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Ecological Impact Assessment:

James Stiff Cottages, Rougham, Suffolk IP30 9LL

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Client	The Havebury Housing Partnership
Site address	James Stiff Cottages, Rougham, Suffolk IP30 9LL
Survey scope	Ecological Impact Assessment
Survey date(s)	09/10/2020, 13/07/2021, 03/08/2021
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Declaration of Compliance

This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct and British Standard Institution's BS 42020:2013 Biodiversity – Code of practice for planning and development. We confirm that the opinions expressed within this document are our bona fide professional opinions.

The information which is being provided is a true representation of the survey methods used and the results assembled, with respect to the stated dates of survey and assessment. The future validity of this report is conditional on any changes which occur to the assessment site, and in any case will be limited by professionally accepted survey lifespans[1,2].

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[1] https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf

[2] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London. Section 2.6.16-20

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1. Non-Technical Summary

Norfolk Wildlife Services was commissioned to assess the potential impacts of a proposed site redevelopment at the James Stiff Cottages, off Almshouse Road, Rougham IP30 9LL. The development proposal is to retain but refurbish all of the cottages, and to expand the car parking area.

The survey area was inspected on 09/10/2020 by Seth Lambiase MCIEEM (Natural England bat survey class licence registration #s 2015-11812-CLS-CLS and 2015-11813-CLS-CLS, great crested newts survey class licence registration # 2015-19173-CLS-CLS). Dusk bat roost emergence surveys of the cottages were completed on 13/07/2021, 03/08/2021 and 05/09/2023.

The James Stiff Cottages are row of brick dwellings, with the original single-storey almshouses at the eastern end built in 1876, plus later (20th century) western additions. The almshouses are the units to be refurbished and the newer units are the ones to be demolished and replaced. The cottages have most recently functioned as retirement housing. At the time of the initial survey, nine of the 14 dwellings where unoccupied/void. There is a walkway and car parking spaces to the front (south) of Cottages 5-14. Simple grass gardens are present to the rear of all the cottages and in the fronts of Cottages 1-4.

The proposed development presents no credible risk of impacts to any statutory or non-statutory designated nature conservation site.

The proposal site primarily comprises built structures and gardens, which are expected to experience a neutral impact. There will be a minor amount of land take to expand the car parking area, which would have a minor negative and not significant impact on the local abundance of other neutral grassland. Nevertheless, mitigation is proposed via soft landscaping.

The proposed refurbishment works may, depending on the need for roof replacement, cause a minor negative roost displacement impact on the local common pipistrelle population. Mitigation would be by proceeding under the terms of a bat mitigation licence, and bat roost compensation (or enhancement) will be by providing two new bat boxes.

There is a possibility of impacts to hedgehogs during the construction phase of the development, which will be mitigated by applying precautionary working methods.

Possible minor and temporary impacts on nesting birds are to be mitigated by sensitively timing any exterior work and vegetation clearance, or by an inspection prior to starting works to confirm active nest absence.

There are no predicted impacts for reptiles or amphibians including great crested newts.

A minor but proportionate wildlife enhancement for the new development is recommended in the form of three sparrow nest boxes. If the refurbishment works are able to retain the observed bat roost, then two new bat boxes provided will be an enhancement.

2. Introduction

2.1. Description of the project

Norfolk Wildlife Services was commissioned to assess the potential impacts of a proposed site redevelopment at the James Stiff Cottages, off Almshouse Road, Rougham IP30 9LL (grid reference TL 906623 and see Figure 1).

The development proposal is to retain but refurbish all of the cottages, and to expand the car parking area.

