



SILVER BIRCHES, NETLEY
ECOLOGICAL IMPACT ASSESSMENT

25/05/2022

CLIENT: Mr Steve Clayton

PROJECT NO.: SILVER2022

AUTHOR: Sophie Lancaster

sophie@soecology.co.uk

Executive Summary

SoEcology Ltd was commissioned by Mr Steve Clayton to produce an Ecological Impact Assessment report to support a planning application for Silver Birches, Hound Road, Netley, SO31 5FX, grid reference: SU 46803 08711.

The proposals are for the renovation of the property. The Site is approximately 0.2ha in size with the construction zone restricted to the footprint of the existing dwelling, with no extensions into the surrounding garden proposed.

A UK Habitat Classification survey was not deemed necessary considering the nature of the proposals. The only ecological features that have potential to be impacted by the development are bats and birds and therefore, a Preliminary bat Roost Assessment and search for nesting bird potential was undertaken in October 2021.

The PRA identified the property to support roosting bat features, which are predominantly located on the rear (west) elevation. The roof itself is in very good condition, with no slipped or missing tiles and dense moss cover offering no visible bat access behind the tiles.

In response to the Preliminary bat Roost Assessment findings, further bat surveys were undertaken to confirm presence/likely absence of bats roosting, in the form of two dusk emergence surveys in May 2022. The surveys concluded likely absence of a bat roost with no emergences or re-entries recorded. Activity was moderate, dominated by common pipistrelle and soprano pipistrelle and rare amount of serotine bat registrations. Activity was focused on the mature trees that bound the north and east of the property.

Mitigation measures have been provided to ensure no delays arise because of potential future occupation by nesting birds. In accordance with current bat mitigation guidelines the bat surveys are valid for one year.

Compensation measures have been provided in this report in the form of a bat box to replace existing suitable roosting features. Enhancement recommendations are provided in section 7 of this report with the aim of achieving a net gain in biodiversity, in accordance with the NPPF.

Contents

Executive Summary	1
1 Introduction.....	3
2 Planning Policy and Legislation.....	4
2.1 National Planning Policy	4
2.2 Local Planning Policy	5
2.3 International Designated Sites	5
2.4 Nationally Designated Sites	6
2.5 Protected Species Legislation.....	6
3 Methodology	8
3.1 Scope of the Assessment.....	8
3.2 Desk Study	8
3.3 Field Survey.....	8
3.4 Bat Survey	9
3.5 Assessment	10
4 Baseline Ecological Conditions.....	13
4.1 Designated Sites	13
4.2 Habitats	14
4.3 Protected Species	14
5 Assessment of Effects and Mitigation/Compensation Measures.....	18
5.1 Designated Sites	18
5.2 Protected Species	18
6 Compensation.....	20
7 Enhancements	21
8 Conclusions.....	22
9 References.....	23
10 APPENDICES.....	24
10.1 Photographs.....	24
10.2 Bat Roosting Features Plan	33
10.3 Bat Surveyor & Equipment Plan	34

1 Introduction

SoEcology Ltd was commissioned by Mr Steve Clayton to produce an Ecological Impact Assessment (EclA) report to support a planning application for Silver Birches, Hound Road, Netley, SO31 5FX, grid reference: SU 46803 08711.

The purpose of the EclA report is to support a planning application for the renovation of the property. The ecological features considered in this EclA report are nesting birds and bats. A baseline assessment for designated sites has also been undertaken to confirm the proximity of habitats important to nature conservation to the Site and validate the scoping out of impacts. All other ecological receptors have been scoped out for consideration due to the nature of the proposals.

The Site is approximately 0.2ha in size with the renovation works restricted to the footprint of the existing property.

The purpose of an EclA report is:

- To identify potential significant ecological effects associated with the development proposals;
- To provide appropriate mitigation measures to ensure compliance to relevant policies and legislation (see Section 2);
- To provide an assessment of significant residual effect;
- To identify how mitigation measures will be secured;
- To identify appropriate compensation and enhancement measures to negate any negative significant residual effects and with the aim of achieving a net gain in biodiversity, in compliance with relevant policy; and
- To set out requirements for post-construction monitoring, if required.

This report is suitable to support a planning application. However, it is important to note that the survey results are valid for one year. If this time elapses prior to planning submission, updating surveys will be required.

This report was written by Sophie Lancaster, an Ecologist working in private consultancies since 2013. Sophie has completed a masters (MSc) in Environmental Consultancy and is an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM). Sophie holds protected species licences for bats (level 2 class licence) and great crested newt (level 1 class licence).

2 Planning Policy and Legislation

This section does not provide a comprehensive list of nature conservation policies and legislation within the United Kingdom. The policies and legislation listed below are those relevant to the project only.

2.1 National Planning Policy

The most recent National Planning Policy Framework (NPPF) (Ministry of Housing, communities and Local Government, 2019) was published in February 2019. The NPPF sets out the Government's planning policies for England and how these should be applied. Paragraphs of relevance within the NPPF include:

Paragraph 170 of the NPPF states that *"Planning policies and decisions should contribute to and enhance the natural and local environment 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."*

Paragraph 174 of the NPPF states that *"To protect and enhance biodiversity and geodiversity, plans should:/... promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*

Paragraph 175 of the NPPF states that *"When determining planning applications, local planning authorities should apply the following principles:*

- a) 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;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons¹ and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

Paragraph 176 of the NPPF also states that potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are to be afforded the same protection as designated Special Protection Areas, Special Areas of Conservation and Ramsar sites.

The NPPF is also complemented by the Circular 06/2005: Biodiversity and Geographical Conservation – Statutory Obligations and Their Impacts Within The Planning System (Office of the Deputy Prime

¹ For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

Minister, 2005). Paragraph 99 states that *“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.”*

2.2 Local Planning Policy

Local planning policy within Eastleigh Borough is provided by the saved policies within the Adopted Local Plan Review 2001 – 2011 with seven policies referring specifically to ecology and biodiversity:

- I. Policy 21.NC: European Nature Conservation Designations. “Development which is likely to adversely affect the integrity of a European nature conservation site will not be permitted”
- II. Policy 22.NC: Sites of Special Scientific Interest. This policy prevents development which will have a direct or indirect adverse impact on SSSIs unless the reasons for development clearly outweigh the harm to the nature conservation value of the site.
- III. Policy 23.NC: Sites of Importance for Nature Conservation. This policy prevents development likely to have a direct or indirect adverse impact on a SINIC unless it can be demonstrated that the benefits of the development clearly outweigh the need to safeguard the site and that appropriate mitigation measures can be taken to mitigate for the adverse effects.
- IV. Policy 24.NC: Protected Species. Development will not be permitted where it would adversely affect species or habitat protected by legislation unless suitable mitigation can be demonstrated.
- V. Policy 25.NC: Biodiversity. Refers to the protection of habitats or features of importance for wild flora and fauna unless benefit outweighs impacts, impacts are unavoidable and mitigation is incorporated.
- VI. Policy 26.NC: Biodiversity. Seeks to enhance features and habitats of nature conservation importance through development proposals.
- VII. Policy 27.NC: Local Nature Reserves. Specifically lists a number of Local Nature Reserves where development preventing their designation would be refused.

