Emergence from B1b, from centre of building, just under roof
18/08/2020	B1a/B1b	4/6	JM	2045	Soprano Pipistrelle	1	2	Foraging
18/08/2020	B1a/B1b	4/6	JM	2054-2122	Soprano Pipistrelle	1	2	Heard not seen
18/08/2020	B1a/B1b	4/6	JM	2103	Common Pipistrelle	1	1	Heard not seen
18/08/2020	B1a/B1b	4/6	JM	2106-2107	Nathusius' Pipistrelle	1	2	Heard not seen
18/08/2020	B1a/B1b	4/6	JM	2107	Common Pipistrelle	1	1	Commuting
18/08/2020	B1b	5/6	TJ	2044-2118	Soprano Pipistrelle	1	3	Heard not seen
18/08/2020	B1b	5/6	TJ	2047	Soprano Pipistrelle	1	1	Commuting north to south
18/08/2020	B1b	5/6	TJ	2057	Noctule	1	1	Heard not seen
18/08/2020	B1b	5/6	TJ	2107-2116	Common Pipistrelle	1	2	Heard not seen
18/08/2020	B1b	6/6	LP	2029-2044	Common Pipistrelle	1	2	Commuting north to south along eastern aspect of B1b
18/08/2020	B1b	6/6	LP	2034-2041	Soprano Pipistrelle	1	6	Foraging in area southeast of B1b
18/08/2020	B1b	6/6	LP	2040-2134	Common Pipistrelle	1	12	Heard not seen

18/08/2020	B1b	6/6	LP	2041	Soprano Pipistrelle	1	5	Bat alighting B1b building side (eastern aspect, southern end) twice before flying away south
18/08/2020	B1b	6/6	LP	2045	Soprano Pipistrelle	1	4	Flying south to north, then away over B1b to the west
18/08/2020	B1b	6/6	LP	2047-2049	Soprano Pipistrelle	1	2	Commuting north to south along eastern aspect of B1b
08/09/2020	B1a/B2	1/6	CG	1935-2049	Noctule	1	9	Commuting, heard not seen
08/09/2020	B1a/B2	1/6	CG	1953-2012	Common Pipistrelle	1	30+	Commuting and foraging south of B1a
08/09/2020	B1a/B2	1/6	CG	1958-2055	Common Pipistrelle	1	70+	Foraging, commuting and social calls, heard not seen
08/09/2020	B1a/B2	1/6	CG	2051	Soprano Pipistrelle	1	1	Commuting, heard not seen
08/09/2020	B2	2/6	JB	1949-2051	Noctule	1	12	Heard not seen
08/09/2020	B2	2/6	JB	1959-2004	Common Pipistrelle	1	6	Commuting north over B2
08/09/2020	B2	2/6	JB	2000-2059	Common Pipistrelle	1	12	Heard not seen
08/09/2020	B2	2/6	JB	2004-2042	Common Pipistrelle	3	150+	Foraging south of B2 in trees
08/09/2020	B2	2/6	JB	2008	Nathusius' Pipistrelle	1	1	Heard not seen
08/09/2020	B2	2/6	JB	2009-2051	Soprano Pipistrelle	1	3	Heard not seen
08/09/2020	B2/B1a	3/6	MS	1935-2048	Noctule	1	5	Heard not seen
08/09/2020	B2/B1a	3/6	MS	1948-1949	Noctule	1	3	Foraging high above B1b
08/09/2020	B2/B1a	3/6	MS	1955	Unknown bat	2	1	Two bats chasing one another travelling northeast, not calling

08/09/2020	B2/B1a	3/6	MS	2004	Common Pipistrelle	1	1	Commuting north to south over B1a
08/09/2020	B2/B1a	3/6	MS	2009	Soprano Pipistrelle	1	1	Commuting north to south over B1a
08/09/2020	B2/B1a	3/6	MS	2022-2024	Nathusius' Pipistrelle	1	2	Heard not seen
08/09/2020	B2/B1a	3/6	MS	2029-2155	Soprano Pipistrelle	2	3	Heard not seen
08/09/2020	B2/B1a	3/6	MS	2037-2051	Common Pipistrelle	1	5	Heard not seen
08/09/2020	B1a/B1b	4/6	DP	1927-2019	Noctule	1	7	Heard not seen
08/09/2020	B1a/B1b	4/6	DP	1956-2054	Soprano Pipistrelle	1	4	Heard not seen
08/09/2020	B1a/B1b	4/6	DP	2004	Common Pipistrelle	1	1	Commuting north
08/09/2020	B1a/B1b	4/6	DP	2018	Noctule	1	1	Social calls, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2019	Noctule	1	1	Commuting, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2022	Nathusius' Pipistrelle	1	3	Commuting, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2024-2059	Common Pipistrelle	1	11	Commuting, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2039	Common Pipistrelle	1	1	Social calls, heard not seen
08/09/2020	B1b	5/6	RCD	1935	Noctule	1	1	Commuting high over B1b
08/09/2020	B1b	5/6	RCD	1948-2019	Noctule	1	2	Commuting, heard not seen
08/09/2020	B1b	5/6	RCD	1955	Pipistrelle sp.	2	1	Foraging above playground north of B1b
08/09/2020	B1b	5/6	RCD	2006	Soprano Pipistrelle	1	8	Commuting, heard not seen

08/09/2020	B1b	5/6	RCD	2008	Common Pipistrelle	1	15	Commuting, heard not seen
08/09/2020	B1b	5/6	RCD	2009	Soprano Pipistrelle	1	1	Commuting west to east
08/09/2020	B1b	5/6	RCD	2012	Common Pipistrelle	1	1	Commuting along hedge north to south
08/09/2020	B1b	5/6	RCD	2023	Nathusius' Pipistrelle	1	1	Commuting, heard not seen
08/09/2020	B1b	6/6	SA	1928-1959	Noctule	1	4	Pass, heard not seen
08/09/2020	B1b	6/6	SA	1951	Common Pipistrelle	1	1	Pass from east to B1b and then back
08/09/2020	B1b	6/6	SA	1956	Soprano Pipistrelle	1	1	Pass from east to B1b and then back
08/09/2020	B1b	6/6	SA	2001 - 2059	Common Pipistrelle	2	25+	Commuting and foraging, heard not seen
08/09/2020	B1b	6/6	SA	2015	Common Pipistrelle	1	1	Commuting south of B1b
08/09/2020	B1b	6/6	SA	2036	Common Pipistrelle	2	1	Commuting and social calls, heard not seen
08/09/2020	B1b	6/6	SA	2046	Soprano Pipistrelle	1	2	Foraging, heard not seen

## Appendix 3. Levels of Importance

*Table with classified levels of importance for Ecological Impact Assessment.*

Geographic Scale	Example
International	<p>An internationally designated site<sup>1</sup>, or site which would meet the criteria for such a designation. A viable area of Annex 1 habitat type, or smaller area essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of an internationally important species, threatened or rare in the UK. A regularly occurring, nationally significant population/ number of any internationally important species.</p>
National	<p>A nationally designated site<sup>2</sup>, or site which would meet the criteria of such a designation. A viable area of a Habitat of Principal Importance and priority habitats in England (NERC Act 2006) or smaller areas essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring, regionally or county significant population/number of any nationally important species. A feature identified as of Habitat or Species of Principal Importance or Priority habitats</p>
Regional	<p>Sites which exceed the County-level designations but fall short of SSSI selection guidelines.</p> <p>Viable areas of key habitat identified in the Regional BAP or smaller areas essential to maintain the viability of a larger whole. Viable areas of key habitat of Regional value in the appropriate Natural Area profile.</p> <p>Any regularly occurring, locally significant population of a species nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of regional rarity or localisation. A regularly occurring, locally significant number of a regionally important species.</p>
Metropolitan, County, Vice County	<p>Semi-natural ancient woodland greater than 0.25ha.</p> <p>County/Metropolitan sites which meet the published ecological selection criteria for designation, including Local Nature Reserves (LNR) selected on County/Metropolitan ecological criteria. A viable area of Habitat of Principle Importance and Priority Habitats in England (NERC)</p> <p>A regularly occurring, locally significant population of a County/Metropolitan “red data book” or LBAP species on account of</p>

**Table with classified levels of importance for Ecological Impact Assessment.**

Geographic Scale	Example
	regional rarity or localisation. A regularly occurring, locally significant number of a County/Metropolitan important species.
District	<p>Semi-natural ancient woodland smaller than 0.25 ha. Areas of habitat identified in a sub-county (District/Borough) BAP or in the relevant Natural Area profile. District sites that meet the published ecological selection criteria for designation, including LNR selected on District/Borough ecological criteria. Sites/features scarce within the District/Borough. A diverse and/or ecologically valuable hedgerow network.</p> <p>A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation. A regularly occurring, locally significant number of a District/Borough important species during a critical phase of its life cycle.</p>
Local	Areas of habitat considered to appreciably enrich the habitat resource within the context of the parish or neighbourhood (e.g. species-rich hedgerows); and LNRs selected on parish ecological criteria.

<sup>1</sup> Such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or, Wetlands of International Importance (RAMSAR)

<sup>2</sup> Such as Site of Special Scientific Interest (SSSI)

## Appendix 4. Static Bat Detector Result Summary

Anabat Insight BatClassify (Auto-ID) labels with 85% match threshold or higher

Anabat Position	Date	Species Label	Count
A - Internal - Within Plant Room Corridor	04/09/2020 - 08/09/2020	-	0
B - External - By Secured Window	04/09/2020	NSL	1
B - External - By Secured Window	04/09/2020	Ppip	39
B - External - By Secured Window	04/09/2020	Ppyg	12
B - External - By Secured Window	05/09/2020	NSL	3
B - External - By Secured Window	05/09/2020	Ppip	70
B - External - By Secured Window	05/09/2020	Ppyg	31
B - External - By Secured Window	06/09/2020	NSL	8
B - External - By Secured Window	06/09/2020	Ppip	163
B - External - By Secured Window	06/09/2020	Ppyg	45
B - External - By Secured Window	07/09/2020	NSL	3
B - External - By Secured Window	07/09/2020	Ppip	102
B - External - By Secured Window	07/09/2020	Ppyg	39
B - External - By Secured Window	08/09/2020	NSL	26
B - External - By Secured Window	08/09/2020	Ppip	13
B - External - By Secured Window	08/09/2020	Ppyg	7

Species Labels:

