



Bat Survey

Lumley Park House

August 2023

Final Report - Confidential

Report Prepared For:

GSC Grays

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Field Investigations and Data

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by EcoNorth Ltd for inaccuracies in the data supplied by any other party.

Declaration of Compliance

“The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed within this document are our true and professional bona fide opinions.”

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Contents

1. Summary	3
2. Introduction	5
2.1 Background	5
2.2 Site Context.....	5
2.3 Nature of the Proposals.....	6
3. Planning Policy and Legislation.....	7
3.1 Planning Policy and Guidance.....	7
3.2 Legislation.....	7
4. Methodology.....	8
4.1 Desk Study	8
4.2 Field Survey.....	8
4.3 Assessment	11
5. Baseline Conditions.....	12
5.1 Desk Study	12
5.2 Field Survey.....	12
6. Interpretation and Discussion.....	15
6.1 Survey Constraints	15
6.2 Further Survey Requirements.....	16
6.3 Assessment of Value.....	16
6.4 Input into the Design Process.....	16
6.5 Impact Assessment	16
7. Avoidance, Mitigation and Compensation Strategy.....	17
8. References	18
Appendix A – Key Legislation	20



Appendix B – Site Plan 22

Appendix C – Site Photographs 23

Appendix D – Survey Results 25

Appendix E – Status of UK Bat Species 28

Appendix F – Value of Ecological Receptors 30

Appendix G – Bat Records Identified by the Desk Study 32

1. Summary

EcoNorth Ltd was commissioned by GSC Grays to undertake a bat survey of Lumley Park House, near Castle Dene in County Durham. The surveys comprised a preliminary bat roost assessment of the structure, followed by two activity surveys in July and August 2023. It is proposed to undertake a series of repair and redevelopment works on the house; this assessment is designed to highlight key ecological constraints and assesses the potential impacts upon bats.

As this report contains information relating to a protected species which is prone to persecution – namely Barn Owl – it must be treated as confidential and should not be made publicly available on the Council’s planning portal.

A desk study completed prior to the field visit identified 106 records of bats within 2km of the site boundary including common and soprano pipistrelle, brown long-eared, noctule, whiskered/Brandt’s and Daubenton’s, the closest of which (foraging records of *Myotis* sp., soprano pipistrelle and brown long-eared) lie c.50m from the site boundary. No statutory sites designated due to the presence of bats are known to be present within 2km of the development area.

The following table highlights the key findings of the surveys, including a year-round assessment based on a reasonable worst-case scenario, based on the information available to date. Requirements for further surveys are highlighted, if necessary, while mitigation measures are provided in Section 7.

The client is happy to commit to the implementation of the mitigation measures detailed within this report and is aware that these are likely to be made a condition of any planning consent and/or Natural England license which may be granted.



ECN23 039 Bat Survey Report – Lumley Park House

Feature	Site Conditions	Key Survey Results	Value to Bats	Further Surveys Required Pre-planning?	License Required?
Habitats	The house lies within a relatively sheltered garden with pasture fields to the east and south and mature woodland along Lumley Park Burn to the north and west. The surrounding area comprises a number of hamlets, villages and towns separated by areas under agricultural management.	Moderate levels of foraging activity around the house throughout both activity surveys, particularly along the lane and woodland area to the south and east of the property.	Local	No	N/A
Buildings	<p>The building is of stone construction and 1-3 storeys in height, including the partially converted loft space, with a cellar below the main section of the house; loft voids are present over the single-storey section and around the edges of the converted roof space. The roof is lined with BRM, with fibreglass insulation on the floor.</p> <p>The roof has both hipped and pitched sections and is covered by slates, supported on large cut timbers, with a series of brick chimneys. The house has timber-frames sash windows and timber fascia boards.</p>	<p>No droppings were recorded during the daytime inspection however, access to the voids was limited by their size or the presence of false ceilings, and conditions were very dirty, hindering survey for field signs.</p> <p>Four small soprano pipistrelle day roosts (up to 12 bats total across the site) were recorded in the roof structure of both the single and 3-storey sections, with access via seven locations at eaves level or under the fascia boards.</p>	Local	No	Yes – no works to commence on the roof structure or roost features until a license has been obtained from Natural England.
Other Features / Species	<p>The house and adjacent gardens have the potential to be used by a range of locally common species of nesting birds, with Barn Owl also recorded using nearby outbuildings during the dawn survey.</p> <p>Stands of cotoneaster and Himalayan balsam – both invasive non-native species – were recorded around the building during the surveys.</p>	N/A	N/A	No	N/A

2. Introduction

2.1 Background

EcoNorth Ltd was commissioned by GSC Grays (henceforth referred to as the client) to undertake a bat survey of Lumley Park House, near Castle Dene in County Durham (central grid reference NZ 29284 50507). The client proposes to undertake a series of repair and extension works on the property. The survey was designed to assess the potential use of the site by bats year-round, to highlight key ecological constraints and support the planning application.

This report:

- Sets out the results of the survey.
- Analyses the site's value for bats.
- Identifies additional survey requirements in order to fully determine the baseline ecological conditions on the site, if required.
- Identifies key avoidance, mitigation and/or compensation measures required to help ensure the proposals do not have an adverse impact upon biodiversity.

2.2 Site Context

The house lies to the south of Lumley Park Wood, 0.22km northwest of the hamlet of Castle Dene, 0.63km north of Great Lumley and 0.82km east of Chester-Le-Street. The Lumley Park Burn lies c.75m northwest of the house at the closest point, the banks of which are dominated by mature woodland, with the River Wear 0.70km to the west. Further areas of mature woodland are present throughout the surrounding area, primarily associated with the riparian corridors, with areas of land under agricultural management (arable and pasture) between the surrounding conurbations. The A1(M) lies 0.66km to the northeast with further areas of high quality habitat for bats (mature parkland and river) within the Lambton Estate on the far side of the motorway.