Further guidance on planning policy in relation to development within Eastleigh Borough is provided by the adopted the Biodiversity SPD December 2009. The forthcoming Eastleigh Borough Local Plan 2011-2029 revised pre-submission draft contains a single overarching policy referring to ecology and biodiversity Policy DM9 which largely reflects the existing adopted policy framework with specific reference also made in relation to the Solent Disturbance and Mitigation Project (SDMP).

2.3 International Designated Sites

Internationally designated sites include Special Protection Areas (SPAs), Ramsar sites and Special Areas of Conservation (SAC).

SPAs, Ramsar sites and SACs form the Natura 2000 network of sites of nature conservation significance within Europe. SACs are designated under the Habitats Directive² to ensure the favourable conservation status of each habitat type and species. SPA's are designated under the Birds Directive

² Council Directive on the conservation of wild birds of 2nd April 1979 (79/409/EEC) and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora of 21st May 1992

and are designated for 194 threatened species, all of which being migratory bird species. Ramsar are afforded to wetlands of international importance, designated under the Ramsar Convention.

Within the UK these designations are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and Local Planning Authorities (LPA) are required to review all planning applications for potential to affect internationally designated sites. The application site does not need to be on or adjacent to an internationally designated site to have a potential impact. Where an LPA deems a significant effect on a European site to be likely, an Appropriate Assessment is to be undertaken to determine the implications of the development for the site's conservation objectives.

2.4 Nationally Designated Sites

National designations include Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR).

In accordance with Section 28 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 9 of the Countryside and Rights of Way Act 2000, LPAs are required to notify Natural England of a developments potential to likely damage a SSSI before granting planning permission. If a development is anticipated to affect a national designation an Appropriate Assessment is not required, however, the LPA will determine appropriate course of action to prevent adverse effects on the designation. Natural England will be consulted whether or not the application site is located on or adjacent to a SSSI, as indirect effects are also considered. SSSIs designations also frequently cover the same footprint of international designations.

2.5 Protected Species Legislation

2.5.1 Birds

All birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to:

- a) Intentionally kill, injure or take a wild bird;
- b) Possess a wild bird or the egg of a wild bird;
- c) Damage and destroy or take an egg of a wild bird;
- d) Take, damage or destroy a nest whilst in use;
- e) Advertise or sell any wild bird or their eggs; and
- f) Use prohibited methods to kill or take wild birds.

Additional protection is offered to birds listed under Schedule 1 of the Wildlife and Countryside Act, such as barn owl *Tyto alba*. The Schedule makes it an offence to intentionally or recklessly disturb listed birds when nest building, in or near a nest that contain young and disturb dependent young.

If found guilty of any of the above offences you can be sent to prison for up to six months and receive an unlimited fine.

Additional protection is offered to birds listed under Annex I of the Birds Directive. Species listed on Annex I are those where their conservation requires the designation of SPA's. Although it is important to note that the recording of the species listed does not automatically qualify a site for SPA status. The species listed include a large number of waders found along the south coast of England, as well as, but not limited to, kingfisher *Alcedo atthis*, Dartford warbler *Sylvia undata*, nightjar *Caprimulgus euorpaus* and stone curlew *Burhinus Oedicnemus*.

2.5.2 Bats

All UK species of bat are fully protected as a European Protected Species under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended), which makes it an offence to:

- a) Deliberately capture, injure or kill;
- b) Deliberately disturb a bat while in a structure or place of shelter or protection;
- c) Damage or destroy a breeding site or resting place;
- d) Obstruct access to their resting or sheltering place; and
- e) Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal.

If found guilty of any of the above offences you can be sent to prison for up to six months and receive an unlimited fine.

Four British bat species are afforded additional protection under Annex II of the Habitats Directive. These species include barbastelle *Barbastella barbastellus*; Bechstein's bat *Myotis bechsteinii*; greater horseshoe bat *Rhinolophus ferrumequinum*; and, lesser horseshoe bat *Rhinolophus hipposideros*. Species listed on Annex II are those where their conservation requires the designation of SACs.

3 Methodology

This section of the report details the scope of the assessment, data acquired, surveys undertaken and how potential impacts are assessed.

3.1 Scope of the Assessment

For all projects it is imperative that the zone of influence is established. CIEEM defines zone of influence to be *“the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities”* (CIEEM, 2018). The zone of influence is determined by a suitably experienced ecologist, taking into consideration the site proposals, desk study and field survey results. The zone of influence differs for each ecological feature³. Section 4.0 identifies the projects zone of influence for each ecological feature.

The scope of the assessment initially takes into consideration all possible ecological features that have potential to be impacted by the proposal. The baseline ecological conditions (Section 4.0) include the outcomes of the desk study and field survey(s), which results in a process of elimination, with ecological features assessed to be likely absent not considered further in the report. Scoping is an ongoing process influenced by further surveys and assessment. Further surveys are required where an impact on an ecological feature cannot be avoided.

3.2 Desk Study

3.2.1 Local Record Centre

Hampshire Bat Group (HBG) was contacted in October 2021 to provide data on bat activity recorded within a 2km radius of the Site.

3.2.2 Multi-Agency Geographic Information for the Countryside

Defra’s Multi-Agency Geographic Information for the Countryside (MAGIC) online resource was also accessed on 27th October 2021. A search was undertaken to identify any statutory designated sites within a 2 kilometre (km) radius and to detect whether the Site is located within the varying buffer zones of internationally designated sites, which require additional consideration in regards to in-direct effects. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs. MAGIC was also accessed to identify any European Protected Species (EPS) mitigation licence applications for bats within a 2km radius.