2.2. Purpose

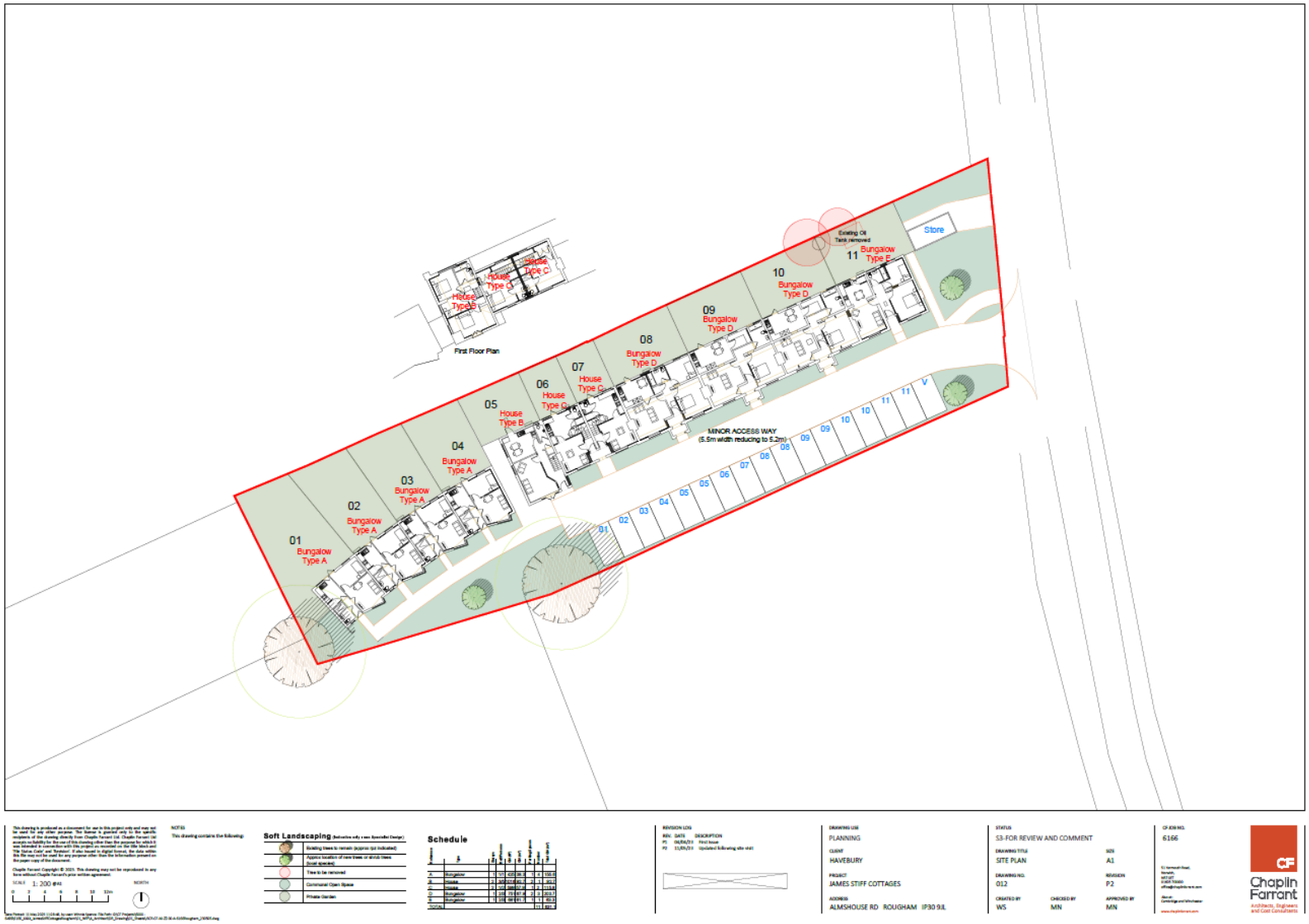
The purpose of this ecological impact assessment report is to:

- Describe the ecological baseline of the survey area.
- Evaluate the habitats within the survey area for their ecological value in a geographic context.
- Identify and describe all potentially significant ecological effects as a result of the proposal (e.g. impacts to protected species).
- Outline appropriate avoidance or mitigation measures for significant effects as a result of the proposal and how these could be secured.
- Clearly identify requirements to ensure compliance with nature conservation legislation.
- Identify potential ecological enhancement measures beyond avoidance or mitigation.
- Set out any requirement for post-development monitoring.

Figure 1: James Stiff Cottages location

Figure 2: Site as existing

Figure 3: Development site proposed plans



3. Methods

3.1. Zone of Influence

The Zone of influence (ZoI) is defined by the CIEEM Guidelines for Ecological Impact Assessment[3] as: *"The areas/resources that may be affected by the biophysical changes caused by activities associated with a project".*

The ZoI for this project considers multiple areas for the potential changes to ecological features as a result of the proposed development. The extents of these areas are:

- Within the application site boundaries (as per Figure 3) and immediately adjacent habitats for direct impacts to valued ecological features (e.g. habitats and protected species).
- Within a 2km radius of a central grid reference (TG 2340 0423) for designated nature conservation sites which may be indirectly impacted as a result of the proposed development.
- Within 250m of the proposed development site for water-bodies (potential amphibian breeding sites).

3.2. Desktop study

A detailed desktop study was made of the survey area using the search criteria and sources described in the Table 1 below. A local biological records search with the Suffolk Biodiversity Information Service was returned on 24/09/2021.