Figure 1 identifies the location and extent of the development site.

Figure 1: Indicative Site Location



2.3 Nature of the Proposals

It is proposed to undertake a series of repair and extension works to the property, comprising:

- Removal of a small lean-to gable wall on the western side of the property and extension of the adjacent room to the south by 2m
- Partially taking down the east brick chimney stack to ridge level and rebuilding it to repair the structural cracking to the upper half of the stack.
- Patch repairs to badly eroded stonework on the eastern, northern and southern elevations, removal of cement mortar and repointing of stonework.
- Removing the water tanks from the main house roof, which are no longer required (replacement with a pressurised system)
- Installing of conservation rooflights in the north-facing roof slope of the main house

3. Planning Policy and Legislation

3.1 Planning Policy and Guidance

A series of national and local planning policies are in place which are designed to ensure that development works do not have an adverse impact upon biodiversity, at a site or wider level. Such policies ensure that both developers and public bodies must give due consideration to the potential effects of development works upon both ecological receptors (in line with existing wildlife legislation) and biodiversity.

3.1.1 *National Planning Policy Framework (NPPF) (2021)*

The NPPF outlines the Government's policies through the planning process, acting as guidance for local planning authorities and decision-makers. The document places a duty on local authorities to consider the principles included when assessing planning applications and preparing Local Plans and Regional Spatial Strategies. Chapter 15 relates to the conservation and enhancement of the natural environment, in line with existing wildlife legislation. Further details are provided on the gov.uk website.

3.1.2 *Habitats and Species of Principal Importance / Biodiversity Action Plans (BAPs)*

The UK BAP was published in 1994 to guide national strategies for the conservation of biodiversity. BAPs were designed to ensure the conservation and re-establishment of natural habitats, and that measures were implemented to aid the conservation and enhancement of habitats and species of local importance, the latter through the development of Local BAPs. The UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in 2012, however, the lists of species and habitats of conservation importance are still considered a valuable tool for identifying features of local and national conservation concern. As such, the potential presence of both Local and UK BAP habitats and species were considered throughout the surveys and assessment.

Species and habitats formerly identified and included within UK BAPs are typically also those which are considered to be "of principal importance for the purpose of conserving biodiversity" and listed under section 41 (England) of the NERC Act (2006) in accordance with the requirements of the NERC Act. Such species and habitats need to be taken into consideration by a public body when performing any of its functions.

3.2 Legislation

All European bat species are protected in Britain under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the Habitat Regulations 2019). All British bat species are included on Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (as amended) and the whole of Section 9 applies to European bat species. The above collectively prohibits the following:

- Deliberately or recklessly capturing, injuring, taking or killing of a bat.
- Deliberately or recklessly harassing a bat.

- Intentionally or recklessly disturbing of a bat in its place of rest (roost), or which is used for protection or rearing young.
- Deliberately or recklessly damaging, destroying or obstructing access to any resting place or breeding area used by bats.
- Deliberately or recklessly disturbing a bat in any way which is likely to significantly affect the local populations of the species, either through affecting their distribution or abundance, or affect any individual's ability to survive, reproduce or rear young.
- Possession or advertisement/sale/exchange of a bat (dead or alive) or any part of a bat.

Bats are also protected by the Wild Mammals (Protection) Act 1996. Licenses are issued by Natural England for any works which may compromise the protection of European protected species, including bats. This license is required irrespective of whether the works require planning permission. Selected species are also listed in the UK BAP.

An overview of the above legislation is provided in Appendix A.

4. Methodology

4.1 Desk Study

Contextual information was gathered as part of a desk study undertaken prior to the start of field surveys. Such information can identify protected or notable species which may occur on the proposed development site or in the local area, as well as identifying statutory and non-statutory ecological sites which may have the potential to be affected by the proposals. The location of statutory and non-statutory nature conservation sites designed due to the presence of bats which lie within 2km of the survey site were obtained from the Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk), while bat records from within 2km were obtained from Durham Bat Group via the local records centre (ERIC NE).

It should be noted that an absence of records is likely to reflect an absence of survey data and cannot be taken as confirmation that a particular species is not present in the site or surrounding area.


4.2 Field Survey

4.2.1 *Habitat Assessment*

An assessment of the potential suitability of the habitats within the site and surrounding area for bats was undertaken on 20th July 2023, as part of the initial site survey. This included an assessment using the criteria set out in the Bat Conservation Trust Survey Guidelines, as shown in Table 1, below.

These criteria were used to provide a guide as to the potential suitability of the site for bats. It is important to note that an absence of potential commuting routes or 'good quality' foraging areas around a site cannot be used to confirm the absence of bats from a site. Bats are highly mobile animals which will use different habitats at different times of the year, therefore an appropriate level of additional survey work must be carried out in order to determine if and how bats utilise a particular site.

Table 1: BCT Guidelines for Assessing the Value of Habitats for Bats.