3.3 Field Survey

The assessment for protected species included a Preliminary bat Roost Assessment (PRA), where the building on-site is assessed for its roosting bat suitability in accordance with the Bat Conservation Trust (BCT) best practice guidance⁴. This includes a search for potential roosting features such as lifted tiles and fascia’s within the buildings and internal inspection for evidence of bats such as droppings and any access opportunities for bats using a high powered torch. All buildings roosting bat suitability is scored as either negligible, low, medium, high or confirmed in accordance with the BCT criteria, which determines the necessary mitigation requirements.

³ Ecological features – habitats, species and ecosystems that may be affected given the nature of the proposals and geographical location of the application site.

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

A UK Habitat Classification assessment was not deemed necessary considering the nature of the proposals; with the renovation restricted to the footprint of the existing property. In this instance the only ecological features for consideration are bats and birds.

The PRA survey was undertaken by SoEcology Ltd Ecologist Sophie Lancaster. Sophie attained an MSc in environmental Consultancy in 2013, since which she has worked full-time as an Ecologist for private consultancies. Sophie is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The survey was undertaken on 5th October 2021 at 10am and for the duration of the survey the weather was 13°C, 10% cloud cover, sunny and wind speed best described as light breeze in accordance with the Beaufort scale.

3.3.1 Limitations

The survey was undertaken during suitable conditions and full access to the loft space was possible. There is a length of eaves cupboards which are not accessible along the eastern elevation, however, this is not considered a limitation as no entry/egress features were recorded along the eastern elevation during the external survey. There are no limitations to the PRA.

3.4 Bat Survey

Two dusk emergence surveys were undertaken between the 05 May 2022 and 19 May 2022. Two surveyors and three cameras with Infra-red setting and 10 infra-red torches were present at each survey to adequately cover the property. The positioning of the surveyors and equipment is provided in Appendix 10.3. No suitable roosting bat features were recorded on the eastern elevation of the property, however, a Night Vision Aid (NVA) and a surveyor were positioned here to record bat activity around the entirety of the property. In line with BCT best practice guidance, the dusk emergence surveys were undertaken 15 minutes before sunset and at least 1.5 hours after sunset (see Table 3-1). A dawn survey was not required as NVAs were used on both dusk emergence surveys, enabling the dusk surveys to identify late emerging species in total darkness. A screenshot of the camera view is taken at the end of each survey (see photographs 41 to 46) as proof of visibility.

The bat surveys were undertaken by experienced bat surveyors Sophie Lancaster and Adam Lancaster and Xandy Hand. The bat detectors used were Elekon Batlogger M, Elekon Batlogger M2 and Peersonic. The NVA's used include a Canon XA11 and two Canon XA30 camcorders elevated from the ground using tripods. Nighfox XB5 and XB10 850nm Low Glow Infrared Torches were positioned in set locations in front of the camera and elevated from the ground to maximise illumination of the property.

On completion of each survey the data collected on the bat detectors were analysed using BatExplorer and BatSound. The camera footage was played back using VLC Media Player, as well as, using motion detector video scanner software DVR-Scan.

Table 3-1: Bat survey dates, times and weather conditions

Dusk Emergence Survey – Survey 1			
Date	05/05/2022	Sunset Time	20:33
Start Time	20:18	Finish Time	22:18
Start Temperature	17°C	Finish Temperature	15°C
Start Cloud Cover	10%	Finish Cloud Cover	0%
Start Wind Speed	Light air	Start Wind Speed	Light air
Dusk Emergence Survey – Survey 2			
Date	19/05/2022	Sunrise Time	20:54
Start Time	20:39	Finish Time	22:39

Start Temperature	15	Finish Temperature	13
Start Cloud Cover	100%	Finish Cloud Cover	100%
Start Wind Speed	Light air	Start Wind Speed	Light air

3.4.1 Limitations

No limitations were recorded in relation to the bat surveys, as they were undertaken during suitable weather and the optimal time of year, and the potential roosting bat features were clearly visible throughout the survey due to the use of NVAs, made evident from photographs 41 to 46. The length of the survey extended to 1.75 hours after sunset (15 minutes more than guidance recommends) to account for the emergence time range extremes for all UK bat species⁵ (Andrews, 2017), plus additional time for extra caution. The use of the NVA's also remove the survey limitation associated with Natterer's *M. nattereri*, noctule *Nyctalus noctula* and brown long-eared bats *Plecotus auritus* which frequently emerge from roosts without registering on detectors and therefore, their emergence can more easily be missed by a surveyor (BTHK, 2018). Furthermore, the NVA's remove intrinsic limitations associated with human based method as the NVA's do not get distracted or disturbed and remain focused on the potential roosting features.

The NVAs remove the need for dawn surveys as the emergence time range extremes for all UK bat species were covered in the dusk emergence surveys. Dawn surveys are increasingly considered a sub-optimal survey for confirming roosting bat presence as the re-entry time range extremes according to research findings, such as Andrews, 2017 paper range from 413 minutes before sunrise to 2 minutes after. Species such as western barbastelle and Brandt's bat *M. brandtii* latest re-entry times recorded to be 135 minutes before sunrise and 126 minutes before sunrise for whiskered bat *M. mystacinus*, which is before the dawn survey start time (Andrews, 2017). Furthermore, Natterer's and barbastelle bats will almost always swarm in total darkness when returning to a roost (BTHK, 2018).

It is not possible to identify population numbers/abundance of any one species recorded on-site, as it is not possible to distinguish between individual bats via their echolocations. For instance, it is not possible to confirm whether multiple passes are from one bat going back and forth or multiple individuals passing once. Activity based data can only confirm the species present and variation in utilisation at differing sampling locations on-site on different months and nights. The timing of echolocation calls can help assess the likelihood of roosts nearby and to an extent the way the Site is used by varying bat species can be concluded.

3.5 Assessment

The assessment evaluates the importance of ecological features and the impact and residual effect of a development in accordance to CIEEM (2018) guidance⁶.

The importance of an ecological feature is based on geographical context, in accordance with the following scale of reference:

- International and European
- National
- Regional
- County

⁵ Brown long-eared bat recorded to have the latest emergence extreme of 94 minutes within Andrews, 2017.

⁶ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

- River Basin District
- Local
- Site

The geographical evaluation is determined by professional judgement and legislation and policy documents and data on the distribution of species and habitats. Ecological features assessed to be of site value in Section 4.0 are not considered to be important and their loss is not deemed to have a significant negative impact to overall biodiversity.