NSL = Noctule, Serotine or Leisler's

Ppip = Common pipistrelle

Ppyg = Soprano pipistrelle

## Appendix 5. Full Reptile Survey Results

Visit no.	Date	Time	Temp (°C)	Cloud Cover (%)	Wind (Beaufort)	Rain (Beaufort)	Surveyor (s)	Reptiles Found
1	21/06/2020	0905	18	5	1	0	VB	None
2	22/06/2020	0845	18	65	1	0	VB	None
3	26/06/2020	1705	17	80	3	0	VB	None
4	27/06/2020	1330	17	95	2	1	VB	None
5	30/07/2020	1100	22*	15	1	0	VB	None
6	18/08/2020	0830	18	60	3	0	VB	None
7	18/08/2020	1900	20	0	2	0	MS	None
8	04/09/2020	0900	16	100	1	0	CG + RCD	None
9	08/09/2020	1900	20	0	1	0	MS	None

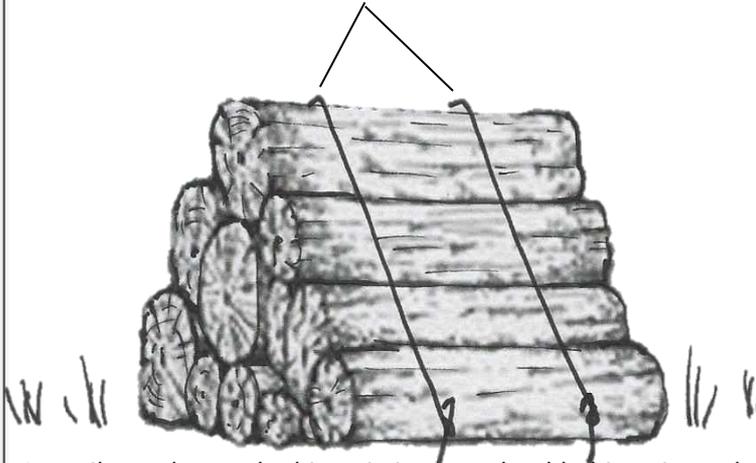
\*Visit 4 was above the 20°C Froglife temperature guidelines and so a further later survey was completed after this date.

## Appendix 6. Relevant Protected Species Legislation

Species	Legal Protection
Bats	<p>All British species of bats and their resting and breeding sites have legal protection under UK and European law (Wildlife and Countryside Act (WCA) 1981 (as amended), and the Conservation of Habitats and Species Regulations 2010.</p> <p>It is an offence to:</p> <ul style="list-style-type: none"> <li>• capture, kill, disturb or injure</li> <li>• damage or destroy a breeding or resting place</li> <li>• obstruct access to their resting or sheltering places</li> <li>• possess, sell, control or transport live or dead individuals, or parts of them</li> </ul>
Birds	<p>All active bird nests are protected under the WCA 1981, as amended from damage/destruction. Furthermore, birds that are listed on Schedule 1 of the Act are also protected from disturbance while they are nesting.</p>
Hedgehogs	<p>Hedgehogs are partially protected under the Wildlife and Countryside Act 1981 and the Wild Mammals Protection Act 1996, prohibiting cruelty and mistreatment.</p>
Reptiles	<p>All common reptiles are protected from killing or injury under the WCA 1981, as amended.</p>

## Appendix 7. Log Pile Design

Logs tied down with wire, kept taut and pinned to the ground with pegs.



Log piles to be stacked in existing grassland habitat, in unshaded position, preferably south facing. Log piles to be formed from native arisings following tree felling, or locally sourced native hardwood.

# Preliminary Ecological Appraisal

Land at Halt Robin Road, Belvedere,  
DA17 6DW

Report for Bexley Borough Council,  
March 2020



## Quality Assurance

<b>Author</b>	Michael Smith BSc (Hons)
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<b>Date</b>	March 2020
<b>Version</b>	Final

## About Us

Bakerwell Limited has two offices, led by directors Fiona Baker and Donna Popplewell. The Directors have collectively 18 years' experience in the ecological consultancy industry, hold relevant degrees, are qualified botanists, and are trained in the use of biodiversity metrics to calculate no net loss/gain.

All staff are members, or training to be members, of the professional body for the environmental industry, the Chartered Institute of Ecology and Environmental Management (CIEEM) and hold Natural England European protected species licences for great crested newts, bats and dormice. Bakerwell Limited has SMAS Worksafe Health and Safety Accreditation; all staff hold relevant CSCS cards.

Bakerwell Limited is a consultancy specialising in ecological planning advice and surveys. Bakerwell also work in collaboration with trusted associates to provide Landscape Architecture, Arboriculture and Energy assessments.

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**Figures:**

Figure 1: Phase 1 Habitats Plan

Figure 2 : GCN HSI Plan

**Appendices:**

Appendix 1: Site Photographs

Appendix 2: Levels of Importance

Appendix 3: Relevant Protected Species Legislation

Appendix 4: Log Pile Design



**Figure 1**  
**Phase 1 Habitat Survey**

**Client: Bexley Borough Council**

Site: Land at Halt Robin Road, Belvedere, DA17 6DW

Job: KEDA17 204

Date: February 2020

Author/ Reviewer: MS / DP

**Key**

- Red Line Boundary
- Blue Line Boundary
- x A2.2 - Scrub - scattered
- A3.1 - Broadleaved Parkland/scattered trees
- SI B6 - Poor semi-improved grassland
- E G1.1 - Standing water - eutrophic
- A J1.2 - Amenity grassland
- x J1.3 - Ephemeral/short perennial
- X J1.4 - Introduced shrub
- J2.1.2 - Intact hedge - species-poor
- J3.6 - Buildings
- J5 - Other habitat - hardstanding
- J2.5 - Wall
- J2.4 - Fence
- Target Notes
- Large/Mature Tree
- Medium Tree
- Small Tree





**Figure 2**

**HSI Survey Results**

**Client: Bexley Borough Council**

Site: Land at Halt Robin Road, Belvedere, DA17 6DW

Job: KEDA17 204

Date: February 2020

Author/ Reviewer: MS / DP

**Key**

- Red Line Boundary
- Blue Line Boundary
- 250m Site Buffer
- Pond 1
- Wet Ditch 1



# 1 Introduction

- 1.1 Bakerwell Limited were commissioned by Bexley Borough Council, to undertake a Preliminary Ecological Appraisal (PEA) of land at Halt Robin Road, Belvedere, DA17 6DW (henceforth referred to as the site). The PEA comprises an online desk study, a Phase 1 Habitat Survey, an assessment of the potential for the habitats on site to support protected species and a bat roost assessment. This PEA is provided to inform a feasibility study for a new school in Belvedere.
- 1.2 The PEA identifies the broad habitat types on and in the vicinity of a given site. It aims to identify habitats, species or the potential for species that are protected by European and UK law, are nationally or locally rare or add biodiversity value. The report provides recommendations to ensure that the development is compliant with UK and EU legislation, that any impacts to protected species are mitigated, and biodiversity enhancements are incorporated into the development.
- 1.3 The proposed development site is located in Belvedere, Borough of Bexley, central O.S. grid reference TQ 49822 78914. The site is comprised of the former Woodside School grounds and buildings. The Woodside School was closed in 2017 and has been disused since. The site has a total area of approximately 0.85ha.
- 1.4 Immediately surrounding the site to the west and northwest are further aspects of the Woodside School Grounds. To the east residential properties and roads are present. To the South lies Halt Robin Road, beyond which is Frank's Park – a primarily wooded park of approximately 18ha.
- 1.5 The proposed development is to renovate the school buildings within the red line boundary and recommission the site as a school.
- 1.6 This report has been produced to British Standard 42020 Code of Practice for Planning and Development and the Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Report Writing (2015).
- 1.7 Recommendations within this report aim to demonstrate the approved development will conserve and enhance biodiversity in accordance with Chapter 15 of National Planning Policy, Section 170.

## 2 Aims and Objectives

- 2.1 The aim of this assessment is to undertake a desk and field-based ecological assessment of the proposed development site to identify; the habitats present, evidence and potential for the presence of protected species on or in the immediate vicinity of the red line boundary; any direct or indirect effects of the proposed development to the on-site and off-site habitats or protected species.
- 2.2 The objectives of the surveys are to:
- Identify and categorise the broad habitats present on site.
  - Identify presence of, or the potential for, protected species.
  - Identify any impact to designated ecological sites.
  - Provide recommendations for protected species mitigation, if required.
  - Provide recommendations for biodiversity enhancements.
  - To provide the above in the context of legislation, local planning policy and evaluation of any potential impacts.

## 3 Methodology

### Desk Study

- 3.1 Desk studies are conducted to ascertain which habitats and species are or have been recorded on or within the surrounds of a proposed site. This information highlights areas of local ecological importance and provides an indication of which habitats and species may be expected to be in the vicinity.
- 3.2 An in-house online desk study was completed using data acquired from [www.MAGIC.gov.uk](http://www.MAGIC.gov.uk) interactive maps, managed by Natural England and accessed on 30th January 2020. The desk study identified statutory designated sites, impact risk zones of such sites and granted protected species mitigation licences. This information is used to assess the potential for direct or indirect impacts that may occur as a result of the approved development. The data sets are updated irregularly by Natural England and therefore may not provide complete and up-to-date records.

**Phase 1 Habitat Survey**

3.3 Bakerwell Limited undertook a Phase 1 Habitat Survey on 23rd January 2020. The survey was carried out by Charlotte Gupwell BSc (hons), and Michael Smith BSc (hons), who identified habitats present following the standard Phase 1 Habitat Survey methodology (JNCC, 2010). The site was surveyed on foot and existing habitats and land uses were recorded on an appropriately scaled map, see Figure 1. Indicative site photographs are shown in Appendix 1.

**Bat Roost Assessment Survey**

*Buildings and Trees*

3.4 An external assessment of the buildings and trees present was undertaken by Charlotte Gupwell and Michael Smith on 23<sup>rd</sup> January 2020 with the survey methodology following the Bat Conservation Trust (BCT) Good Practice Guidelines 3rd edition (Collins, 2016), see Table 1. Trees directly adjacent to the site boundary were also assessed. All were assessed in full sunlight from ground level using binoculars and a high-powered torch where necessary. The loft spaces of pitched-roof buildings were inspected internally where accessible using high-powered torches.

3.5 A search for evidence of use by bats was also conducted (see Table 1). The buildings and trees were then assigned a category of potential suitability as a bat roost as shown in Table 2.