Feature	Value
<p>Evidence indicating that a structure/feature is used by bats, such as:</p> <ul style="list-style-type: none"> • Bats seen roosting or emerging/entering a structure/ feature. • Field signs such as droppings, feeding remains or carcasses found; and/or • Bats heard calling or ‘chattering’ within a roost. • Bats recorded/observed using an area for foraging or commuting. 	<p>Confirmed Roost</p>
<ul style="list-style-type: none"> • Site is close to known roosts. • Site is connected with the wider landscape by strong linear features that would be used by commuting bats <u>e.g.</u> river/stream valleys or hedgerows. • Habitat of high quality for foraging bats <u>e.g.</u> broadleaved woodland, tree-lined watercourses, parkland. • Buildings, trees or other structures <u>e.g.</u> mines, caves, tunnels, ice houses and cellars, with features of particular significance for roosting bats. • Site is connected with the wider landscape by linear features that could be used by commuting bats <u>e.g.</u> lines of trees and scrub or linked back gardens. • Habitat could be used by foraging bats <u>e.g.</u> trees, scrub, grassland or water. • Several potential roosts in the buildings, trees or other structures. • Isolated site not connected by prominent linear features but if suitable foraging habitat is adjacent, it may be valuable if it is all that is available. • Isolated habitat that could be used by foraging bats <u>e.g.</u> a lone tree or patch of scrub, but not parkland. • Small number of potential roosts generally of lower conservation importance <u>e.g.</u> probably not maternity roosts or hibernacula. • No features that could be used by roosting bats for foraging, roosting or commuting. 	<p style="text-align: center;">High Value Habitat</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Low Value Habitat</p>

4.2.2 Building Surveys

Preliminary Bat Roost Assessment / Field Sign Survey

An initial inspection of the buildings within the site was completed on 20th July 2023. The internal and external areas of the building were inspected and notes made regarding both the nature of the structure (materials, loft structure, age etc.) and condition of the building, to help identify any areas or features which may allow bats access or have the potential to provide roosting opportunities. Where potential access or roosting opportunities were noted, these were inspected for signs of bats, including droppings, feeding remains, staining or bats themselves.

The survey included an assessment of the likely potential use of the building at times throughout the year to take into account the fact that bats will utilise different roost sites at different times and for different purposes, sometimes including multiple roost types within a single structure.

The layout of the buildings within the site is shown in Appendix B; site photographs are provided in Appendix C.

Activity Surveys

Two activity surveys were completed at the site, comprising one dusk and one dawn visit. Dusk surveys commenced 15 minutes before sunset and continued for 1.5 hours after sunset; dawn visits started 2 hours before sunrise and finished 15 minutes after sunrise, in line with current best-practice guidelines.

Surveyors were positioned around the exterior of the building to watch for bats emerging/entering the structure, with all elevations viewed at one time and the line-of-sight not exceeding 50m. Surveyor locations are shown in Appendix D.

Each surveyor used an Echo Meter Touch Pro 2 detector linked to an Amazon Fire tablet and Guide Track IR Pro thermal cameras to identify bats and allow subsequent analysis of calls where necessary. Bat activity during the surveys was recorded on field sheets detailing the time, roost emergence/entrance points, the number of bats, species (where possible), key flight-lines and foraging areas. A note was also made of any other activity recorded, such as foraging or social calling. An overview of the activity surveys is provided in Appendix D.

Details of the surveys are provided in Table 2.

Table 2: Survey Times and Weather Conditions

Date	Sunset/rise (BST)	Start Time (BST)	End Time (BST)	Precipitation	Temperature (°C)	Cloud Cover (Oktas)	Wind (Beaufort Scale)
25/07/23	21:21	21:06	22:55	Short, heavy shower during survey, otherwise dry	13	7	0
10/08/23	05:32	03:32	05:47	Nil	14	8	1

4.2.3 Analysis of Results

Recordings made during the nocturnal surveys were analysed using Kaleidoscope Pro. The program can help to confirm the identification of the different calls recorded to species level using sonograms and power spectra, along with the measurements of a range of variables such as inter-pulse interval, minimum and maximum frequencies and pulse length. Foraging activity or social calling can also be identified in this way.

It should be noted that it is not always possible to confirm calls to species level. *Pipistrellus* sp. and *Myotis* sp. can usually be separated with a high degree of confidence and it is normally possible to identify pipistrelle bats to species level however, many of the *Myotis* sp. have similar calls and it is not always possible to confirm identification to species level. This is also the case with *Nyctalus/Eptesicus* sp., which can again have very similar calls, or for species which echolocate very quietly, such as brown long-eared bats, as it may not be possible to record a strong enough call to confirm the assessment. Any uncertainties in identification are noted in this report.

4.2.4 Personnel

Surveys were completed as shown in Table 3.

Table 3: Survey Personnel

Survey	Date	Survey Leader	Assistant Surveyors
Building Preliminary Bat Roost Assessment	20/07/23	<u>Claire Snowball</u>	Alex Douglas
Building Dusk	25/07/23	<u>Claire Snowball</u>	Kate Snowball, Janice Douglas
Building Dawn	10/08/23	<u>Niamh Quirk</u>	Ellesse Janda, Sophie Webster
<p><u>N.B.</u> Where names are in bold this indicates that the individual was licensed to work with bats by Natural England at the time of survey. Where names are <u>underlined</u>, the individual was licensed to work with Barn Owl by Natural England at the time of survey</p>			

Any constraints or limitations to the survey are discussed in Section 6.1.

4.3 Assessment

The value of the site for bats was assessed against the broad UK status of the species recorded, as shown in Appendix E, and the criteria published by the Chartered the Institute of Ecology and Environmental Management (CIEEM) in 2018 (<http://www.cieem.net/ecia-guidelines-terrestrial->). Each feature was classified as being as one of the following levels of value:

- International
- National

- Regional/County
- City/District/Borough
- Local
- Low

Examples of different ecological features meeting each of these criteria are outlined in Appendix F.