The assessment considers potential impacts on each ecological feature assessed to be of local value or greater from all phases of the development e.g. construction, operation and decommissioning. The impacts are characterised as follows:

- Complexity – e.g. direct/indirect, cumulative
- Positive or negative
- Magnitude – numerical value of area of habitat lost and percentage decline in species population.
- Extent – the spatial or geographical area the impact may occur
- Duration – timeframe of impact, taking in consideration the life cycle of the species impacted
- Reversibility – can determine the significance of the effect as some habitats/populations are easier and quicker to replace/recover than others
- Frequency – this can influence the resulting effect e.g. recreational activity
- Timing – similar to frequency and can avoid impacts in some instances.

Once impacts of the proposal have been established attempts are made to avoid and mitigate negative impacts. Once the measures to avoid and mitigate ecological impacts have been finalised, an assessment of the residual impact(s) is to be undertaken to determine the significance of the effects on ecological features. Where significant residual effects cannot be avoided compensatory measures are to be provided. Compensatory measures will be considered against ecological objectives in determining the outcome of the application. Compensation measures are detailed in a separate section of this report, alongside recommendations for enhancements. This clear differentiation between avoidance/mitigation, compensation and enhancement, ensures the report adheres to the 'mitigation hierarchy'.

Where the residual impact is so minor that the proposals are unlikely to have an effect on an ecological feature at a local scale or above, then the significance of the residual impact is referred to as 'non-significant positive/negative effect'.

A significant effect is referenced to a geographical scale, taking into consideration the geographical importance of an ecological feature and the overall scale of impact the proposals will have on the ecological feature itself. Significant effect is specified in CIEEM (2018), as follows:

“Significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring.”

The EclA report will accord to the precautionary principle and where uncertainty exists for determining no significant effect, a significant effect is to be assumed.

4 Baseline Ecological Conditions

This section of the report details the baseline ecological conditions of the Site based on the desktop study, PRA and bat survey. Photographs of the property are available in Appendix 10.1 and a Roosting bat Features Plan is provided in Appendix 10.2. An assessment of ecological value at a geographical scale is made for each ecological feature based on the survey results.

4.1 Designated Sites

The Site is located approximately 1.2km east (at its closest point) of Solent and Southampton Water SPA/Ramsar site and Lee-on-The Solent to Itchen Estuary SSSI. The SPA and Ramsar site are notable for their unusual double tide flow and the inclusion of wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on-site. The site is also designated for regularly supporting over 20,000 waterfowl. The site is ornithologically important for supporting populations of Annex I bird species:

- Mediterranean gull *Larus melanocephalus*
- Sandwich tern *Sterna sandvicensis*
- Common tern *S. hirundo*
- Little tern *S. albifrons*
- Roseate tern *S. dougalli*

The site also qualifies as a Ramsar and SPA for the supporting population of European importance of the following migratory bird species:

- Dark-bellied brent goose *Branta bernicla bernicla*
- Eurasian teal *Anas crecca*
- Ringed plover *Charadrius hiaticula*
- Black-tailed godwit *Limosa limosa islandica*

Lee-on-Solent to Itchen Estuary SSSI is designated for its array of scarce and valuable habitats, such as intertidal muds, saltmarsh, reedbed, marshy grasslands, woodland and vegetated shingle. The designation is also of international importance for its over-wintering dark-bellied brent geese, and of national importance for great-crested grebe, teal, wigeon, black-tailed godwit, dunlin, grey plover, ringed plover and redshank. The SSSI also supports an outstanding assemblage of nationally scarce coastal plants and high densities of benthic invertebrates.

Solent Maritime SAC is located 1.39km east and is designated for its Annex 1 habitats of:

- Estuaries
- Spartina swards *Spartinion maritimae*
- Atlantic salt meadows *Glauco-Puccinellietalia maritimae*.

Annex 2 habitats also present as a qualifying feature include:

- Sandbanks which are slightly covered by sea water all the time
- Mudflats and sandflats not covered by seawater at low tide
- Coastal lagoons
- Annual vegetation of drift lines
- Perennial vegetation of stony banks

- Salicornia and other annuals colonizing mud and sand
- Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes").

An Annex II species which is also a qualifying feature for the SAC designation is Desmoulin's whorl snail *Vertigo moulinsiana*.

Westwood Woodland Park LNR is also located approximately 960m north-west. The LNR supports ancient woodland and grassland habitat supporting an important assemblage of wildlife.

Lincegrove and Hackett's Marshes SSSI is located 1.39km east, of conservation significance as structurally the marshes are one of the best examples of mature saltmarsh on the south coast.

There are a number of international designations within England that have adopted a mitigation strategy, whereby any development within an agreed Zone of Influence (Zoi) that will result in a net increase in dwellings needs to provide mitigation and compensation measures (The Solent Recreation Mitigation Partnership, 2017). The Site is located within the Zoi of Solent and Southampton Water SPA and Solent Maritime SAC.

4.2 Habitats

The renovation proposals are to be retained within the properties existing footprint, with no extension proposed.

The residential property is a bungalow with an extension into the existing roof void and dormer windows protruding out from the interlocking roman clay tiles. The elevations are white rendered with wooden shiplap located on the top half of the front and rear gable ends. At the front of the property there is a uPVC conservatory and the window and door frames of the property are also made of uPVC. The dormer windows also comprise uPVC panelling and flat felt roofs. The soffits and barge boards are however wooden.

The habitat immediately surrounding the property is predominantly hardstanding of paving slabs, with manicured lawn wrapping around the north-west corner. An arboricultural survey has been undertaken of the surrounding trees and appropriate mitigation has been provided to avoid harming any trees and their root systems.

Overall, the habitats within the construction zone are assessed to be of **site value** and are not considered further in this report.

4.3 Protected Species

4.3.1 Birds

No evidence of nesting birds was recorded during the survey. The soffits are in good condition and do not provide any nesting opportunities. The only potential nesting opportunity is provided by the chimney, which are known to be favoured by species such as jackdaw *Corvus monedula*.

Overall, nesting birds are considered to be **likely absent** from the property.

4.3.2 Bats

Desk Study

HBG returned records of at least nine bat species within a 2km radius within the last 10 years. No rare species that are afforded extra protection under Annex II of the Habitats Directive have been recorded. Species recorded within a 2km radius of the Site include soprano pipistrelle *Pipistrellus pygmaeus*, noctule, common pipistrelle *P. pipistrellus*, serotine *Eptesicus serotinus*, brown long-eared bat,

Daubenton's bat *M. daubentonii*, *Myotis* species, Natterer's bat, Nathusius's pipistrelle *P. nathusii* and Whiskered/Brandt's bat.