Table 1: Desktop study searches

Search	Sources
A 2km search radius for designated sites and features of interest	Natural England Magic Map Application (www.magic.gov.uk) Suffolk Biodiversity Information Service LPA Planning Search Tool (https://www.planningfinder.co.uk/)
A 2km radius for significant records of protected and priority species and European Protected Species mitigation licences	Natural England Magic Map Application (www.magic.gov.uk) Suffolk Biodiversity Information Service
A 250m radius for extant waterbodies	Natural England Magic Map Application (www.magic.gov.uk) Google Earth Pro Ordnance Survey maps (1:10,000)

3.3. Field surveys and establishment of baseline ecological conditions

The survey area was inspected on 09/10/2020 by Seth Lambiase MCIEEM (Natural England bat survey class licence registration #s 2015-11812-CLS-CLS and 2015-11813-CLS-CLS, great crested newts survey class licence registration # 2015-19173-CLS-CLS).

Photographs of the cottages are referenced within the Results section and are shown in Appendix 2.

[3] 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

3.3.1. Habitats

A basic Phase 1 habitat assessment was completed based on JNCC 2010[4] methods, which has been updated to match UK Habitat Classification[5] definitions and codes.

3.3.2. Species

Mammals

The proposed development area and its adjacent surrounds was evaluated for its potential value for protected (or otherwise conservation concern) mammal species, particularly roosting bats.

On 09/10/2020, a torch and ladder were used to investigate all accessible loft spaces for bat roosting potential and for any actual evidence of bat use (droppings and feeding remains).

Dusk bat roost emergence surveys of the cottages were completed on 13/07/2021, 03/08/2021 and 05/09/2023. The surveyors and equipment used are detailed below in Table 2 and surveyor locations are shown in Figure 3.

Table 2: Bat activity survey details

Date	Target buildings	Surveyors	Equipment
13/07/2021	Cottages 1 – 14	Seth Lambiase (SL) MCIEEM; Natural England bat survey class licence 2015-11812/13-CLS-CLS John Harris MCIEEM (JH); Natural England bat survey class licence 2015-13039-CLS-CLS Ben Christie (BC) MCIEEM; Natural England bat survey class licence 2019-43514-CLS-CLS Mick Finnemore (MF); Natural England bat survey class licence 2015-10713-CLS-CLS and 2015-10714-CLS-CLS Duncan Sweeting (DS); Natural England bat survey class licensed Alex Gregory (AG)	Surveyors used Wildlife Acoustics Echo Meter Touch 2 Pro bat detectors. Assisted by assisted by a recording FLIR Scion OTM266 thermal monocular and a DVC Professional Video Camera HDV-301STRM infra-red camera (with infra-red lamp), both paired with Wildlife Acoustics SM4BAT ZC bat detectors.
03/08/2021	Two-storey Cottages 5, 6 and 7	Ben Christie (BC) MCIEEM; Natural England bat survey class licence 2019-43514-CLS-CLS Mick Finnemore (MF); Natural England bat survey class licence 2015-10713-CLS-CLS and 2015-10714-CLS-CLS Lucy Llewellyn (LL)	Surveyors used Wildlife Acoustics Echo Meter Touch 2 Pro bat detectors.

[4] Joint Nature Conservation Committee (2010) Handbook for Phase 1 habitat survey – a technique for environmental audit. JNCC, Peterborough, UK.

[5] https://ukhab.org

05/09/2023	Cottages 1 – 14	Seth Lambiase (SL) MCIEEM; Natural England bat survey class licence 2015-11812/13-CLS-CLS Ben Christie (BC) MCIEEM; Natural England bat survey class licence 2019-43514-CLS-CLS John Harris MCIEEM (JH); Natural England bat survey class licence 2015-13039-CLS-CLS Ben Moore (BM) ACIEEM; Natural England bat survey class licence 2019-39352-CLS-CLS Lucy Llewellyn (LL)	Surveyors used Wildlife Acoustics Echo Meter Touch 2 Pro bat detectors. Assisted by assisted by two HikMicro Lynx Pro LH15 thermal monoculars paired with a Wildlife Acoustics SM Mini Bat detectors.

Birds

An assessment was made of the features likely to support breeding birds within the survey area.

Reptiles

An assessment was made of the features likely to support reptiles within the survey area.

Amphibians

A desktop search for ponds within 250m of the survey area was conducted using the Natural England Magic Map Application (https://magic.defra.gov.uk/) and Google Earth Pro, and an assessment was made of the features likely to support great crested newts within the survey area.

3.4. Assessment of impact potential / risk

Potential impacts on ecological features are characterized using the following criteria.