*Table 1: Potential bat roosting features and evidence searched for.*

Potential Bat Roosting Features	Signs Indicating Possible Use by Bats
<p><b><i>In buildings</i></b></p> <ul style="list-style-type: none"> <li>• Gaps around windows and doors</li> <li>• Gaps between mortar / brickwork</li> <li>• Gaps under cracked / broken / missing ridge tiles, roof tiles and hanging tiles</li> <li>• Gaps under lead flashing and between roofing felt flaps</li> </ul>	<ul style="list-style-type: none"> <li>• Live, dead, or skeletons of, bats</li> <li>• Bat droppings in the roof void (particularly below ridge beam and apex)</li> <li>• Feeding remains e.g. insect wings</li> <li>• Tiny scratches around entry point</li> <li>• Urine staining around entry point</li> <li>• Bat droppings in, around or below entry points</li> </ul>

Potential Bat Roosting Features	Signs Indicating Possible Use by Bats
<ul style="list-style-type: none"> <li>• Large roof void</li> <li>• Gaps into soffits, barge boards, gable ends and under eaves</li> </ul>	<ul style="list-style-type: none"> <li>• Audible squeaking at dusk or in warm weather</li> <li>• Flies around entry point</li> <li>• Distinctive smell of bats</li> <li>• Smoothing of surfaces around cavity</li> </ul>
<p><b><i>In trees</i></b></p> <ul style="list-style-type: none"> <li>• Natural holes</li> <li>• Woodpecker holes</li> <li>• Cracks/splits in major limbs</li> <li>• Loose bark</li> <li>• Hollows/cavities</li> <li>• Dense epicormic growth</li> <li>• Bird and bat boxes</li> </ul>	<ul style="list-style-type: none"> <li>• Live, dead, or skeletons of, bats</li> <li>• Feeding remains e.g. insect wings</li> <li>• Tiny scratches around entry point</li> <li>• Urine staining around entry point</li> <li>• Bat droppings in, around or below entry points</li> <li>• Audible squeaking at dusk or in warm weather</li> <li>• Flies around entry point</li> <li>• Distinctive smell of bats</li> <li>• Smoothing of surfaces around cavity</li> </ul>

Table 2: Categories for Bat Roosting Potential

Category	Criteria
Negligible Potential	No evidence, no suitable Potential Roost Features (PRFs)
Low Potential	No evidence of use, one or two features suitable for low numbers of bats, with very limited roosting potential. Limited connectivity to wider landscape with other bat habitats.

Category	Criteria
Moderate Potential	No evidence of use, several suitable features, but unlikely to support a roost type of high conservation status, connected to wider landscape with good foraging habitat.
High Potential	No evidence of use, but many suitable features for use by larger numbers of bats on a more regular basis and potentially for longer periods. Well connected to good foraging habitat and known roosts nearby.
Confirmed Roost	PRFs with evidence of use present, observation or previous records of bats confirmed to be roosting in the tree.

**Great Crested Newt (GCN) Habitat Suitability Index (HSI) Assessments**

- 3.6 Charlotte Gupwell and Michael Smith conducted Habitat Suitability Index (HSI) assessments of accessible ponds within 250m of the site boundary (Figure 2) on 23rd January 2020, following ARG (2010). HSI assessments are not a replacement for GCN surveys but are a general measure of suitability of a pond for GCN, based on physical characteristics of a pond and the surrounding environment. Results are discussed in Section 5 and a full table of results is supplied in Appendix 2.
- 3.7 The criteria used to assess suitability of a pond are: geographical location, pond area and permanence, water and terrestrial habitat quality, shade, presence of water fowl or fish, number of ponds within 1km and percentage of macrophyte cover. A scoring method is assigned for each criterion. An overall score is then obtained which is used to define pond suitability as follows, ponds obtaining a score above 0.5 will be subjected to further survey:
- <0.5 poor suitability
  - 0.5-0.59 below average
  - 0.6-0.69 average
  - 0.7-0.79 good
  - >0.8 excellent

**Other species**

- 3.8 The site surveys included searching for evidence of all protected species, and habitats with the potential to support protected species and any other species of ecological

interest. Any findings were plotted on the Phase 1 Habitat Survey map (Figure 1) and discussed as Target Notes within the Results section.

### **Ecological Impact**

- 3.9 Ecological Impact Assessment (EclA) is most formally used to provide the ecological component of an Environmental Impact Assessment (EIA) required under EIA Regulations. The alternative use of assessing the impact of a proposal to ecology as used for the purposes of this report, is to demonstrate the approved development accords with relevant planning policy and legislation. This approach is recommended by BS42020: 2013.
- 3.10 The impact assessment identifies, quantifies and evaluates likely significant effects on habitats and species. The methodology used in this assessment broadly follows guidelines in CIEEM (2016). Ecological features are classified in terms of importance at a geographic scale (Appendix 3). Evaluation of impacts follows the mitigation hierarchy. This involves avoiding impacts, mitigating unavoidable impacts, compensation for remaining significant residual effects and seeking enhancements for biodiversity.

## **4 Limitations**

- 4.1 The results of surveys detailed within this report provide evidence of the presence of protected species of flora and fauna, or the potential for such species, evident at the time of the survey. The results of the survey can only indicate the presence (or potential for such presence) for fauna evident at the time of the survey. Due to the transient nature of fauna such as bats and their habitats, the results of this survey are valid for only two years from completion of the survey, unless there is sufficient justification to show otherwise in line with Natural England guidance.
- 4.2 Online desk studies are completed using data acquired from [www.magic.gov.uk](http://www.magic.gov.uk) interactive maps, managed by Natural England. Data present has not been updated consistently and the desk study does not contain information succeeding 2018.
- 4.3 Findings and recommendations within this report are based on the professional opinion of qualified and experienced ecologists and do not constitute professional legal advice.

## 5 Results and Discussion

- 5.1 This section details the results of the survey and desk study, with any further survey assessment requirements to inform a planning decision. Local planning policy context is given in Section 6. Subsequent implications of the surveys are discussed in context of the habitats and species present with mitigation measures provided in Section 7. Recommendations for enhancements to meet the aims of the NPPF are provided in Section 8.

### **Online Desk Study**

- 5.2 Immediately surrounding the site to the west and northwest are further school grounds, beyond which is the single lane carriageway of Lower Road, a retail park and another school. To the east is a residential area, typified by buildings, associated gardens, hardstanding and local road network. To the south lies Halt Robin Road, beyond which is Frank's Park – mostly formed of deciduous woodland and approximately 18ha in size.

### *Statutory Designated Sites*

- 5.3 The site is not within a designated site but is within 2km of two statutory designated sites: one Site of Special Scientific Interest (SSSI), and one Local Nature Reserve (LNR), see Table 3.
- 5.4 The site is within the Impact Risk Zone (IRZ) of two SSSIs, only one of which is designated for biological reasons.

### *Non-Statutory Designated Sites*

- 5.5 Frank's Park, a Site of Importance for Nature Conservation designated by Bexley Borough Council is located immediately to the south of the site. Frank's Park is described in the Bexley Sites of Importance for Nature Conservation report (December 2016), as one of the best recorded sites in the borough for bats, though it does not state the species or numbers of bats using the site.

Table 3: Statutory Designated and Non-Designated Sites Located within 2km of the Site Boundary, Impact Risk Zones (IRZ) of SSSIs and zones of influence for SPA/ Ramsar sites

Site Name	Reason for Designation	Approx. Distance and Direction from Site
<b>Statutory Sites within 2km</b>		
Lesnes Abbey Woods LNR	<p>A 73.1ha site incorporating the Lesnes Abbey Wood SSSI. The site has Ancient woodland and coppice with wildflowers and one of the most important populations of wild daffodils in the south east. Other habitats include parks and open spaces, heathland, wetlands and hedgerows. Plant species present include bluebells and wood anemones. Fauna include stag beetles, song thrush, bats and newts as well as a wide range of other woodland and parkland birds, animals and insects.</p> <p>A recent comprehensive study of the site has found 906 species of invertebrate, 46 birds including red data book redwing and fieldfare, 59 species of fungi, 292 species of plants and 12 species of mammal.</p>	0.9km W
Lesnes Abbey Woods SSSI	6.7ha site, designated for geological reasons.	1.5km W
Crossness LNR	A 25.5ha site formed of a network of ditches and open water, scrub and rough grassland. The reserve is a water vole stronghold, and over 130 different species of bird have been recorded at the reserve. A number of rare aquatic and terrestrial invertebrates are	1.1km NW

Site Name	Reason for Designation	Approx. Distance and Direction from Site
	present, as well as some important flora species.	
<b>IRZs of SSSIs</b>		
Lesnes Abbey Woods SSSI	As above	Within IRZ
Inner Thames Marshes SSSI (Essex)	The Inner Thames Marshes forms the largest remaining expanse of wetland bordering the upper reaches of the Thames Estuary. The site is of particular note for its diverse ornithological interest and especially for the variety of breeding birds and the numbers of wintering wildfowl, waders, finches and birds of prey. The Marshes also support a wide range of wetland plants and insects, including some that are nationally rare or scarce.	Within IRZ  SSSI 2.5km NE
<b>Non-Statutory Sites within 2km</b>		
Frank's Park Nature Conservation Area	This site contains mature woodland of sessile oak, beech and sweet chestnut standards with an understorey of hawthorn, holly and English elm. The wood provides breeding habitat for birds such as hobby, tawny owl, nuthatch, chiffchaff and green and great spotted woodpeckers. Frank's Park is one of the best recorded sites in the borough for bats.	0.01km S

## Priority and Other Habitats of Interest

### Section 41 Priority Habitats

- 5.6 Section 41 priority habitats located within 2km of the site boundary comprise ancient woodland (0.95km west), deciduous woodland (0.01km south), and woodpasture and parkland (0.27km southeast). The closest Section 41 Habitat is deciduous woodland located directly adjacent to the south of the prospective development, across Halt Robin Road and part of Frank's Park.

### European Protected Species Licences

- 5.7 There have been no Natural England (NE) Protected Species Mitigation Licences (EPSML) granted within 2km of the application site.

### Phase 1 Habitat Survey

- 5.8 A total of twelve habitat types were recorded on site, namely: A2.2 Scattered scrub, A3.1 Broadleaved parkland/scattered trees, B6 Poor semi-improved grassland, G1.1 Eutrophic standing water, J1.2 Cultivated/ disturbed land – amenity grassland, J1.3 – Ephemeral/short perennial, J1.4 – Introduced shrub, J2.1.2 Species poor intact hedge, J2.4 – Fences, J2.5 – Walls, J3.6 – Buildings and J5 Hardstanding. Figure 1 shows the location of these habitat types within the site footprint.

#### A2.2 – Scattered Scrub

- 5.9 As the grounds of the school have had little maintenance in the last two years there has been scrub encroachment around the site borders, over hardstanding, field borders and former flowerbeds. These areas are formed of a mix of species such as buddleia *Buddleia davidii* and dominated by common bramble *Rubus fruticosus*. Tree saplings, such as hazel *Corylus avellana*, ash *Fraxinus excelsior* and elder *Sambucus nigra* are also present in some areas around the site borders, forming a low scrub.