HBG returned four confirmed bat roost locations within a 2km radius of the Site. The closest bat roost record is from 2017, of brown long-eared bat located approximately 1.1km south. There is also a common pipistrelle bat roost located approximately 1.2km north-east and a notable noctule tree maternity roost some 1.2km south and a well-documented Natterer's bat roost within Netley Abbey located 1.5km west.

Magic returned records of three European Protected Species (EPS) mitigation licence applications to facilitate the destruction/damage of resting places of common pipistrelle only. The licence applications are all more than 1km from the Site; located 1.1km north, 1.1km north-east and 1.5km east, within the residential area of Bursledon.

Internal Inspection

The property comprises three separate loft voids. The largest loft void is located above the garage, and is boarded throughout, with a permanent set of stairs leading to the void from ground floor of the garage. The garage loft is approximately 2.5m tall at the apex and is open with no trusses present but roof rafters with struts and underpurlin along the sloped sides. Bitumen felt lining is exposed behind the rafters, which was in good condition. The western gable end comprised breezeblock wall and the eastern gable comprising shiplap with closed double doors. The entire loft space was searched for evidence of bats and none was found. The only potential entry/egress feature being a slither of light emitting from the northern elevation eaves. The ground floor of the garage was also searched for evidence of bats as the staircase is fixed, and no evidence was recorded. The ground floor of the garage is very light with windows on the northern and western elevations and it is in active use as a workshop.

The southern most loft void comprises two by separate roof pitches. Similarly to the garage, the loft spaces are designed with roof rafters with struts and under purlin and the height of the loft space at the apex is approximately 2.5m. However, the loft space is notably more enclosed, with the pitch being significantly steeper than the garage and used for storage. The northern half of the loft void is boarded throughout and comprises a chimney on the northern end. The southern half of the loft is not boarded and is empty with exposed floor insulation. There are two parallel walls located between the two pitched sections of roof which create a deep crevice suitable for bats to roost. The exposed bitumen felt behind the rafters is intact but sags and therefore has potential for bats to access the roof void, if access behind the roof tiles is possible. The western gable end of the northern void is boarded by MDF and a crevice behind is evident from rodent damage around the edges. A pane of glass leaning up against the gable end and urine staining was noted, which could be from bats or rodents, although the chewed MDF above and the mouse droppings recorded within the roof space implies that the staining is more likely from mice.

The third loft space within the property is located within the north-west corner, in the form of an eaves cupboard. The cupboard is short and thin and the floor boarded. Bitumen felt lining behind the rafters is in good condition and no potential entry/egress features were recorded. However, the eaves cupboard continues along the properties front elevation, but is not accessible, evident from a hole in the wall of the accessible eave cupboard.

External Inspection

The external inspection assessed the property to be in relatively good condition, with the interlocking roman clay tiles not showing any signs of lifting and densely covered with moss. The rendered elevations are also smooth and no deep cracks present.

No potential roosting bat features were recorded on the front aspect of the property, with the garage shiplap, wooden soffits and dormer window all in good condition and offering no crevices for bat entry/egress.

Potential roosting bat features recorded to the rear and north aspect of the property are as follows:

1. Gaps where window meets ceils. Scoped out for bats as mortar visible behind and confirmed to be shallow.
2. Gap between the porch ceiling and the stone wall. Likelihood of bat utilising crevice considered low as the porch is sheltered and no evidence of bat presence such as droppings was recorded on the stone wall (photograph 28).
3. Ground floor window with deep cracks in render above, where wall meets soffit. Considered a feature of low potential (photograph 29).
4. Dormer window lead flashing is slightly raised. This is considered a low value feature as lead flashing is subjected to heat fluctuations (photograph 31).
5. Garage gable end there is a long thin gap above the window, behind the shiplap (photograph 32).
6. Garage gable end there is a gap behind the shiplap from lifting at the bottom (photograph 33).
7. Garage gable end there is missing mortar along the edge of the end tiles. The missing mortar in areas is deep and offers potential access being tiles (photograph 34).
8. On the northern aspect of the property gaps in the soffit box was recorded. These gaps are too thin for bat entry/egress along much of the length, however, there are gaps of suitable width for bats. This is considered a low suitability feature as the gap is along the outer edge of the soffit board and thus bats would not have the wall to perch on to enter the crevice and dense cobwebs were recorded in front much of the gap (photograph 36).

Note: The bullet point numbers correlate with the Target Note numbers on the Bat Roost Features Plan in Appendix 10.2.

The gaps behind the garage's shiplap have potential to provide access to an inaccessible void between the breeze block wall and shiplap, suitable for crevice dwelling species.

Potential roosting features are restricted to the target noted features and access into large areas of roof considered unlikely as the tiles are flush with high amount of moss also present, with no crevices visible. Target note features 1 to 4 and 8 are considered low value features for reasons stated above and the features of greatest value are associated with the garages western gable elevation. Overall, the building is assessed to be of **moderate suitability** for roosting bats.

Roosting Bat Survey

Roosting bat surveys were undertaken of Silver Birches in May 2022. The outcome of the surveys is provided in Table 4-1 below.

Table 4-1: Roosting bat Survey results and general bat activity recorded.

Survey Date	Emergence/re-entry Records	Recorded Bat Activity		
		Species	First Pass	Last Pass
05/05/2022				

	No emergencies or re-entries were recorded.	Common pipistrelle	20:33	22:01
		Soprano pipistrelle	20:38	22:21
		Serotine	22:04	22:19
		Activity overview: The camera and detector set-up located on the north-west corner recorded the highest amount of pipistrelle activity. The surveyor on the north-west corner saw foraging activity associated with the large tree stands immediately north of the property. Only two serotine bat registrations were recorded and soprano pipistrelle activity was slightly greater overall than common pipistrelle. Overall activity level was low to moderate.		
19/05/2022	No emergencies or re-entries were recorded.	Species	First Pass	Last Pass
		Common pipistrelle	20:43	22:43
		Soprano pipistrelle	20:51	22:44
		Serotine	21:20	22:08
		Activity overview: The surveyor on the south-east corner of the property recorded the highest amount of activity, with common pipistrelle being the most prevalent species. Soprano pipistrelle activity was however more prevalent species recorded on the north-west corner set-up. Around four serotine registrations were recorded. Activity level considered to be moderate.		

No bats were recorded emerging or re-entering the property and therefore, roosting bats are considered **likely absent**.

The bat survey recorded a total of three species of bat foraging/commuting during the surveys. The species include common pipistrelle, soprano pipistrelle and serotine bat. The serotine records are the most notable as they are considered scarce in Hampshire and are a priority species in the county (Hampshire Biodiversity Partnership, 2000).