5. Baseline Conditions

5.1 Desk Study

No statutory or non-statutory sites designated due to the presence of bats were identified within 2km of the survey site. Durham Bat Group via ERIC North East provided 106 records of bats within 2km of the site, including records of common and soprano pipistrelle, brown long-eared, noctule, whiskered/Brandt's and Daubenton's bats, as well as pipistrelle sp., *Myotis* sp. and unidentified bats. The closest records relate to foraging *Myotis* sp., soprano pipistrelle and brown long-eared at Lumley Park Wood c.50m northwest of the site boundary.

Further details are provided in Appendix G.

5.2 Field Survey

5.2.1 Habitat Assessment

Habitats within the site were found to be dominated by a relatively sheltered residential garden to the south and west, with a hard standing driveway and access track to the north and east, separating the house from the residential property and outbuildings to the north and north east respectively. Small pasture fields lie to the east of the site and beyond an area of mature woodland to the south, with further areas of mature woodland to the north and west, associated with the Lumley Park Burn corridor. Such habitats are considered to provide moderate to high quality habitat for bats, with sheltered foraging habitat associated with the garden and the adjacent woodlands and riparian corridor providing further potential foraging and commuting opportunities. The nearby residential properties, outbuildings and woodlands provide further potential roosting opportunities for a range of bat species.

5.2.2 Building Surveys

Preliminary Bat Roost Assessment / Field Sign Survey

Lumley Park House is of random stone construction with a dressed stone front façade to the south, and cut stone quoins. The main section of the house reaches three storeys in height included a converted roof space, with a cellar below, with single-storey sections to the east and west, the latter of which extends to the north so that the house forms an 'L' shape. A series of single-storey extensions abut the western wall of the single-storey part of the house.

The roof structure is complex, with both hipped and pitched sections, all of which are covered by slates. Lead flashing is present in the valleys and around the base of a number of brick chimneys, which are present in both the single and three-storey sections of roof. The windows are largely sash and have timber frames, with timber fascia boards present around the building.

The cellar is c.2m in height and lies beneath the northern section of the main (3-storey) part of the house, the walls are of brick construction and generally in good condition; the walls were dry, with a large puddle across the stone floor at the time of survey. Conditions within appear relatively stable. Although vents are present which lead outside of the building, the external ends of these are covered by grilles, the apertures of which are too small to allow bats access into the cellar.

A loft void is present above the single-storey sections which reaches up to 2.5m in height; there is a second false ceiling below the floor of the loft, hindering safe access. Another loft void c. 1m in height lies over the converted section of the roof spaces in the main section of the house, with a series of further half-pitched voids to 1m high around the edges of the converted roof space. In each case the roof is supported on large cut timbers in a modified kingpost design with sections of the stonework walls and brick chimneys apparent, which appear to be in good condition. The voids have fibreglass insulation on the floor and the slates are lined with breathable roofing membrane (BRM) reducing the suitability of the site for roosting bats, due to the known risk of entanglement associated with this material. Gaps are apparent at the eaves at a number of locations. Conditions within the voids are relatively dirty, hindering survey for field signs, while access to the sections around the edges of the three-storey section in particular was hindered by their small size.

A small number of gaps were noted beneath slates, although the roof structure was generally found to be in good condition, with sound mortar along the ridge of the majority of sections of roof, very few slipped or missing slates, and lead flashing appearing sound. A small number of crevices and gaps were identified in the stonework of the house, with gaps also noted behind the fascia boards around the structure.

No field signs confirming the presence of bats were recorded during the survey, although potential roosting opportunities were identified within the walls and roof structure of both the single and three-storey sections. The building is considered to be of moderate suitability for roosting bats.

Activity Surveys

Dusk Survey – 25/07/23

Moderate levels of bat activity dominated by common and soprano pipistrelles, with lower levels of brown long-eared and noctule activity, were recorded during the dusk survey. A maximum of three soprano pipistrelles were recorded foraging around the site at any one time.

The first bat – a noctule – was recorded passing over the site at sunset, with the first common pipistrelle recorded passing the western side of the house 2 minutes later, indicating that roosts are present in close proximity to the site. Two roosts, each used by soprano pipistrelles, were recorded within the building; the first bats (2 soprano pipistrelles) emerged at eaves level towards the centre of the southern elevation of the house 13 minutes after sunset, with a third soprano pipistrelle emerging at eaves level from the north eastern side of the single-storey section 15 minutes after sunset.

There was a brief heavy rain shower from 22:03 until 22:25 however, bats had emerged from the structure prior to this time and there was no noticeable difference in foraging and commuting activity throughout this period, with the first brown long-eared bats also recorded foraging to the south of the site during the shower (22:13). As such, this was not considered to result in any adverse impacts on the validity of the survey data or subsequent assessment.

Dawn Survey – 10/08/23

Similar (moderate) levels of activity were recorded during the dawn survey, with common pipistrelle, soprano pipistrelle and noctule present, along with a small number of *Myotis* sp. (possible Natterer’s) passes. A maximum of three noctules were recorded foraging over the site at any one time, with three soprano pipistrelles and individual common pipistrelles foraging around the building.

Twelve soprano pipistrelles were recorded using four day roosts around the building, entering at seven points, all of which are located at eaves level. Two soprano pipistrelles were recorded entering the roost at eaves level to the north east of the building, in the same location as one emerged during the dusk survey, with three further soprano pipistrelles entering the roost on the southern elevation which was recorded during the dusk survey. Three further soprano pipistrelles were recorded roosting on the south western corner of a half-pitched single-storey extension on the western side of the building, and four entering the roof spaces of the single-storey section on the western side of the building. Bats entered and exited the roosts to the south and west of the building a number of times during the survey, with bats also recorded landing on the wall near the roost entrance before flying off again, and a number of false returns also recorded on the southern elevation.