#### A3.1 – Broadleaved Parkland / Scattered trees

- 5.10 The southern area of the site has a variety of deciduous scattered trees species, of varying levels of maturity. These are present among the amenity grass playground and hardstanding areas, where species include non-native species magnolia *Magnolia sp.*, turkey oak *Quercus cerris*, and maple *Acer sp.* In the southwest corner of site, a 0.02ha fenced off area of sycamore *Acer pseudoplatanus*, ash and elder was present with an understorey of low-growing bramble. Trees also surrounded the pond, with species including apple *Malus domestica*, cherry *Prunus sp.*, and ash present.

#### B6 – Poor Semi-Improved Grassland

- 5.11 At the northernmost end of the site an area of approximately 0.13ha of poor semi-improved grassland is present. The grassland is tussocky, appearing not to have been

mown for some time, with ramp structures scattered nearby – possibly for bikes or similar sports. It was not possible to access the area, but species identified within the grassland were dominated by cocks' foot *Dactylis glomerata*. Around the borders of the field was bramble scrub, short perennial vegetation, and a chain-link fence. One immature deciduous tree was present on the northern boundary. Fly-tipped material, including wooden boards (TN3, Figure 1) are present along the southwestern boundary of the area.

#### G1.1 – Eutrophic Standing Water

- 5.12 A small pond of approximately 6m x 2m is located to the centre of the site, situated in a small (~0.03ha) area of trees, surrounded by the hardstanding and buildings of the school. The pond is man-made, and largely shaded by trees and buddleia scrub. Leaf litter was abundant over the ground, but some ground flora around the pond boundaries includes stinking iris *Iris foetidissima*, ivy *Hedera helix* and bramble. No emergent vegetation was visible in the pond, which appeared shallow with the bottom visible 20-30cm below the surface. A small, collapsed log pile was also present within this area.

#### J1.2 – Cultivated/ Disturbed Land- Amenity Grassland

- 5.13 An amenity grass playground area is present along the southern boundary of the site. Trees are scattered around this area, some of which are mature, and much of the area is covered in leaf litter from these trees. There are also small areas of amenity grass bordering the various buildings present on site. Species present included cocks' foot, petty spurge *Euphorbia peplus*, common daisy *Bellis perennis* and ground ivy *Glechoma hederacea*.

#### J1.3 – Ephemeral/short perennial

- 5.14 Common nettle *Urtica dioica*, ribwort plantain *Plantago lanceolata*, and creeping cinquefoil *Potentilla reptans* are growing along the western boundary of the section of poor semi-improved grassland to the north of the site.

#### J1.4 – Introduced Scrub

- 5.15 Buddleia is present across the site, encroaching from site boundaries, and into areas of hardstanding. Rosemary *Salvia rosmarinus* was observed in the northern sections of site growing into the site from the wider school site within the blue line boundary.

#### J2.1.2 – Species-Poor Intact Hedge

- 5.16 A small length of young beech *Fagus sylvatica* forms a planted hedge section, bordering the fenced-off area of trees and scrub in the very southwest corner of the site.

#### *J2.4 – Fences*

- 5.17 Close-board wooden and chain-link fences are present on site. Close-board fences form some internal fences, whilst chain-link fences primarily form external and site boundary fences.

#### *J2.5 – Walls*

- 5.18 The southern boundary of the site is formed of a 3-4m brick wall topped with metal fencing.

#### *J3.6 - Buildings*

- 5.19 Buildings of three ages are present on site. The main school buildings (B1a, B1b) were built in 1915, constructed of brick with pitched, slate roofs. An annexe (B2) was added to the western end of B1a and B1b in the 1970s; it is a single-floor flat-roofed building. A more recent mobile unit (B3) appears to have been added within the last 20 years; this is formed of a single, flat-roofed construction, raised off the ground.
- 5.20 B1a and B1b have several areas of damage, including broken soffits and split stonework around the perimeter. There is also access to the internal cellar area of B1b.
- 5.21 B2 has an upper façade of wood panelling, which, across its three-sides has areas of lifted wood and splits leading to the brickwork behind, and also in some areas, gaps into the fabric of the building.

#### *J5 - Hardstanding*

- 5.22 The site is dominated by asphalt hardstanding, which comprises the pathways between the buildings, car parking area, and some areas of the playground. A small area bordering the amenity grass playground to the south of the site is comprised of a rubber mulch. Scrub encroachment on hardstanding is prevalent across the site.

#### *Target Notes*

- 5.23 Target Note 1 – A partially collapsed log pile was present in the area by the pond.
- 5.24 Target Note 2 – An empty bird's nest was present in the trees in the pond area.
- 5.25 Target Note 3 – Refuse including wooden boards and litter was present in the southwest corner of the northern field.

#### **Bat Roost Assessment**

##### *Bat Building Roost Assessment*

- 5.26 Bats and their roosts are protected under the EU Habitats Directive (transposed into UK law as the Conservation of Species and Habitats Regulations 2010), and the Wildlife and

Countryside Act 1981 (WCA) (as amended). This protects bats from killing, injury, capture and disturbance of their roosts from damage, destruction and obstruction.

- 5.27 No roosting bats or evidence of bats was observed within buildings on site. Three buildings were identified with bat roost potential. Table 5 provides a summary of the results.
- 5.28 Buildings B1a, B1b and B2 (Figure 1) each have several potential roost features (PRFs) including masonry splits, soffit and façade gaps. Due to the age and condition of the building there is also a likelihood of further PRFs at height which are not visible from the ground.
- 5.29 Due to the number and type of these PRFs in conjunction with surrounding habitats which are suitable for bat foraging and commuting (in particular the adjacent Frank’s Park), these features have the potential to be used by low-moderate numbers of bats. Further surveys which would be required to inform a planning application are detailed in Section 7.

*Table 4: Buildings with Bat Roosting Potential*

Building Id	Description of Key Potential Roost Features	Category
B1a	Brick building with slate roof built 1915. Two 20 x 20cm gaps in soffit boards – one each on the north and south aspects of the property.	Low - Moderate
B1b	Brick building with slate roof built 1915. Split masonry above one window on west aspect. Open cellar on northern aspect.	Low - Moderate
B2	Brick building with flat, wood-clad roof, forming extension to western side of B1a. Wooden cladding is lifted, warped, or missing across each of the three sides, providing gaps behind the wood, and into the fabric of the building.	Low - Moderate
B3	Mobile unit with flat roof. In good condition with no visible PRFs.	Negligible

*Bat Tree Roost Assessment*

5.30 Trees within the red line boundary or immediately adjacent were found to lack features suitable for bat roost potential. The majority of trees were immature or otherwise in good condition with negligible opportunity for exploitation as roosts by these species.

*GCN HSI Assessment*

5.31 GCN and their resting and breeding sites have legal protection under UK and European law (Wildlife and Countryside Act (WCA) 1981 (as amended), and the Conservation of Habitats and Species Regulations 2010. It is an offence to:

- capture, kill, disturb or injure
- damage or destroy a breeding or resting place
- obstruct access to their resting or sheltering places
- possess, sell, control or transport live or dead individuals, or parts of them

5.32 One pond was identified within the site boundary as described in Section 4. One further waterbody was identified within 250m of the site, a ditch located 125m to the northwest of site. Both waterbodies were subject to an HSI assessment for suitability for GCN.

5.33 The off-site ditch is separated from the site by the slip roads and roundabout access from the Lower Road to the superstore, see Figure 2. The ditch sits within a narrow strip of grass with trees lining the bank, surrounding this is a cement traffic barrier and Picardy Manorway road to the east and buildings and car park to the west, see photographs in Appendix 1. It is unlikely that GCN are present within the ditch, in addition these landscaped features are considered barriers to connectivity between the ditch and the site. The ditch off-site to the north generated an HSI score of 0.59 indicating below average suitability.

5.34 The pond on site (Figure 2) was found to be heavily shaded, artificial and shallow, with no pond plant species present which would provide suitable egg laying sites. The HSI score was 0.47, confirming poor suitability for GCN (Table 5).

5.35 *Table 5. HSI Assessments for GCN*

<b>Pond/Ditch Number</b>	<b>Description of Waterbody</b>	<b>Score/ Rating</b>
Pond 1	Small 6m x 2m pond, largely shaded by trees and situated amongst hardstanding in centre of the school site.	0.47  Low

Pond/Ditch Number	Description of Waterbody	Score/ Rating
Ditch 1	Wet ditch alongside supermarket car park and adjacent to Picardy Manorway road.	0.59 Below Average

5.36 As both waterbodies were found to have poor suitability or likely to be unsuitable for GCN no further surveys are required and GCN are not discussed further in this report.

*Reptiles*

5.37 Reptiles are protected from killing/injury under the Wildlife Countryside Act 1981 (as amended). The northern field of poor semi-improved grassland, bordered by ephemeral vegetation and scrub, has the potential to support common reptile species. Frank’s Park to the south also providing suitable habitat for reptiles.

5.38 A presence/absence survey will therefore be required to support a planning application for the proposed development, as detailed in Section 7.

*Birds*

5.39 All active bird nests are protected under the WCA 1981 from damage/destruction. The vegetation and buildings present on the site provide suitable habitat for nesting birds. Great tit *Parus major*, blue tit *Cyanistes caeruleus*, chaffinch *Fringilla coelebs*, wood pigeon *Columba palumbus*, carrion crow *Corvus corone*, and ring-neck parakeet *Psittacula krameri* were noted on site whilst undertaking the Phase 1 Habitat Survey. Recommendations for timing of works and supervision, where required, are provided in Section 7.

*Badgers*

5.40 Badgers and their setts are protected in the UK under the Protection of Badgers Act 1992. No evidence of badgers, their setts or activity were found within the site boundary. The site is bounded on all sides by walls and fences which offer negligible potential for badger ingress. Given the lack of evidence of badger presence and of suitable habitat on site no further survey or action for badgers is required. The proposed development is considered compliant with all known legislation pertaining to the species; therefore, this species is not mentioned further in this report.

*Hedgehog*

5.41 Hedgehog are partially protected under the Wildlife and Countryside Act 1981 and the Wild Mammals Protection Act 1996, prohibiting cruelty and mistreatment. Habitats on

site may support hedgehog foraging and nesting. Actions to prevent harm to the species during construction are provided in Section 7.

#### *Other Species*

- 5.42 No evidence of any other protected species or non-native invasive species were found during the site survey.