The detector located on the southern end of the buildings western elevation consistently recorded the lowest level of bat activity and the surveyors noted that foraging was concentrated around the large trees on the northern and eastern Site boundaries. The earliest bat call was made 12 minutes after sunset on the first survey and four minutes after sunset on the second survey and both were of common pipistrelle, which does imply that a common pipistrelle roost is likely nearby. The Site is on the edge of the residential area of Netley and is directly connected to optimal woodland habitat in all four directions. Therefore, the Site is well situated for use as part of a wider foraging and commuting route for bats and the tree canopies within the north and east boundaries are of value as they aid in reducing fragmentation resulting from Hound Way and Hound Road.

5 Assessment of Effects and Mitigation/Compensation Measures

The Site is approximately 0.2ha in size with the construction zone restricted to the footprint of the existing property. Due to the nature of the proposals the only ecological features scoped in for further consideration are designated sites, bats and birds. The design of the proposed development has followed the mitigation hierarchy; firstly impacts to biodiversity have been largely avoided by retaining the proposals within the footprint of the existing property. Secondly, adverse effects have been avoided or minimised through mitigation measures and lastly, where there are significant residual adverse ecological effects despite the mitigation proposed, these have been offset by appropriate compensatory measures.

No monitoring is mentioned within this report as there are no ecological features of such significance to require monitoring during the operational phase of the development. Due to the nature of the proposals no cumulative effects are anticipated.

5.1 Designated Sites

Potential Impacts

The nearest designation is Westwood Woodland Park LNR located 960m north-west, which by the nature of the designation is open for the public and considered important for environmental education and community and thus, any increases in visits to the reserve because of development is not considered detrimental. The second nearest designations are Solent and Southampton Water SPA and Ramsar site and Lee-on-The-Solent to Itchen Estuary SSSI, which cover the same footprint approximately 1.2km west of the Site. These designations are sufficiently distanced from the Site and are not at risk of being impacted during the construction phase. The Site is located within the ZoI for recreational impacts on Solent and Southampton Water SPA and Solent Maritime SAC. However, as the proposals will not result in a net increase in dwellings, the mitigation strategies do not apply.

Mitigation measures

Natural England's SSSI Impact Risk Zones (SSSI IRZs) identifies specific criteria that determine the potential for certain developments to impact SSSIs within a given area. The Site is within the Lee-on-The-Solent to Itchen Estuary SSSI IRZ which requires development within existing residential areas of 500 units or more consult Natural England. As the development will not in an increase in residential units, no further consultation is required.

Significance of Residual Effects

Due to the nature of the proposals, **no significant effect** on designated sites is anticipated.

5.2 Protected Species

5.2.1 Birds

Potential Impacts

The likelihood of nesting birds is considered very low, however, there is minor potential for nesting to occur within the chimney. If nesting activity occurs during renovation works, there is a risk of the nest being disturbed/destroyed.

Mitigation Measures

If birds are identified to be actively nesting on the chimney an Ecologist is to be contacted immediately to provide further advice to avoid committing a wildlife offence.

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **non-significant negative effect**. The chimney is to be retained as part of the development and therefore, no compensation for the loss of a suitable nesting feature is necessary.

5.2.2 Bats

Potential Impacts

Due to the nature of the development and the results of the dusk emergence surveys, no impacts on roosting bats is anticipated. The surveys identified bat activity to be associated with mature trees within the north and east boundaries. The proposals will be retaining the trees on-site and no loss of foraging/commuting habitat will occur. No bat species recorded are considered relatively “tolerant” to light pollution, however, increases in light pollution could impact activity within the Site boundary.

Mitigation measures

Light pollution is detrimental to bats, as well as other wildlife and therefore, is to be avoided where feasible. Where lighting is required there are mitigation options for both external and internal luminaires to reduce luminance (brightness) and illuminance (light spill), as follows:

External lighting mitigation options:

- Luminaires deemed necessary for security are to be directed away from the mature trees on the north and east boundaries of the Site.
- Avoid white light and warm colour is recommended. Preferable colours are 3000°k to 2700°k (where feasible) with peak wavelengths greater than 550nm;
- 0% upward light output and no tilting of the light head;
- Change luminaire to one with more suitable luminous intensity distribution;
- Consideration of column heights to reduce light spill;
- Motion sensors for security lighting;
- As a last resort, the incorporation of shields, baffles and cowls fitted to the luminaires;

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **non-significant negative effect**. Compensation measures for the loss of potential roosting features are provided in Section 6.

6 Compensation

The development is inherently of low impact to flora and fauna because of the small scale and nature of the proposals.

6.1.1 Bats

Compensation Measures

The renovation of the property is not anticipated to result in the loss of any bat roosts. However, it will result in the loss of a potential roosting features. This impact is considered short-term as it is likely that the proposed property will provide roosting bat opportunities as it weathers over time.

The short-term loss of potential roosting bat features can be compensated for via installation of woodcrete bat boxes (wood and concrete mix) which has a longer lifespan than traditional wooden boxes, at least 4m high on one of the mature trees on the north or east boundary within the Site.

Significance of Residual Effects

Provided the compensation measures are followed the development is anticipated to result in a **non-significant positive effect**.

7 Enhancements

The proposals are not anticipated to have a negative impact on overall biodiversity. However, there are opportunities to provide enhancements via:

- When considering landscaping around the property, planting is to avoid species that are toxic to bees, such as *Rhododendrum* spp. Consideration can also be given to providing all-year round food source for pollinators, as warmer winters are disturbing hibernating patterns of insects. The Royal Horticultural Society provide an extensive list of pollinator plants that flower by season (Royal Horticultural Society, 2015).
- The planting of berry producing shrubs within the garden for birds to feed will provide an enhancement. Suitable shrubs include holly *Ilex aquifolium*, hawthorn *Crataegus monogyna*, honeysuckle *Lonicera periclymenum*, rowan *Sorbus aucuparia*, guelder rose *Viburnum opulus*, berberis, yew *Taxus baccata*, crab apple *Malus domestica*, dogwood *Cornus sanguinea* and spindle *Euonymus europaeus*.
- The installation of additional roosting bat features in the form of WoodStone (durable wood and concrete mix) bat boxes on suitably sized trees on-site.
- The installation of bird boxes on suitably sized trees on-site. It is advised that nest boxes are made from woodcrete (wood and concrete mix) which has a longer lifespan than traditional wooden boxes and are installed at least 3m high facing east or north.