An overview of activity recorded during the dusk and dawn surveys, and locations of roost entrances are illustrated in Appendix D.

Summary of Roosts

Table 4 summarises the types of roost confirmed and/or potentially present within the site, based on the results of the surveys above.

Table 4: Summary of Roosts

Roost Type	Location	Bat Species / Numbers	Potential / Confirmed?	Justification
Day	Four locations within roof structure of single and three-storey sections (seven entrance points), with entrances to the roosts at eaves level, including under fascia boards	Soprano pipistrelle, small numbers (up to 12)	Confirmed	Small numbers of bats seen to emerge from / enter the structure at various locations around the building during the activity surveys

Roost Type	Location	Bat Species / Numbers	Potential / Confirmed?	Justification
Night Roost / Feeding Perch	N/A	N/A	None	No feeding remains recorded and no bats which utilize feeding perches seen to temporarily enter the structure during the activity surveys
Maternity Roost	N/A	N/A	None	No significant piles of droppings recorded and only small numbers of bats utilizing the structure during maternity season surveys.
Hibernation Roost	Roof voids	Soprano pipistrelle, small numbers <10	Potential	Roof voids are considered to provide stable enough conditions to have the potential to be used during the hibernation period.

5.2.3 Other Species

The building and surrounding gardens are considered to have the potential to support a small range of locally common species of nesting birds, including a number of conservation concern.

A Barn Owl was recorded during the dawn survey, which appeared to be roosting within the small outbuildings to the northeast of the survey site and which will not be affected by the proposals; the surveyed building is not considered to have the potential to be used by the species due to the lack of suitable access routes into the structure.

Stands of cotoneaster *Cotoneaster* sp. and Himalayan balsam *Impatiens glandulifera* which are listed as invasive non-native species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded around the building during the survey.

6. Interpretation and Discussion

6.1 Survey Constraints

Access to the loft voids was hindered due to their small size and/or the presence of false ceilings which prevented safe access however, as subsequent activity surveys were undertaken at the appropriate time of year which have confirmed the presence of a number of small day roosts within the structure, the lack of full access to the roof voids is not considered to represent a constraint to the assessment.

There was a brief heavy rain shower from 22:03 until 22:25 during the dusk survey however, bats had emerged from the structure prior to this time and there was no noticeable difference in foraging and commuting activity throughout this period, with the first brown long-eared bats also recorded foraging to the south of the site during the shower (22:13). As such, this was not considered to result in any adverse

impacts on the validity of the survey data or subsequent assessment, with the presence of small numbers of soprano pipistrelle day roosts recorded in the building during both surveys.

6.2 Further Survey Requirements

Based on the results of the daytime and nocturnal surveys, no further surveys are considered to be necessary at this time to inform the proposed works. A license will be required from Natural England prior to the start of any works with the potential to affect bats or their roosts; NE currently require activity data to be submitted as part of the application from the active season prior to the start of any works, therefore further surveys may be necessary to meet this requirement if works do not commence before May 2024.

6.3 Assessment of Value

Based on the results of the desk study and field work completed to date, the site is valued as shown in Table 5, below, using the criteria outlined in Section 4.3.

Table 5: Value of Features Recorded on Site for Bats

Feature	Value for Bats	Justification
Habitats	Local	Small areas of habitat within the site which are used by small numbers of foraging and commuting bats, and with large areas of habitat of similar or higher quality present throughout the surrounding area
Buildings	Local	Site supports small numbers (up to 12) of a locally common species (soprano pipistrelle) in (non-breeding) day roosts, and has the potential to be used by small numbers of pipistrelles at times throughout the year

6.4 Input into the Design Process

Due to the presence of BRM within the loft voids of the building, potential bat access routes into to the roof structure will be removed as part of the works, given the known issues with bats becoming entangled within this material; the nature and scale of the proposals – minor repairs and extensions – render the removal of this material from the structure disproportionate, given that the entire building would have to be re-roofed to facilitate such works.

New crevice roosts will be created within the walls of the new single-storey extension to be created on the western elevation, close to the location of two of the current roost sites, with bat boxes also installed on the three storey section to compensate for the removal of access routes into the loft voids, which will ensure the site retains the potential to be used by bats in a similar manner following the completion of works.

6.5 Impact Assessment

Based on the proposals as discussed in section 2.3, the development will have the following impacts if an appropriate mitigation strategy is not implemented:

- The harm or disturbance of small numbers of non-breeding soprano pipistrelle bats during the works period, potentially including hibernating bats.

- The loss or disturbance of day roosts used by small numbers of soprano pipistrelles through the works.
- The continued risk of harm of bats by entanglement in BRM in the event of access to the loft voids being maintained.
- The temporary disturbance of small areas of habitat of local value to foraging and commuting bats during the works period.
- The temporary disturbance of foraging or commuting bats via indirect effects such as increased lighting levels during the works period.
- The harm of active bird nests in the event works commence during the nesting period (March – September inclusive).
- The spread of invasive non-native plant species listed on Schedule 9 through the works.

Given the nature of the works and the distance between the house and outbuildings to the north east, no adverse impacts are predicted upon Barn Owl as a result of the proposals.