## 6 Planning Context

- 6.1 Relevant protected species legislation is given in Appendix 4.

#### **National Planning Policy**

- 6.2 Biodiversity, in particular protected species and habitats, is a material consideration of all planning applications. The National Planning Policy Framework (NPPF) was adopted in March 2012 (amended February 2019), and Chapter 15 Section 170 “Conserving and enhancing the natural environment” states that this should be achieved by:

*“..minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures..”*

- 6.3 The NPPF requires that the local planning authority should aim to enhance biodiversity when determining planning applications, and opportunities to incorporate biodiversity in and around developments should be encouraged, especially where this can secure measurable net gains for the environment. Local planning authorities should also apply the following principles, that:

- 6.4 *“..If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused..”*

#### **Regional/Local Planning Policy**

- 6.5 The Bexley Core Strategy, adopted February 2012, provides legislation concerning measures to protect biodiversity in the borough. The plan has recently undergone consultation, and an updated Draft Local Plan is expected in Summer 2020. In the current Core Strategy policy pertaining to biodiversity is covered in Policy CS18:

#### ***Policy CS18 Biodiversity and geology***

*“The Council will protect and enhance its biodiversity and geological assets, whilst complying with national and regional policy and guidance by:*

- a. *Ensuring development in Bexley does not adversely affect the integrity of any European site of nature conservation importance (including Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites) outside the borough. In particular, consideration will be given to potential impacts on the Thames Estuary and Marshes SPA through increased visitor pressure and reduced water quality, and on Epping Forest SAC through reduced air quality;*
- b. *Protecting, conserving and enhancing Bexley's Sites of Special Scientific Interest (SSSI) and Sites of Importance for Nature Conservation (SINC);*
- c. *Resisting development that will have a significant impact on the population or conservation status of protected species and priority species as identified in the UK, London and Bexley Biodiversity Action Plans;*
- d. *Protecting and enhancing the natural habitat as far as practicable, seeking biodiversity enhancements and improved access to nature, particularly in areas of deficiency, through new development, including new residential development and projects that help deliver the Open Space Strategy. Preference will also be given to enhancements which help to deliver the targets for habitats and species set out in the London Plan and Bexley Biodiversity Action Plan;*
- e. *Recognising the value of landforms, landscapes, geological processes and soils as contributors to the geodiversity of the borough, and evaluating whether it is appropriate to designate any Regionally or Locally Important Geological Sites (RIGS or LIGS) in the borough;*
- f. *enabling environmental education opportunities at the borough's schools, and investigating opportunities to involve the wider community in biodiversity or geodiversity restoration and enhancement through projects; and*
- g. *Seeking opportunities to provide for greening of the built environment, including green roofs and walls in new buildings.*

## 7 Further Surveys and Mitigation Measures

### Designated Sites

- 7.1 The site is located within the Impact Risk Zone (IRZ) of the Lesnes Abbey Wood SSSI and Inner Thames Marshes SSSI. The Lesnes site is designated for geological reasons. Neither IRZ requires NE to be a consultee for projects relating to schools or redevelopment. Therefore, the proposed development is not considered to impact biodiversity on designated sites and are discussed no further in this report.

### Habitats

- 7.2 The national and regional planning policies require the enhancement of natural habitats. The proposed recommissioning of the school provides an opportunity to incorporate CS18(f) by “enabling environmental education opportunities at the borough’s schools”, given the nearby Franks Park and the presence of habitats on site which could be enhanced to provide habitat for biodiversity and provide opportunities for environmental education at the school.
- 7.3 The semi improved grassland, buildings with bat roosting potential and mature trees provides some small areas of ecological value, further increased by the proximity to Franks Wood. In addition, there is an opportunity to enhance the pond, and install bird and bat boxes to provide new habitats for protected species and opportunities for environmental education on site. Further details of these enhancements are provided in Section 8.

### Protected Species

#### *Bats*

- 7.4 No roosting bats were found on site, however buildings B1a, B1b and B2 have the potential to support roosting bats. Trees on site were not deemed to support roosting bats, however trees and lines of trees may support commuting and foraging bats. To meet best practice guidance (BCT 2016) and inform appropriate mitigation, buildings B1a, B1b and B2 identified with low-moderate bat roosting potential will require further survey to comprise a single dusk emergence survey. Where bat emergence or re-entry from PRFs in buildings on site or bat activity is recorded on site further surveys will be required. Emergence surveys can be undertaken between May – September, in suitable weather conditions.
- 7.5 The results of the bat surveys will inform recommendations for mitigation on site.
- 7.6 However, given the presence of bats within the adjacent Franks Park, the following measures will be undertaken for the proposed development to ensure no impacts to foraging or commuting bats:
- Construction works will take place during daylight hours only, no artificial lights will be used to light the boundary habitats during the construction period
  - The lighting for the scheme will comply with the latest guidance, currently *Guidance Note 08/18: Bats and artificial lighting in the UK* (Bat Conservation Trust, 2018) and take account of commuting and foraging bats, by ensuring that there is no excess light spillage on mature trees on or off site or features introduced for bats

- Where practicable baffles, downward-facing lights or bollard-level lighting will be used, and these will be low-wattage lights with limited lighting within the UV spectrum
- Security lights will be hooded, motion-sensor controlled and timed to be on for as short a time as possible
- The new development will incorporate bat boxes and bat bricks to provide replacement bat roost opportunities. These will be installed on buildings within the proposed development and mounted on retained trees within the red and blue line boundaries, at a height of at least 3m, with an unobstructed access point and on a southerly aspect where possible, facing away from the prevailing winds. The type, number and positioning of these boxes will be informed by the bat surveys required for the buildings

#### *Birds*

- 7.7 Should the proposed development result in the loss of buildings or trees which currently provide nesting opportunities for birds, mitigation for this loss will involve the erection of bird boxes onto the new and retained buildings of the development, as well as on suitable retained trees. Bird boxes will be installed 2-5m from the ground facing east, northeast or southeast. Schwegler 1SP, 1N, 1B, 2M, 2GR, 3S, 3SV or similar will be used, providing nesting opportunities for a range of species present locally.
- 7.8 Where practicable trees and native shrub species will be retained around the perimeter of the site.
- 7.9 Hedge and tree removal and pruning works will, where possible, avoid the bird nesting season, March to August inclusive. If this is not possible removal will occur under the supervision of a suitably qualified ecologist who will check for any active nests. If found to be present, a buffer zone, where no development activities will occur, will be cordoned off by the supervising ecologist until the young have fledged. Provided the above recommendations are adhered to, the proposed development of the site will not contravene any legislation or planning policy pertaining to breeding birds.

#### *Reptiles*

- 7.10 Reptile potential was identified in the northern field of poor semi-improved grassland and surrounding scrub, measuring approximately 0.13ha. Therefore, for the proposed development to proceed presence or absence of reptiles will need to be determined to understand the potential impact to these protected species. In line with published guidance, a seven-day presence/absence survey will be completed in suitable weather conditions between April and September, following Froglife (1999). If no reptiles are found, no further action will be required.

- 7.11 If reptiles are found, a suitable mitigation strategy and management plan will be provided detailing an approach which is proportionate to the reptile population using the site and the likely impacts from the proposal.

## 8 Enhancement Recommendations

- 8.1 The NPPF requires that the local planning authority should aim to enhance biodiversity when determining planning applications and opportunities to incorporate biodiversity in and around developments should be encouraged.

### *Habitats*

- 8.2 The landscaping proposals for the development will include planting of native fruit or nectar bearing plants and trees, to benefit foraging and refuge opportunities for wildlife including bats, birds, small mammals and invertebrates. These will be planted around site boundaries, as hedges and lines of trees.
- 8.3 The Bexley Biodiversity Action Plan, adopted 2011, includes the Black Poplar Species Action Plan 2010-2015, and specifically Target BP02 which aims to “Plant 120 additional black poplars at appropriate locations by 2015. 20 of these will be delivered through new development”. The action plan recognises that 100% survival of trees planted is unlikely, and that ongoing monitoring and replanting will be necessary to ensure the success of the plan. The proposed development offers the potential to contribute to the black poplar Action Plan by planting new trees of this species in suitable available space within the red line boundary. The plausibility of black poplar planting and specific locations will be confirmed with the development Landscape Architect at the design stage of the development.
- 8.4 Two new log piles will be created and placed in sunny, undisturbed locations around the site border. These will provide shelter and hibernation opportunities for a range of vertebrates, as well as attracting invertebrates. The specification for construction of the log piles is shown in Appendix 5. The existing log pile by the pond which has fallen apart will also be rebuilt, incorporating new logs where necessary, and to the given specification for the two new piles.

### *Bats*

- 8.5 Installation of at least five Habitat 001 bat bricks and/or Schwegler 2F bat boxes (or similar) will be incorporated onto the buildings and trees of the proposed development. These will be installed at a height of at least 3m, with an unobstructed access point and on a southerly aspect where possible, facing away from the prevailing winds. Research into bat mitigation by the University of Exeter and the Chartered Institute of Ecology and Environmental Management (2018) has shown bats are unlikely to use bat boxes where less than five are installed as bats roost transiently, requiring several to be

available at a time to facilitate roost selection based on weather conditions and the other factors.

#### *Birds*

- 8.6 At least five bird nest bricks or boxes will be incorporated into the proposed development, at least 3m above ground level, facing east, northeast or northwest, away from prevailing winds. These will include at least two multi access boxes for house sparrows, one for swifts and two for mixed species use.

## 9 Conclusion

- 9.1 Whilst most of the habitats on site are common and widespread, the site has intrinsic value to wildlife through the presence of trees, scrub, unmanaged grassland, a pond, log piles and buildings, which provide the potential to support a variety of protected species. The site has good connectivity to the adjacent Frank's Park for small and flying animals, whilst the lack of use and minimal management in the last 2-3 years will have increased its attractiveness to wildlife.
- 9.2 Further surveys are required to determine bat use of the buildings identified with roost potential and whether reptiles are present or likely absent from suitable habitats on site. The results of these surveys will determine the details of mitigation and enhancement required for these species.
- 9.3 Measures detailed in Section 8 provide enhancement opportunities, which in line with Chapter 15 of the NPPF, will enhance the biodiversity of the site.
- 9.4 The proposal offers the opportunity to enhance the site for biodiversity and contribute towards the objectives of the NPPF, Bexley Local Plan and Biodiversity Action Plan through provision of native fruit/seed-bearing plants and, where possible, black poplar, to the benefit of various species, as well as enhancing the site with multi-species bird boxes.