8 Conclusions

The Site is approximately 0.2ha in size with the construction zone restricted to the footprint of the existing property. Due to the nature of the proposals the only ecological features scoped in for further consideration are bats and birds.

No evidence of roosting bats or nesting birds was recorded during the Preliminary bat Roost Assessment and dusk emergence surveys. Mitigation measures have been provided to ensure no delays arise because of potential future occupation by nesting birds. In accordance with current bat mitigation guidelines the bat surveys are valid for one year.

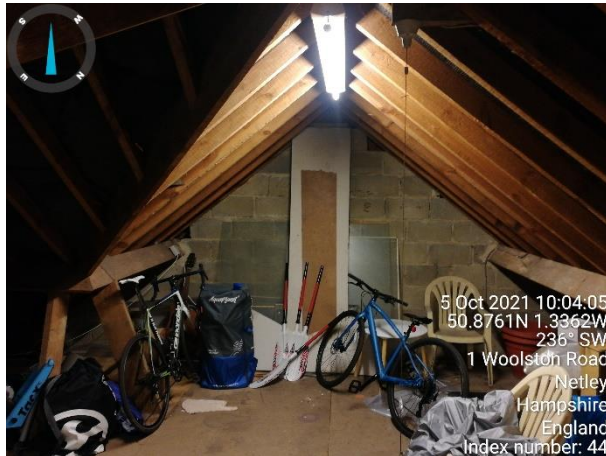
This EclA report is suitable to support a planning application. Compensation and enhancement recommendations are provided in this report with the aim of achieving a new gain in biodiversity in accordance with the National Planning Policy Framework and Local Policy 26.NC.

9 References

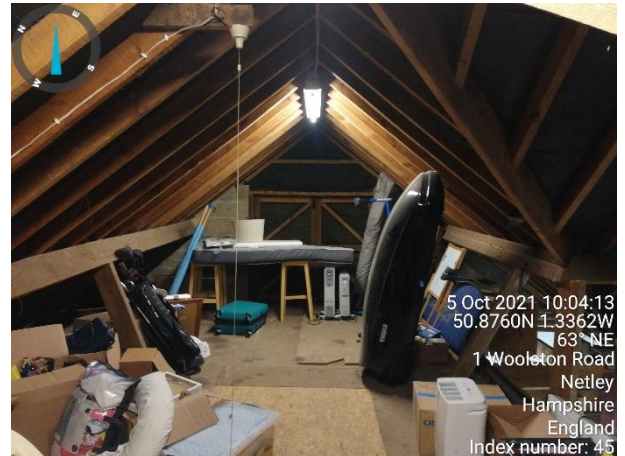
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10 APPENDICES

10.1 Photographs



Photograph 1: Loft above garage looking at west gable end.



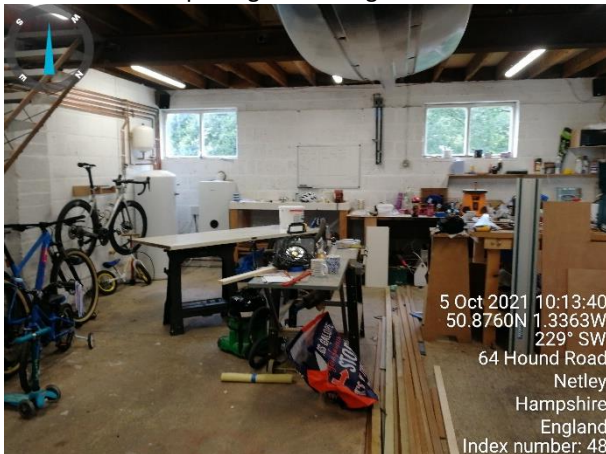
Photograph 2: Loft above garage looking at east gable end.



Photograph 3: Eaves on the northern length of garage loft with thin strip of light emitting.



Photograph 4: View of ground floor of garage with two single garage doors.



Photograph 5: View of ground floor of garage, which is well lit and stairs to loft visible to left.



Photograph 6: Loft space within southern aspect of house and a pane of glass with urine staining present. Thought likely from rodents due to chewed MDF board above.



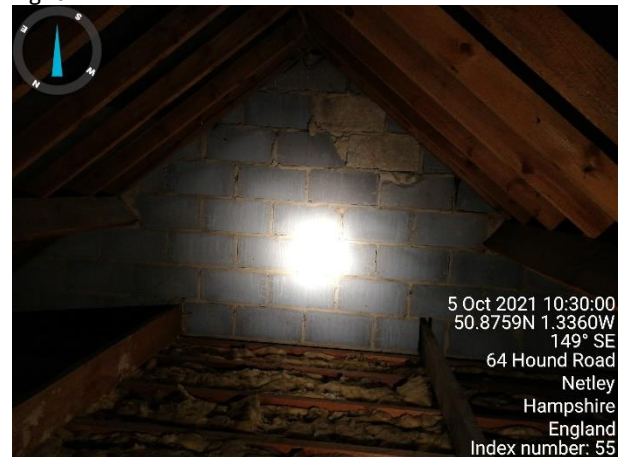
Photograph 7: View of the southern loft void with rafters and struts and bitumen felt lining.



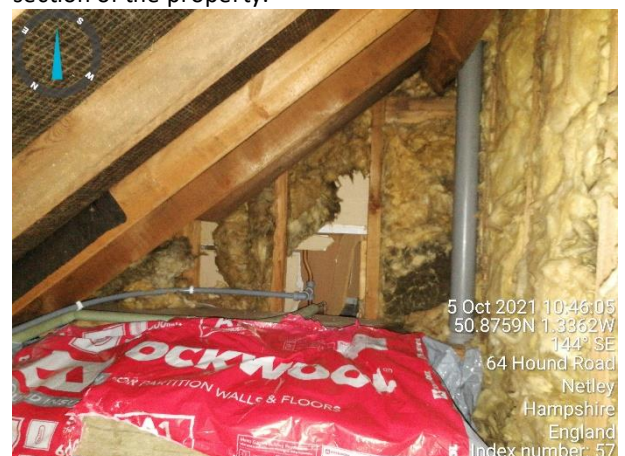
Photograph 8: View of southern loft with chimney to right.



Photograph 9: Continuation of the loft behind the chimney.



Photograph 10: Southern end of the loft, which is an additional loft space located above the single storey section of the property.



Photograph 11: Large cavity located between the two separate sections of roof void.



Photograph 13: View of the front of the property and driveway.



Photograph 15: View of the southern end of the properties front, including dormer window.



Photograph 17: View of the intact rendering behind the bottom run of shiplap at the front gable end of garage.