7. Avoidance, Mitigation and Compensation Strategy

The following measures will be implemented in order to minimise the ecological impacts of the proposals, including the risk of bats being adversely affected:

- Works affecting the roost sites or roof structure will not commence until a license had been obtained from Natural England; works will proceed in accordance with the measures contained within the license as approved by NE.
- Works with the potential to affect roosting bats will not commence during the winter period (November to March inclusive) in order to ensure no hibernating bats are adversely affected. In the event works prior to this time have made the relevant sections of the structure unsuitable for such use prior to the start of November, works may continue throughout the winter period.
- Works will not commence until those contractors involved have received a toolbox talk from a suitably qualified ecologist (the named ecologist on the Natural England license, or their accredited agent) to ensure they are aware of the presence of bat roosts on site, what to do in the event a bat is encountered at any time, and the working methods which must be implemented through the works period.
- Works with the potential to affect active bird nests will not commence during the nesting period (March – September inclusive) unless a checking survey by a Suitably Qualified Ecologist (SQE) has been undertaken no more than 5 days prior which confirms that no active nests are present or would be affected. In the event any active nests are identified at this time, the SQE will implement a buffer zone around these features into which no works will progress until the SQE confirms (via further checks / surveys) that the nest is no longer active.

- No lighting will be installed which would illuminate bat roost sites or the edges of the surrounding woodlands as part of the works, as either temporary or permanent features.
- Access to the loft voids / roof structure around the building will be removed with entrances sealed up as part of the works, to remove the risk of bats becoming entangled in BRM. Roost entrances will only be sealed under license following the installation of 1-way excluders for a period of at least three nights during which weather conditions are suitable for bats to be active.
- 2no. crevice roost sites will be created in the walls of the new western extension through the inclusion of integrated bat boxes (Schwegler 1WI, Integrated Eco Bat Box or similar) one on the western and one on the southern side of this area.
- 2no. general purpose bat boxes (Vivaro Pro Woodstone Bat Box, Low Profile Woodstone Bat Box or similar) will be installed on adjacent trees prior to the start of works, to act as receptor sites in the event any bats are captured during the works.
- 1no. general purpose woodstone / woodcrete bat box (Beaumaris Woodstone Midi or similar) will be installed on the southern elevation of the house close to the existing entrances to the roof at eaves level.
- Works will proceed following appropriate biosecurity measures to ensure no Schedule 9 plant species are spread by the works. Stands of such species will be controlled and ideally subject to removal as part of the works; any arisings will be treated as controlled waste and can only be removed from the site by an appropriately licensed contractor.

8. References

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Appendix A – Key Legislation