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## **11 Appendices**

Appendix 1: Site Photographs

Appendix 2: Levels of Importance

Appendix 3: Relevant Protected Species Legislation

Appendix 4: Log Pile Design

# Appendix 1: Belvedere Site Photographs

## Page 1 — Buildings on Site



B1a



B1a (left) adjoined to B2 (right)



B2



B1b



Loft void of B1b



Converted loft void of B1b

# Appendix 1: Belvedere Site Photographs continued—

## Page 2—Buildings and Habitats



Loft space of B1a



B3—mobile unit



Playground south of B1a and B2



Playground and scattered trees south of B1a and B2



Hardstanding north of B1b



Pond area

# Appendix 1: Belvedere Site Photographs continued—

## Page 3 —Habitats



On-site pond



TN1—Partially collapsed log pile—in pond area



TN2—empty birds nest in pond area



Northern field of semi-improved grassland. Long grass and scrub present



TN3—Refuse pile in the northern field



Hardstanding and northern field of grassland visible north of B1b

# Appendix 1. Belvedere Site Photographs Continued— Page 4—Examples of Features with Bat Roost Potential



Lifted wood panelling—B2



Gaps in building façade leading into fabric of building—B2



Soffit gaps—B1a



Soffits gaps—B1a



Open cellar—B1b



Cracked masonry—B1b

# Appendix 1. Belvedere Site Photographs Continued— Page 5—Off-site Wet Ditch



Facing south from the Picardy Manorway—the off-site wet ditch runs to the right of the image, beyond the footpath. The application site is situated approximately 130m south, beyond the trees visible to the top left of this photograph.

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Off-site wet ditch—looking north



Off-site wet ditch—looking south

## Appendix 2. Levels of Importance

*Table with classified levels of importance for Ecological Impact Assessment.*

Geographic Scale	Example
International	<p>An internationally designated site<sup>1</sup>, or site which would meet the criteria for such a designation. A viable area of Annexe 1 habitat type, or smaller area essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of an internationally important species, threatened or rare in the UK. A regularly occurring, nationally significant population/ number of any internationally important species.</p>
National	<p>A nationally designated site<sup>2</sup>, or site which would meet the criteria of such a designation. A viable area of a Habitat of Principal Importance and priority habitats in England (NERC Act 2006) or smaller areas essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring, regionally or county significant population/number of any nationally important species. A feature identified as of Habitat or Species of Principal Importance or Priority habitats</p>
Regional	<p>Sites which exceed the County-level designations but fall short of SSSI selection guidelines.</p> <p>Viable areas of key habitat identified in the Regional BAP or smaller areas essential to maintain the viability of a larger whole. Viable areas of key habitat of Regional value in the appropriate Natural Area profile.</p> <p>Any regularly occurring, locally significant population of a species nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of regional rarity or localisation. A regularly occurring, locally significant number of a regionally important species.</p>
Metropolitan, County, Vice County	<p>Semi-natural ancient woodland greater than 0.25ha.</p> <p>County/Metropolitan sites which meet the published ecological selection criteria for designation, including Local Nature Reserves (LNR) selected on County/Metropolitan ecological criteria. A viable area of Habitat of Principle Importance and Priority Habitats in England (NERC)</p> <p>A regularly occurring, locally significant population of a County/Metropolitan “red data book” or LBAP species on account of</p>

**Table with classified levels of importance for Ecological Impact Assessment.**

Geographic Scale	Example
	regional rarity or localisation. A regularly occurring, locally significant number of a County/Metropolitan important species.
District	<p>Semi-natural ancient woodland smaller than 0.25 ha. Areas of habitat identified in a sub-county (District/Borough) BAP or in the relevant Natural Area profile. District sites that meet the published ecological selection criteria for designation, including LNR selected on District/Borough ecological criteria. Sites/features scarce within the District/Borough. A diverse and/or ecologically valuable hedgerow network.</p> <p>A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation. A regularly occurring, locally significant number of a District/Borough important species during a critical phase of its life cycle.</p>
Local	Areas of habitat considered to appreciably enrich the habitat resource within the context of the parish or neighbourhood (e.g. species-rich hedgerows); and LNRs selected on parish ecological criteria.

<sup>1</sup> Such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or, Wetlands of International Importance (RAMSAR)

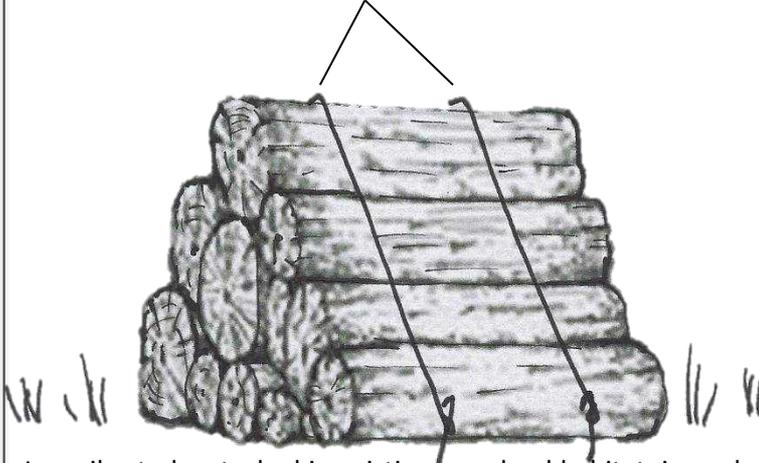
<sup>2</sup> Such as Site of Special Scientific Interest (SSSI)

## Appendix 3. Relevant Protected Species Legislation

Species	Legal Protection
Bats	<p>All British species of bats and their resting and breeding sites have legal protection under UK and European law (Wildlife and Countryside Act (WCA) 1981 (as amended), and the Conservation of Habitats and Species Regulations 2010.</p> <p>It is an offence to:</p> <ul style="list-style-type: none"> <li>• capture, kill, disturb or injure</li> <li>• damage or destroy a breeding or resting place</li> <li>• obstruct access to their resting or sheltering places</li> <li>• possess, sell, control or transport live or dead individuals, or parts of them</li> </ul>
GCN	<p>Great crested newts are listed on Appendix II of the Bern Convention and on Annexes II and IV of the EU Natural Habitats Directive. In England and Wales, the great crested newt is protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 and under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).</p> <p>It is an offence, with certain exceptions, to:</p> <ul style="list-style-type: none"> <li>• Intentionally or deliberately capture, kill, or injure GCN;</li> <li>• Intentionally or recklessly damage, destroy, and disturb GCN in a place used for shelter or protection, or obstruct access to such areas;</li> <li>• Damage or destroy a GCN breeding site or resting place;</li> <li>• Possess a GCN, or any part of it, unless acquired lawfully; and sell, barter, exchange, transport, or offer for sale GCN or parts of them.</li> </ul>
Reptiles	<p>All common reptiles are protected from killing or injury under the WCA 1981, as amended.</p>
Birds	<p>All active bird nests are protected under the WCA 1981, as amended from damage/destruction. Furthermore, birds that are listed on Schedule 1 of the Act are also protected from disturbance while they are nesting.</p>

## Appendix 4. Log Pile Design

Logs tied down with wire, kept taut and pinned to the ground with pegs.



Log piles to be stacked in existing grassland habitat, in unshaded position, preferably south facing. Log piles to be formed from native arisings following tree felling, or locally sourced native hardwood.

## Appendix 2. Full Bat Dusk Emergence Survey Results

Date	Location	Surveyor Position	Surveyor	Time	Species	No. Bats	No. Passes	Activity/Observations
14/07/2020	B1a / B2	1/6	CG	2122-2136	Soprano Pipistrelle	2	55+	Foraging consistently between trees south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2130	Soprano Pipistrelle	1	1	Commuting east to west along south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2132 - 2218	Common Pipistrelle	1	25	Intermittent foraging south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2137-2145	Common Pipistrelle	1	5	Commuting south of B1a/B2
14/07/2020	B1a / B2	1/6	CG	2157-2238	Common Pipistrelle	1	48	Intermittent commuting and foraging, heard not seen
14/07/2020	B1a / B2	1/6	CG	2213-2233	Soprano Pipistrelle	1	16	Intermittent commuting and foraging, heard not seen
14/07/2020	B1a / B2	1/6	CG	2216-2223	Nathusius' Pipistrelle	1	2	Heard not seen
14/07/2020	B2	2/6	AW	2122-2126	Soprano Pipistrelle	3	35+	Foraging and commuting south of and over the roof of B2
14/07/2020	B2	2/6	AW	2126	Common Pipistrelle	1	1	Heard not seen
14/07/2020	B2	2/6	AW	2130	Common Pipistrelle	1	1	Commuting south to north over B2
14/07/2020	B2	2/6	AW	2133-2159	Common Pipistrelle	3	25+	Commuting and foraging, heard not seen
14/07/2020	B2	2/6	AW	2203	Noctule	1	1	Heard not seen
14/07/2020	B2	2/6	AW	2207	Common Pipistrelle	1	5	Commuting over roof of B2
14/07/2020	B2	2/6	AW	2217-2227	Common Pipistrelle	1	5+	Commuting and foraging, heard not seen

14/07/2020	B2	2/6	AW	2223-2241	Soprano Pipistrelle	1	5+	Commuting and foraging intermittently, heard not seen
14/07/2020	B2/B1a	3/6	RCD	2123	Pipistrelle sp.	1	1	Commuting through trees south of B2
14/07/2020	B2/B1a	3/6	RCD	2123-2129	Soprano Pipistrelle	1	7	Foraging through trees south of B2 and above roof of B2
14/07/2020	B2/B1a	3/6	RCD	2127	Common Pipistrelle	1	1	Commuting pass along playground southwest to northeast
14/07/2020	B2/B1a	3/6	RCD	2129	Common Pipistrelle	1	2	Heard not seen
14/07/2020	B2/B1a	3/6	RCD	2130-2135	Noctule	1	1	Commuting intermittently, heard not seen
14/07/2020	B2/B1a	3/6	RCD	2130-2155	Common Pipistrelle	1	6	Foraging over playground and around trees
14/07/2020	B2/B1a	3/6	RCD	2123-2156	Soprano Pipistrelle	4	11	Foraging over playground and above trees
14/07/2020	B2/B1a	3/6	RCD	2143	Nathusius' Pipistrelle	1	1	Heard not seen, commuting
14/07/2020	B2/B1a	3/6	RCD	2144-2215	Soprano Pipistrelle	1	9+	Heard not seen, commuting and foraging intermittently
14/07/2020	B2/B1a	3/6	RCD	2208	Common Pipistrelle	1	5	Commuting southwest to northeast
14/07/2020	B2/B1a	3/6	RCD	2216	Nathusius' Pipistrelle	1	6	Heard not seen
14/07/2020	B2/B1a	3/6	RCD	2216-2240	Common Pipistrelle	1	50+	Heard not seen
14/07/2020	B1a/B1b	4/6	MS	2127	Unknown bat	1	1	Faint call, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2129	Noctule	1	1	Commuting west to east high above playground
14/07/2020	B1a/B1b	4/6	MS	2131-2133	Common Pipistrelle	1	2	Commuting/foraging southwest to northeast