Positive or Negative

The definition of a positive or negative impact/effect is as per CIEEM[6]:

- "*Positive – a change that improves the quality of the environment e.g. by increasing species diversity, extending habitat or improving water quality. This may also include halting or slowing an existing decline in the quality of the environment.*
- *Negative – a change which reduces the quality of the environment e.g. destruction of habitat, removal of foraging habitat, habitat fragmentation, pollution*."

Spatial Extent

The spatial extent of an impact's predicted effects is estimated according to the following categories: international and European; national; regional / river basin district; county; local planning authority district; local (≈ parish); site (within the proposed development boundaries).

Magnitude

- *Major* – an impact which is predicted to have a crucial effect (positive or negative) on a designated conservation site, habitat or species population within a specified spatial extent. Normally the effect will be considered either long-term (potentially reversible) or permanent.

[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.

- *Moderate* – an impact which is predicted to have a modest effect (positive or negative) on a designated conservation site, habitat or species population within a specified spatial extent. Normally the effect will be considered temporary in either the short- or medium-term, and to be reversible.
- *Minor* – an impact which is predicted to result in a slight but unimportant effect (positive or negative) on a designated conservation site, habitat or species population within a specified spatial extent. Normally the effect will be considered to be short-term and reversible.
- *Neutral* – a 'non-impact', with no appreciable effects on a designated conservation site, habitat or species population.

Duration

The duration of an impact's predicted effect may be quantified, or else broadly defined as either short-term, medium-term, long-term or permanent.

4. Results

4.1. Local context

The James Stiff Cottage are located midway between the villages of Blackthorpe to the north and Rougham Green to the south (see Figure 1). The landscape is a mix of arable and grassland, plus small to moderate-sized woodlands. The field boundaries are largely defined by hedgerows with trees. There is a shelterbelt of mature broadleaved woodland immediately to the west of the cottages.

There are two waterbodies within 250m; the nearest is 130m east of the proposal site entrance off Almshouse Road, and the other is (based on OS map) 210m north-east within Brick Kiln Plantation (see Figure 1).

4.2. Desktop study results

There are no statutory designated nature conservation sites within 2km, which is considered the relevant distance given the small size of the development proposal. There are five non-statutory designated nature conservation sites within 2km, all woodlands that are County Wildlife Sites and Ancient Woodlands (see map in Figure 4). The nearest is the Elderstubb Wood CWS, 0.7km west of the James Stiff Cottages.

Species records from SBIS that are considered relevant to the nature of the proposal are summarised in Table 3.

Table 3: Desktop search results – species

Species	Record summary	Dates	Comments
Badger	9 records	2001-2019	None from woodland adjacent to James Stiff Cottages.
Bats – multiple species	26 records	2004-2019	No roost records from the James Stiff Cottages.
Hedgehog	22 records	2005-2017	-
Reptiles	4 grass snake records	2005-2006	-
Amphibians	9 great crested newt records; 1 common toad record	2007-2019	8 of the great crested newt records are from the Rougham Green area; the coordinate given for the 9th is nearer Blackthorpe in the middle of an arable field with no ponds.

4.3. Field survey results

4.3.1. Habitats

The James Stiff Cottages are row of brick dwellings (*buildings, u1b5*). The original single-storey almshouses at the eastern end were built in 1876, the western cottages are later (20th century) additions. The cottages have most recently functioned as retirement housing. At the time of the 2020 and 2021 surveys, nine of the 14 dwellings where unoccupied/void. The almshouses are the units to be refurbished and the newer units are the ones to be demolished and replaced.

There is a walkway and car parking spaces (*developed land – sealed surface, u1b*) to the front (south) of Cottages 5-14. Simple grass gardens (*modified grassland, g4, 107, 827*) are present to the rear of all the cottages and in the fronts of Cottages 1-4.

The southern and northern borders of the property have lengths of low timber fencing (*612*) with narrow strips of ruderal vegetation (*other neutral grassland, g3c, 16*) behind them.

4.3.2. Species

Mammals

Four conjoined units (Cottages 1-4) are at the west end of the site (see Figure 2). These are brick bungalows in good condition and with tightly fit concrete-tile roofs (see Photos 5 and 7 as representative examples). Cottage 2 was accessed for inspection of the roof space, which was found to be cobwebbed and completely lacking in any bat evidence. The bat roost potential of Cottages 1-4 was rated as 'low' as per the Bat Conservation Trust's (BCT) professional survey guidelines[7]; i.e. having potential for use by individual bats opportunistically (specifically common pipistrelle and/or soprano pipistrelle).