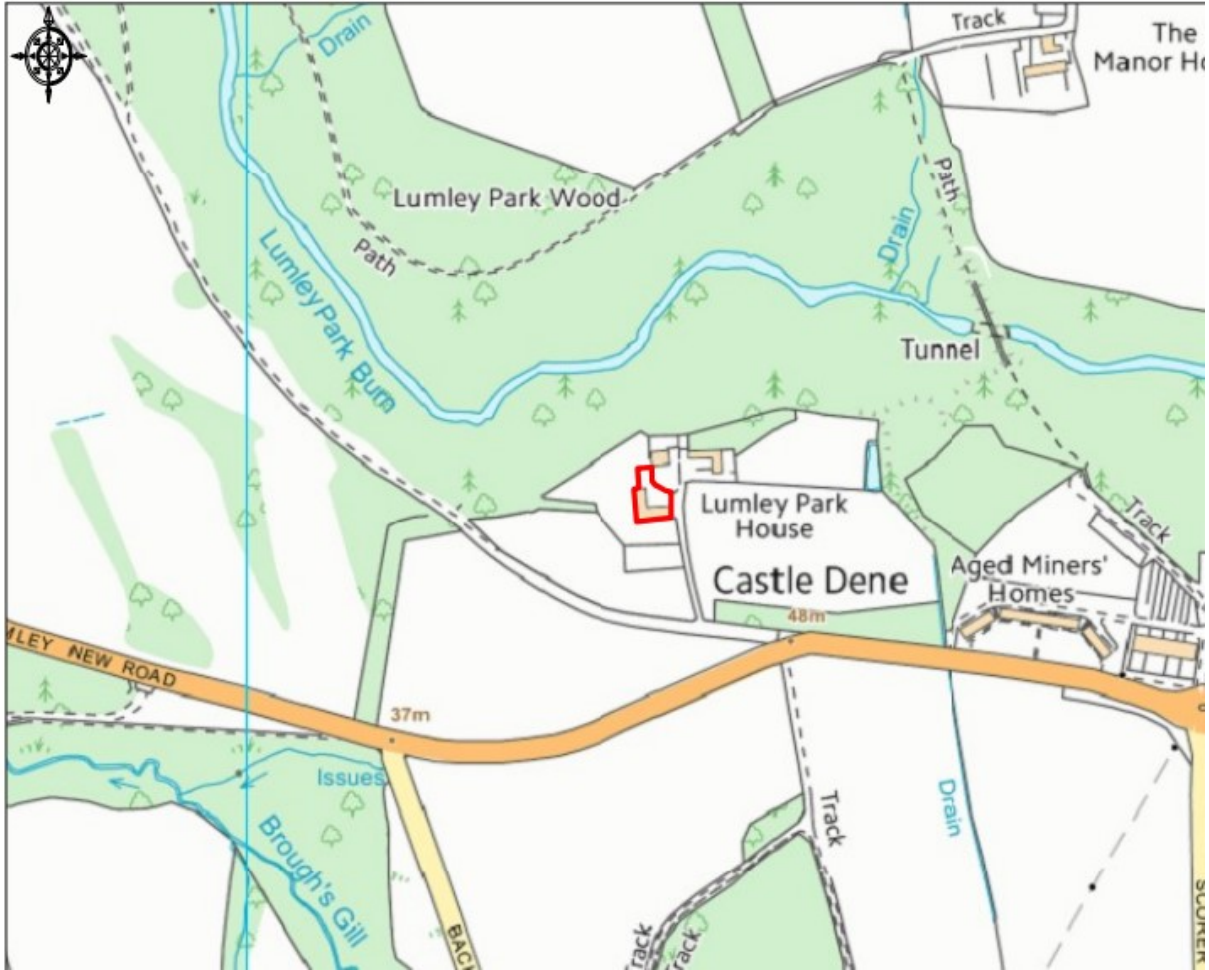
Table A1: Overview of Key Legislation

Legislation	Key Features
The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019	<p>These Regulations consolidate and update the Conservation of Habitats and Species Regulations 2010 (the “Habitats Regulations 2010”). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (“the Habitats Regulations 2019”) transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and elements of Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”) in England, Wales and, to a limited extent, Scotland and Northern Ireland. The objective of the Habitats Directive is to protect biodiversity through the conservation of natural habitats and species of wild fauna and flora. The Directive lays down rules for the protection, management and exploitation of such habitats and species.</p> <p>The Habitat Regulations make it an offence (with certain exceptions) to deliberately capture, disturb, kill or trade in those animal species listed in Schedule 2, or to pick, cut, uproot, collect, destroy or trade in those plant species listed in Schedule 4.</p> <p>The EC Birds Directive requires member states to establish and monitor Special Protection Areas (SPAs) for all rare or vulnerable species included in Annex I, as well as for all regularly occurring migratory species, with key focus on wetlands of international importance. Annex I and II of the Habitats Directive respectively list those habitats and species for which a similar network of sites – Special Areas of Conservation (SACs) – must be established and monitored. Collectively, SPAs and SACs form a network of pan-European protected areas which are referred to as ‘Natura 2000’ sites.</p>
The Convention on the Conservation of European Wildlife and Natural Habitats 1979 (Bern Convention)	<p>The Bern Convention was adopted in 1979 and ratified by the UK Government in 1982. The principal aims of the Convention are to ensure the conservation and protection of all wild plant and animal species and their natural habitats (listed in Appendices I and II), to increase cooperation between contracting parties, and to afford special protection to the most vulnerable or threatened species (including migratory species).</p> <p>Members of the European Community meet their obligations via the Birds Directive and the Habitats Directive. These are transposed into UK law by the Wildlife and Countryside Act 1981 (as amended), Nature Conservation (Scotland) Act 2004 (as amended), Wildlife (Northern Ireland) Order 1985, and the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985.</p>
The Wildlife and Countryside Act 1981 (as amended)	<p>The Wildlife and Countryside Act consolidates and amends existing national legislation to implement the requirements of the Bern Convention and the Birds Directive throughout Great Britain. The Act is the primary UK mechanism for the designation of statutory ecological sites - Sites of Special Scientific Interest (SSSIs) - and the protection of individual species listed under Schedules 1, 2, 5, 6 and 8 of the Act, each of which is subject to varying levels of protection.</p> <p>Schedule 9 of the Act also lists those plant species which it is an offence to plant or otherwise cause to grow in the wild, while Schedule 14 prevents the release into the wild or sale of certain plant and animal species which may cause ecological, environmental or</p>

Legislation	Key Features
	socio-economic harm.
Natural Environment and Rural Communities Act 2006	The NERC Act places a duty on public bodies to consider and conserve biodiversity through the exercise of their functions and includes a range of measures to strengthen the protection of both habitats and wildlife. The Act makes provision in respect of biodiversity, pesticides harmful to wildlife, protection of birds and invasive non-native species.
The Countryside and Rights of Way (CRoW) Act 2000	<p>The CRoW Act, which applies to England and Wales only, strengthens the provisions of the Wildlife and Countryside Act 1981 (as amended), both in respect of protected species and statutory ecological sites, the latter primarily relating to the management and protection of SSSIs. It also provides for better management of Areas of Outstanding Natural Beauty (AONBs).</p> <p>The Act places a statutory obligation on public bodies to further the conservation of biodiversity through the exercise of their functions, thereby providing a statutory basis to the Biodiversity Action Plan (BAP) process. Section 74 of the Act lists those habitats and species of principal importance in England.</p>
The Wild Mammals (Protection) Act 1996	This Act provides protection for wild mammals from acts of cruelty. An offence is committed if any person mutilates, kicks, beats, nails, or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates any wild mammal with intent to inflict unnecessary suffering.

Appendix B – Site Plan

Figure B1: Site Plan (provided by the client)



Appendix C – Site Photographs

Photo 1: Southern elevation



Photo 2: Single-storey section NW of the house



Photo 3: Northern elevation of single-storey section with Himalayan balsam and cotoneaster adjacent



Photo 4: Western elevation



Photo 5: Eastern elevation



Photo 6: Access to voids around 3-storey section



Photo 7: Potential access into voids around 3-storey section, with BRM lining roof



Photo 8: Half-pitched void around 3-storey section





Appendix D –Survey Results

Figure D1: Summary of Key Bat Flightlines and Surveyor Locations



ECN23 039 Bat Survey Report – Lumley Park House



Figure D2: Summary of Roost Entrances



ECN23 039 Bat Survey Report – Lumley Park House



Key

- Surveyor Locations
- Roosts**
- ✚ Dusk 25/07/2023
- Dawn 10/08/2023

Title	Lumley Park House Roosts		
Client	GSC Grays		
Project	ECN23 039		
Drawing No.	Date	Drawn	Chkd
01	21/08/23	JB	CS