14/07/2020	B1a/B1b	4/6	MS	2135	Soprano Pipistrelle	1	1	Sudden appearance on northern aspect of B1b, proceeding to fly up and over the building roof. Emergence not confirmed, but likely roosting nearby
14/07/2020	B1a/B1b	4/6	MS	2141	Soprano Pipistrelle	1	1	Commuting/foraging along eastern aspect of B1b and then north across playground
14/07/2020	B1a/B1b	4/6	MS	2145-2158	Soprano Pipistrelle	2	8	Commuting and foraging, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2152-2159	Soprano Pipistrelle	1	2	Foraging in zig-zag flights across playground
14/07/2020	B1a/B1b	4/6	MS	2200	Common Pipistrelle	1	2	Commuting east to west
14/07/2020	B1a/B1b	4/6	MS	2202	Soprano Pipistrelle	1	1	Commuting east to west
14/07/2020	B1a/B1b	4/6	MS	2202	Noctule	1	1	Commuting, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2204-2239	Common Pipistrelle	1	10	Commuting/foraging, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2211-2239	Soprano Pipistrelle	1	14	Commuting/foraging, heard not seen
14/07/2020	B1a/B1b	4/6	MS	2213	Common Pipistrelle	1	1	Foraging in zig-zag flight across playground
14/07/2020	B1a/B1b	4/6	MS	2128	Noctule	1	1	Commuting, heard not seen
30/07/2020	B1b	5/6	VB	2102	Soprano Pipistrelle	1	1	Flying along eastern side of site
30/07/2020	B1b	5/6	VB	2111	Common Pipistrelle	1	1	Commuting south
30/07/2020	B1b	5/6	VB	2112	Noctule	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2116	Soprano Pipistrelle	1	1	Pass from near building B1b
30/07/2020	B1b	5/6	VB	2120	Soprano Pipistrelle	1	1	Pass along eastern aspect of B1b
30/07/2020	B1b	5/6	VB	2129-2216	Nathusius' Pipistrelle	1	2	Intermittent passes, heard not seen

30/07/2020	B1b	5/6	VB	2132	Noctule	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2134	Soprano Pipistrelle	1	1	Pass along eastern aspect of B1b, flying north
30/07/2020	B1b	5/6	VB	2138	Common Pipistrelle	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2139	Soprano Pipistrelle	1	1	Pass from roof of B1b north to playground
30/07/2020	B1b	5/6	VB	2141	Soprano Pipistrelle	1	1	Foraging east to west
30/07/2020	B1b	5/6	VB	2143	Common Pipistrelle	1	1	Foraging east to west
30/07/2020	B1b	5/6	VB	2143- 2216	Noctule	1	5	Intermittent passes, heard not seen
30/07/2020	B1b	5/6	VB	2147	Common Pipistrelle	1	1	Foraging along eastern aspect of B1b
30/07/2020	B1b	5/6	VB	2156- 2207	Common Pipistrelle	1	3	Intermittent foraging over roof of B1b
30/07/2020	B1b	5/6	VB	2205	Soprano Pipistrelle	1	1	Heard not seen
30/07/2020	B1b	5/6	VB	2213- 2220	Common Pipistrelle	1	2	Heard not seen
30/07/2020	B1b	6/6	RCD	2102	Soprano Pipistrelle	2	3	Passes, heard not seen
30/07/2020	B1b	6/6	RCD	2103- 2112	Common Pipistrelle	1	2	Passes, heard not seen
30/07/2020	B1b	6/6	RCD	2109	Soprano Pipistrelle	1	1	Pass along southern aspect of B1b, west to east
30/07/2020	B1b	6/6	RCD	2111- 2134	Soprano Pipistrelle	1	9	Foraging and commuting alongside and over the roof of B1b
30/07/2020	B1b	6/6	RCD	2112- 2210	Noctule	1	7	Passes, heard not seen
30/07/2020	B1b	6/6	RCD	2121- 2159	Common Pipistrelle	1	15+	Foraging and commuting alongside and over the roof of B1b

30/07/2020	B1b	6/6	RCD	2128-2220	Common Pipistrelle	1	15+	Commuting and foraging, heard not seen
30/07/2020	B1b	6/6	RCD	2216	Nathusius' Pipistrelle	1	1	Pass, heard not seen
18/08/2020	B1a/B2	1/6	MS	2030-2032	Common Pipistrelle	1	2	Pass, heard not seen
18/08/2020	B1a/B2	1/6	MS	2032-2036	Soprano Pipistrelle	1	2	Pass, heard not seen
18/08/2020	B1a/B2	1/6	MS	2037-2050	Common Pipistrelle	3	10	Commuting and foraging south of B2
18/08/2020	B1a/B2	1/6	MS	2038-2047	Soprano Pipistrelle	1	8	Commuting and foraging, heard not seen
18/08/2020	B1a/B2	1/6	MS	2052-2101	Common Pipistrelle	1	32	Commuting and foraging, heard not seen
18/08/2020	B1a/B2	1/6	MS	2102-2133	Common Pipistrelle	1	7	Foraging along southern site boundary (Halt Robin Rd)
18/08/2020	B2	2/6	VB	2033-2103	Soprano Pipistrelle	2	11	Commuting and foraging north and west of B2
18/08/2020	B2	2/6	VB	2033-2133	Common Pipistrelle	1	100+	Commuting and foraging north and west of B3
18/08/2020	B2	2/6	VB	2102	Noctule	1	1	Heard not seen
18/08/2020	B2	2/6	VB	2117-2134	Nathusius' Pipistrelle	1	2	Heard not seen
18/08/2020	B2/B1a	3/6	AFB	2039-2130	Soprano Pipistrelle	1	10	Heard not seen
18/08/2020	B2/B1a	3/6	AFB	2041	Unknown bat	1	1	Foraging bat seen not heard
18/08/2020	B2/B1a	3/6	AFB	2047-2137	Common Pipistrelle	1	13	Heard not seen
18/08/2020	B2/B1a	3/6	AFB	2056	Unknown bat	1	1	Commuting bat seen not heard
18/08/2020	B2/B1a	3/6	AFB	2107	Nathusius' Pipistrelle	1	1	Heard not seen

18/08/2020	B2/B1a	3/6	AFB	2113	Soprano Pipistrelle	1	1	Foraging west to east
18/08/2020	B2/B1a	3/6	AFB	2125	Common Pipistrelle	1	1	Foraging between buildings
18/08/2020	B1a/B1b	4/6	JM	2040	Soprano Pipistrelle	1	1	Emergence from building B1b, from area above window on the eastern aspect
18/08/2020	B1a/B1b	4/6	JM	2043	Soprano Pipistrelle	1	1	Emergence from B1b, from ground floor by secured windows on the northern aspect
18/08/2020	B1a/B1b	4/6	JM	2044	Soprano Pipistrelle	1	1	Emergence from B1b, from centre of building, just under roof
18/08/2020	B1a/B1b	4/6	JM	2045	Soprano Pipistrelle	1	2	Foraging
18/08/2020	B1a/B1b	4/6	JM	2054-2122	Soprano Pipistrelle	1	2	Heard not seen
18/08/2020	B1a/B1b	4/6	JM	2103	Common Pipistrelle	1	1	Heard not seen
18/08/2020	B1a/B1b	4/6	JM	2106-2107	Nathusius' Pipistrelle	1	2	Heard not seen
18/08/2020	B1a/B1b	4/6	JM	2107	Common Pipistrelle	1	1	Commuting
18/08/2020	B1b	5/6	TJ	2044-2118	Soprano Pipistrelle	1	3	Heard not seen
18/08/2020	B1b	5/6	TJ	2047	Soprano Pipistrelle	1	1	Commuting north to south
18/08/2020	B1b	5/6	TJ	2057	Noctule	1	1	Heard not seen
18/08/2020	B1b	5/6	TJ	2107-2116	Common Pipistrelle	1	2	Heard not seen
18/08/2020	B1b	6/6	LP	2029-2044	Common Pipistrelle	1	2	Commuting north to south along eastern aspect of B1b
18/08/2020	B1b	6/6	LP	2034-2041	Soprano Pipistrelle	1	6	Foraging in area southeast of B1b
18/08/2020	B1b	6/6	LP	2040-2134	Common Pipistrelle	1	12	Heard not seen

18/08/2020	B1b	6/6	LP	2041	Soprano Pipistrelle	1	5	Bat alighting B1b building side (eastern aspect, southern end) twice before flying away south
18/08/2020	B1b	6/6	LP	2045	Soprano Pipistrelle	1	4	Flying south to north, then away over B1b to the west
18/08/2020	B1b	6/6	LP	2047-2049	Soprano Pipistrelle	1	2	Commuting north to south along eastern aspect of B1b
08/09/2020	B1a/B2	1/6	CG	1935-2049	Noctule	1	9	Commuting, heard not seen
08/09/2020	B1a/B2	1/6	CG	1953-2012	Common Pipistrelle	1	30+	Commuting and foraging south of B1a
08/09/2020	B1a/B2	1/6	CG	1958-2055	Common Pipistrelle	1	70+	Foraging, commuting and social calls, heard not seen
08/09/2020	B1a/B2	1/6	CG	2051	Soprano Pipistrelle	1	1	Commuting, heard not seen
08/09/2020	B2	2/6	JB	1949-2051	Noctule	1	12	Heard not seen
08/09/2020	B2	2/6	JB	1959-2004	Common Pipistrelle	1	6	Commuting north over B2
08/09/2020	B2	2/6	JB	2000-2059	Common Pipistrelle	1	12	Heard not seen
08/09/2020	B2	2/6	JB	2004-2042	Common Pipistrelle	3	150+	Foraging south of B2 in trees
08/09/2020	B2	2/6	JB	2008	Nathusius' Pipistrelle	1	1	Heard not seen
08/09/2020	B2	2/6	JB	2009-2051	Soprano Pipistrelle	1	3	Heard not seen
08/09/2020	B2/B1a	3/6	MS	1935-2048	Noctule	1	5	Heard not seen
08/09/2020	B2/B1a	3/6	MS	1948-1949	Noctule	1	3	Foraging high above B1b
08/09/2020	B2/B1a	3/6	MS	1955	Unknown bat	2	1	Two bats chasing one another travelling northeast, not calling