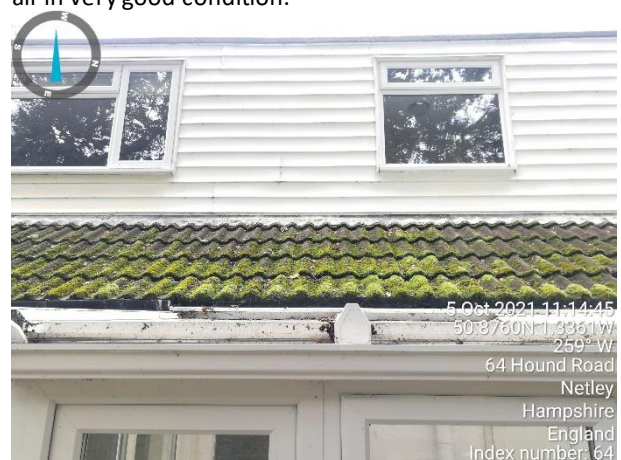
Photograph 12: View of the interior of a small eaves cupboard located on the north-west corner of the property.



Photograph 14: View of the northern end of the properties front.



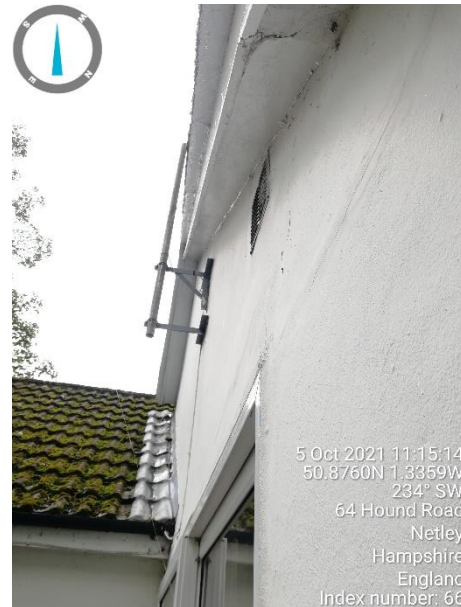
Photograph 16: View of shiplap garage at the front (east) gable end with double shiplap doors and wooden soffits all in very good condition.



Photograph 18: View of moss-covered tiled roof and dormer window with lead flashing flush to tiles.



Photograph 19: View of the wooden soffit along the front of the property in good condition.



Photograph 20: View of the southern gable end with rendered walls and wooden soffit in good condition.



Photograph 21: View of single storey section located on the southern end with a moss-covered tiled roof.



Photograph 22: View of the wooden soffits on the single storey section of property.



Photograph 23: View of the rendered rear section of property and patio to the left.



Photograph 24: View of wooden soffit on the southern end of the rear (west) elevation, in good condition.



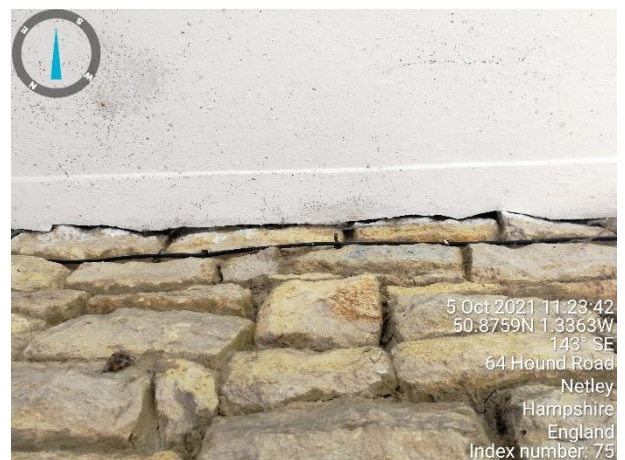
Photograph 25: View of the shiplap gable end with wooden soffit box in good condition located on the rear of the property.



Photograph 26: View of shiplap gable end to the rear of the property with rendered and stone facing.



Photograph 27: View of the dormer window to the rear of the property.



Photograph 28: View of a gap between the ceiling of the open porch to the rear and the stone wall.



Photograph 29: View of PVC window to the rear with a crack above located just under the soffit.



Photograph 30: View of the chimney and porch to the rear of the property.



Photograph 31: View of some lifting in the lead flashing below the dormer on the rear of the property.



Photograph 32: View of a gap from missing render behind the shiplap located on the garages western gable end.



Photograph 33: View of lifting on the bottom of shiplap located on the garages western gable end.



Photograph 34: View of garages western gable end and missing mortar along the edge of the end tiles.



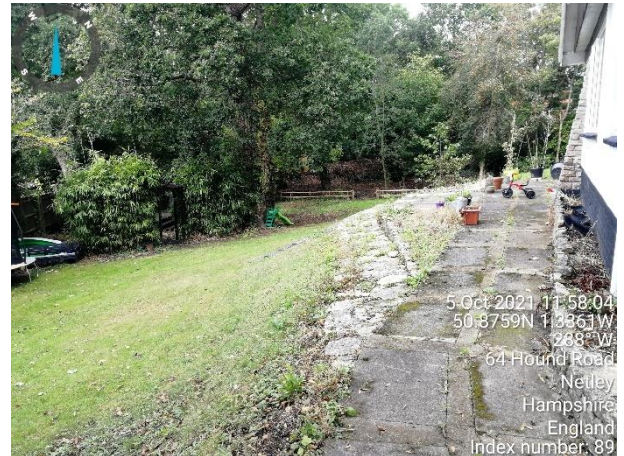
Photograph 35: View of the rear of the property looking north-east.



Photograph 36: View of the soffit along the northern elevation of the garage with gaps between the fascia and soffit board.



Photograph 37: View of the northern aspect of the garage.



Photograph 38: View of the paved patio and lawn located immediately west of the property.



Photograph 39: View of the lawn to the rear of the property and continues round to the northern aspect.



Photograph 40: View of the terraced patio to the south of the property.



Photograph 41: NVA view of the west elevation at the end of the 1st dusk emergency survey



Photograph 42: NVA view of the east elevation at the end of the 1st dusk emergency survey



Photograph 43: NVA view of the north and west elevation at the end of the 1st dusk emergency survey



Photograph 44: NVA view of the west and north elevation at the end of the 2nd dusk emergency survey



Photograph 45: NVA view of the west elevation at the end of the 2nd dusk emergency survey



Photograph 46: NVA view of the east elevation at the end of the 2nd dusk emergency survey

10.2 Bat Roosting Features Plan



10.3 Bat Surveyor & Equipment Plan