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Map data ©2023 Google

Appendix E – Status of UK Bat Species

Table E1: Status of UK Bat Species

Bat Species	Distribution	Status
Greater horseshoe*	Confined to southwest England and south and west Wales	Very rare and threatened
Lesser horseshoe*	Wales, southwest England and western Ireland	Rare (but currently increasing in no.); threatened
Bechstein's*	Confined to central to southern England and Wales	Very rare; threatened
Natterer's	Widespread throughout much of the UK, except the far north of Scotland	Common; not threatened
Daubenton's	Widespread throughout the majority of the UK	Common; not threatened
Whiskered/Brandt's	Common in north and west England, rare elsewhere	Locally common; not threatened
Alcathoe's	First recorded in caves in Yorkshire & Sussex in 2010 – distribution currently unknown, but likely to be under-recorded due to similarities with whiskered/Brandt's	Status currently unknown
Greater mouse-eared	Small number of individuals currently known from southern England (non-breeding population)	Status currently unknown; at one time considered extinct in Britain
Serotine	Restricted to southern England and Wales	Uncommon
Noctule*	Found as far north as Central Scotland, but absent from northern Scotland and Ireland	Uncommon; threatened
Leisler's	Scattered throughout England and into southwest Scotland.	Scarce in Great Britain; Common in Ireland.
Common pipistrelle	Widespread throughout the UK	Common; not threatened
Soprano pipistrelle*	Widespread throughout the UK	Common; threatened
Nathusius' pipistrelle	Found throughout Britain and Ireland, but not common	Rare
Brown long-eared*	Widespread throughout the UK	Common; threatened
Grey long-eared	Restricted to south Devon and coastal areas of Dorset and west Sussex. More common on the Isle of Wight and Channel Islands	Very rare

Bat Species	Distribution	Status
Barbastelle*	Restricted to southern England and Wales	Rare; threatened
* UK BAP Species		

Appendix F – Value of Ecological Receptors

Table F1: Examples of Ecological Receptors of Differing Value

Value	Examples
International	<ul style="list-style-type: none"> • An internationally designated site or candidate site (SPA, pSPA, SAC, cSAC, pSAC, Ramsar site) or an area which meets the designation criteria for such sites. • Internationally significant and viable areas of a habitat type listed in Annexe 1 of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring, globally threatened species. • A regularly occurring population of an internationally important species, which is threatened or rare in the UK, of uncertain conservation status • A regularly occurring, nationally significant population/number of any internationally important species.
National	<ul style="list-style-type: none"> • A nationally designated site (e.g. SSSI, NNR) or a discrete area which meets the published selection criteria for national designation (e.g. SSSI selection guidelines) irrespective of whether or not it has yet been notified. • A viable area of a UK BAP priority habitat, or smaller areas of such habitat which are essential to maintain the viability of a larger whole. • A regularly occurring significant number/population of a nationally important species e.g. listed on the Wildlife and Countryside Act 1981 (as amended). • A regularly occurring population of a nationally important species that is threatened or rare in the county or region. • A feature identified as being of critical importance in the UK BAP.
Regional/County	<ul style="list-style-type: none"> • Viable areas of key habitat identified in the Regional or County BAP or smaller areas of such a habitat, which are essential to maintain the viability of the larger whole. • Regional/county significant and viable areas of key habitat identified as being of regional value in the appropriate English Nature (now Natural England) Natural Area. • A regularly occurring significant population/number of any important species important at a regional/county level. • Any regularly occurring, locally significant population of a species which is listed in a Regional/County Red Data Book or BAP on account of its regional rarity or localisation. • Sites of conservation importance that exceed the district selection criteria but that fall short of SSSI selection guidelines.
City/District/Borough	<ul style="list-style-type: none"> • Areas of habitat identified in a District/City/Borough BAP or in the relevant Natural Area profile. • Sites that the designating authority has determined meet the published ecological selection criteria for designation, including Local Nature Reserves selected on District/City/Borough ecological criteria. • Sites/features that are scarce within the District/City/Borough or which appreciably enrich the District/City/Borough habitat resource. • A diverse and/or ecologically valuable hedgerow network.

Value	Examples
	<ul style="list-style-type: none"> • A population of a species that is listed in a District/City/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/City/Borough important species during key phases of its life cycle.
Local	<ul style="list-style-type: none"> • Areas identified in a Local BAP or the relevant natural area profile. • Sites/features which are scarce in the locality or which are considered to appreciably enrich the habitat resource within the local context, e.g. species-rich hedgerows. • Local Nature Reserves selected on Parish/Local ecological criteria. • Significant numbers/population of a locally important species e.g. one which is listed on the Local BAP. • Any species, populations or habitats of local importance.
Low	<ul style="list-style-type: none"> • Habitats of moderate to low diversity which support a range of locally and nationally common species, the loss of which can be easily mitigated.

Appendix G – Bat Records Identified by the Desk Study

Table G1: Bat Records within 2km

Species	Number of Records	Most Recent Record	On Site?	Level of Protection		
				HR 2019	WCA 1981	NERC /UK BAP
<i>Myotis</i> sp.	7	2017		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Pipistrellus</i> sp.	12	2012		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Common pipistrelle	46	2022		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Soprano pipistrelle	8	2022		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Daubenton's	12	2011		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Whiskered / Brandt's	1	2013		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Noctule	7	2022		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Brown long-eared	3	2011		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Unidentified bat	10	2015		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Key:
 HR 2019 – The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
 WCA 1981 – The Wildlife and Countryside Act 1981 (as amended)
 NERC – The Natural Environment and Rural Communities Act 2006
 UK BAP – UK Biodiversity Action Plan