08/09/2020	B2/B1a	3/6	MS	2004	Common Pipistrelle	1	1	Commuting north to south over B1a
08/09/2020	B2/B1a	3/6	MS	2009	Soprano Pipistrelle	1	1	Commuting north to south over B1a
08/09/2020	B2/B1a	3/6	MS	2022-2024	Nathusius' Pipistrelle	1	2	Heard not seen
08/09/2020	B2/B1a	3/6	MS	2029-2155	Soprano Pipistrelle	2	3	Heard not seen
08/09/2020	B2/B1a	3/6	MS	2037-2051	Common Pipistrelle	1	5	Heard not seen
08/09/2020	B1a/B1b	4/6	DP	1927-2019	Noctule	1	7	Heard not seen
08/09/2020	B1a/B1b	4/6	DP	1956-2054	Soprano Pipistrelle	1	4	Heard not seen
08/09/2020	B1a/B1b	4/6	DP	2004	Common Pipistrelle	1	1	Commuting north
08/09/2020	B1a/B1b	4/6	DP	2018	Noctule	1	1	Social calls, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2019	Noctule	1	1	Commuting, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2022	Nathusius' Pipistrelle	1	3	Commuting, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2024-2059	Common Pipistrelle	1	11	Commuting, heard not seen
08/09/2020	B1a/B1b	4/6	DP	2039	Common Pipistrelle	1	1	Social calls, heard not seen
08/09/2020	B1b	5/6	RCD	1935	Noctule	1	1	Commuting high over B1b
08/09/2020	B1b	5/6	RCD	1948-2019	Noctule	1	2	Commuting, heard not seen
08/09/2020	B1b	5/6	RCD	1955	Pipistrelle sp.	2	1	Foraging above playground north of B1b
08/09/2020	B1b	5/6	RCD	2006	Soprano Pipistrelle	1	8	Commuting, heard not seen

08/09/2020	B1b	5/6	RCD	2008	Common Pipistrelle	1	15	Commuting, heard not seen
08/09/2020	B1b	5/6	RCD	2009	Soprano Pipistrelle	1	1	Commuting west to east
08/09/2020	B1b	5/6	RCD	2012	Common Pipistrelle	1	1	Commuting along hedge north to south
08/09/2020	B1b	5/6	RCD	2023	Nathusius' Pipistrelle	1	1	Commuting, heard not seen
08/09/2020	B1b	6/6	SA	1928-1959	Noctule	1	4	Pass, heard not seen
08/09/2020	B1b	6/6	SA	1951	Common Pipistrelle	1	1	Pass from east to B1b and then back
08/09/2020	B1b	6/6	SA	1956	Soprano Pipistrelle	1	1	Pass from east to B1b and then back
08/09/2020	B1b	6/6	SA	2001 - 2059	Common Pipistrelle	2	25+	Commuting and foraging, heard not seen
08/09/2020	B1b	6/6	SA	2015	Common Pipistrelle	1	1	Commuting south of B1b
08/09/2020	B1b	6/6	SA	2036	Common Pipistrelle	2	1	Commuting and social calls, heard not seen
08/09/2020	B1b	6/6	SA	2046	Soprano Pipistrelle	1	2	Foraging, heard not seen

## Appendix 3. Levels of Importance

*Table with classified levels of importance for Ecological Impact Assessment.*

Geographic Scale	Example
International	<p>An internationally designated site<sup>1</sup>, or site which would meet the criteria for such a designation. A viable area of Annex 1 habitat type, or smaller area essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring population of an internationally important species, threatened or rare in the UK. A regularly occurring, nationally significant population/ number of any internationally important species.</p>
National	<p>A nationally designated site<sup>2</sup>, or site which would meet the criteria of such a designation. A viable area of a Habitat of Principal Importance and priority habitats in England (NERC Act 2006) or smaller areas essential to maintain the viability of a larger whole.</p> <p>Any regularly occurring, regionally or county significant population/number of any nationally important species. A feature identified as of Habitat or Species of Principal Importance or Priority habitats</p>
Regional	<p>Sites which exceed the County-level designations but fall short of SSSI selection guidelines.</p> <p>Viable areas of key habitat identified in the Regional BAP or smaller areas essential to maintain the viability of a larger whole. Viable areas of key habitat of Regional value in the appropriate Natural Area profile.</p> <p>Any regularly occurring, locally significant population of a species nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of regional rarity or localisation. A regularly occurring, locally significant number of a regionally important species.</p>
Metropolitan, County, Vice County	<p>Semi-natural ancient woodland greater than 0.25ha.</p> <p>County/Metropolitan sites which meet the published ecological selection criteria for designation, including Local Nature Reserves (LNR) selected on County/Metropolitan ecological criteria. A viable area of Habitat of Principle Importance and Priority Habitats in England (NERC)</p> <p>A regularly occurring, locally significant population of a County/Metropolitan “red data book” or LBAP species on account of</p>

**Table with classified levels of importance for Ecological Impact Assessment.**

Geographic Scale	Example
	regional rarity or localisation. A regularly occurring, locally significant number of a County/Metropolitan important species.
District	<p>Semi-natural ancient woodland smaller than 0.25 ha. Areas of habitat identified in a sub-county (District/Borough) BAP or in the relevant Natural Area profile. District sites that meet the published ecological selection criteria for designation, including LNR selected on District/Borough ecological criteria. Sites/features scarce within the District/Borough. A diverse and/or ecologically valuable hedgerow network.</p> <p>A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation. A regularly occurring, locally significant number of a District/Borough important species during a critical phase of its life cycle.</p>
Local	Areas of habitat considered to appreciably enrich the habitat resource within the context of the parish or neighbourhood (e.g. species-rich hedgerows); and LNRs selected on parish ecological criteria.

<sup>1</sup> Such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) or, Wetlands of International Importance (RAMSAR)

<sup>2</sup> Such as Site of Special Scientific Interest (SSSI)

## Appendix 4. Static Bat Detector Result Summary

Anabat Insight BatClassify (Auto-ID) labels with 85% match threshold or higher

Anabat Position	Date	Species Label	Count
A - Internal - Within Plant Room Corridor	04/09/2020 - 08/09/2020	-	0
B - External - By Secured Window	04/09/2020	NSL	1
B - External - By Secured Window	04/09/2020	Ppip	39
B - External - By Secured Window	04/09/2020	Ppyg	12
B - External - By Secured Window	05/09/2020	NSL	3
B - External - By Secured Window	05/09/2020	Ppip	70
B - External - By Secured Window	05/09/2020	Ppyg	31
B - External - By Secured Window	06/09/2020	NSL	8
B - External - By Secured Window	06/09/2020	Ppip	163
B - External - By Secured Window	06/09/2020	Ppyg	45
B - External - By Secured Window	07/09/2020	NSL	3
B - External - By Secured Window	07/09/2020	Ppip	102
B - External - By Secured Window	07/09/2020	Ppyg	39
B - External - By Secured Window	08/09/2020	NSL	26
B - External - By Secured Window	08/09/2020	Ppip	13
B - External - By Secured Window	08/09/2020	Ppyg	7

Species Labels:

NSL = Noctule, Serotine or Leisler's

Ppip = Common pipistrelle

Ppyg = Soprano pipistrelle

## Appendix 5. Full Reptile Survey Results

Visit no.	Date	Time	Temp (°C)	Cloud Cover (%)	Wind (Beaufort)	Rain (Beaufort)	Surveyor (s)	Reptiles Found
1	21/06/2020	0905	18	5	1	0	VB	None
2	22/06/2020	0845	18	65	1	0	VB	None
3	26/06/2020	1705	17	80	3	0	VB	None
4	27/06/2020	1330	17	95	2	1	VB	None
5	30/07/2020	1100	22*	15	1	0	VB	None
6	18/08/2020	0830	18	60	3	0	VB	None
7	18/08/2020	1900	20	0	2	0	MS	None
8	04/09/2020	0900	16	100	1	0	CG + RCD	None
9	08/09/2020	1900	20	0	1	0	MS	None

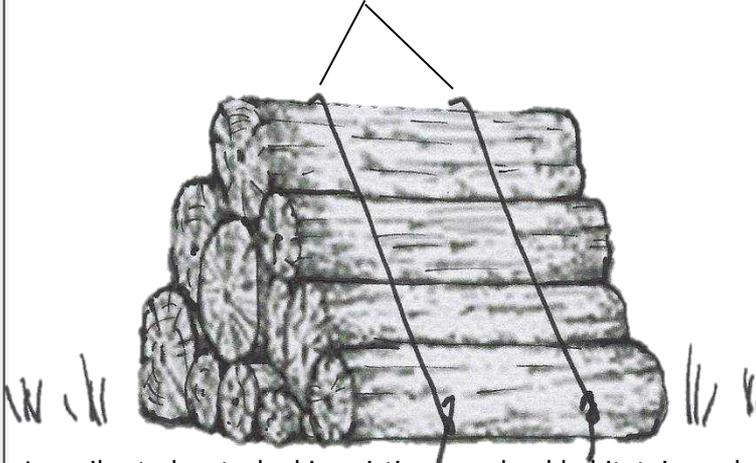
\*Visit 4 was above the 20°C Froglife temperature guidelines and so a further later survey was completed after this date.

## Appendix 6. Relevant Protected Species Legislation

Species	Legal Protection
Bats	<p>All British species of bats and their resting and breeding sites have legal protection under UK and European law (Wildlife and Countryside Act (WCA) 1981 (as amended), and the Conservation of Habitats and Species Regulations 2010.</p> <p>It is an offence to:</p> <ul style="list-style-type: none"> <li>• capture, kill, disturb or injure</li> <li>• damage or destroy a breeding or resting place</li> <li>• obstruct access to their resting or sheltering places</li> <li>• possess, sell, control or transport live or dead individuals, or parts of them</li> </ul>
Birds	<p>All active bird nests are protected under the WCA 1981, as amended from damage/destruction. Furthermore, birds that are listed on Schedule 1 of the Act are also protected from disturbance while they are nesting.</p>
Hedgehogs	<p>Hedgehogs are partially protected under the Wildlife and Countryside Act 1981 and the Wild Mammals Protection Act 1996, prohibiting cruelty and mistreatment.</p>
Reptiles	<p>All common reptiles are protected from killing or injury under the WCA 1981, as amended.</p>

## Appendix 7. Log Pile Design

Logs tied down with wire, kept taut and pinned to the ground with pegs.



Log piles to be stacked in existing grassland habitat, in unshaded position, preferably south facing. Log piles to be formed from native arisings following tree felling, or locally sourced native hardwood.