Cottages 5, 6 and 7 are two-storey structures roughly in the middle of the row of cottages. These cottages are also brick with concrete-tile roofs, but also collectively have three dormers with PVC cladding (Photos 4 and 6). The roof space of Cottage 5 was inspected, finding it to be cobwebbed and completely lacking in any bat evidence. Cottage 6 does not have a roof space. These units are also in very good condition with tightly fit external materials, but given the additional soffits and dormers they were rated with 'moderate' bat roost potential as per BCT guidelines.

Cottages 8-14 are brick bungalows in good condition and with tightly fit concrete-tile roofs (see Photos 1-3). The roof spaces of Cottages 9, 10, 12, 13 and 14 were inspected, finding them all to be cobwebbed and completely lacking in any bat evidence. These units are in very good condition with tightly fit external materials, and so their bat roost potential was rated as 'low' as per BCT guidelines.

The outbuilding close to Almshouse Road (Photo 8) has a flat roof which is tightly sealed around the edges and was rated as having 'negligible' bat roost potential.

The badger potential of the site is negligible. Transient hedgehogs passing through the cottage gardens are possible, but the gardens lack any refuges that could attract sustained use.

<u>13/07/2021 bat activity survey</u>

The first dusk emergence survey was completed in acceptable conditions – 30% cloud cover, no precipitation, mostly calm with occasional light winds (BWFS 0-1) and temperatures from 19-16°C. The survey started at 21:00 and ended at 22:30 (sunset 21:14).

No bat roost emergences were observed. The first bat (soprano pipistrelle) was detected at 21:24 by the surveyors at the southwest end of the site, but never observed. From 21:35, common pipistrelle activity by up to two bats was observed back and forth through the site south of the cottages, and at 22:14 a noctule was detected passing overhead. All of the cottages have first-floor external lighting by the doorways which switched on at sunset, and there is streetlamp at the east end of the carpark.

<u>03/08/2021 bat activity survey</u>

The second dusk emergence survey was completed in acceptable conditions – 30% cloud cover, no precipitation, light winds (BWFS 1-2) and temperatures from 17-14°C. The survey started at 20:30 and ended at 21:55 (sunset 20:45).

A low level of common pipistrelle activity was recorded during the survey. No roost emergences observed.

[7] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London

The first bat observed (not detected) was a pipistrelle commuting along the back of the cottages towards the shelterbelt at 21:15. Some moderate activity by 1-2 common pipistrelles and one soprano pipistrelle was all that was recorded through the rest of the survey.

05/09/2023 bat activity survey

The third (update) dusk emergence survey was completed in acceptable conditions: 0% cloud cover, no precipitation, winds at Beaufort Wind Force Scale 0 and temperatures at 23 – 20°C. The survey started at 19:20 and ended at 21:00 (sunset 19:36).

The site survey again observed low activity by common pipistrelle and soprano pipistrelle. However, this time BM (and the HikMicro camera) recorded the emergence of a common pipistrelle at 19:52 from a roost under lead flashing around the base of the chimney of Cottage 7 (see Figure 6 and Photo 11).

Birds

No signs of nesting birds were ever noted within the proposal site, but some nesting by very small numbers of garden-variety species is at least conceivable.

Reptiles

The proposal site has negligible reptile potential.

Amphibians

The SBIS data search returned nine records of great crested newts within 2km. The nearest records were three from the same pond approximately 350m south-west of the James Stiff Cottages. The pond 130m east of the cottages has only a 2020 record for smooth newt, suggesting there has been a survey effort there and it did not find great crested newts.

The nearest great crested newt presence record on Magic Map is at Nowton Park, 3.8km west of James Stiff Cottages.

The existing amphibian refuge potential of the proposal site is rated as negligible.

4.4. Limitations

Internal access to the James Stiff Cottages was initially constrained by Covid-19 precautions taken to avoid exposing the vulnerable elderly residents still occupying certain of the units. Only the unoccupied cottages had their roof spaces inspected. However, the consistency of the solid construction and good condition of the cottages, and the lack of any bat evidence (and just the overall cleanness) of the roof spaces in the seven units inspected strongly suggested that the cottage roof voids as a whole are probably not accessible or not of roosting interest. Furthermore, the limitation of inspection access was addressed by completing at least two dusk emergence surveys of all of the cottages.

Dense tree canopies overhanging the west end of the Cottage 1 meant that portion of the buildings could not be effectively surveyed by emergence survey. That said, Cottages 1-4 were rated with low bat roost potential and an area of roof with close overhanging tree cover is an unlikely bat roost location.

4.5. Further survey recommendations

The bat roost survey results should be regarded as valid at least until the start of the next optimum bat survey season on 1st May 2024.[8]

[8] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London. Section 2.6.16-20

Figure 4: Map of nearby designated nature conservation sites

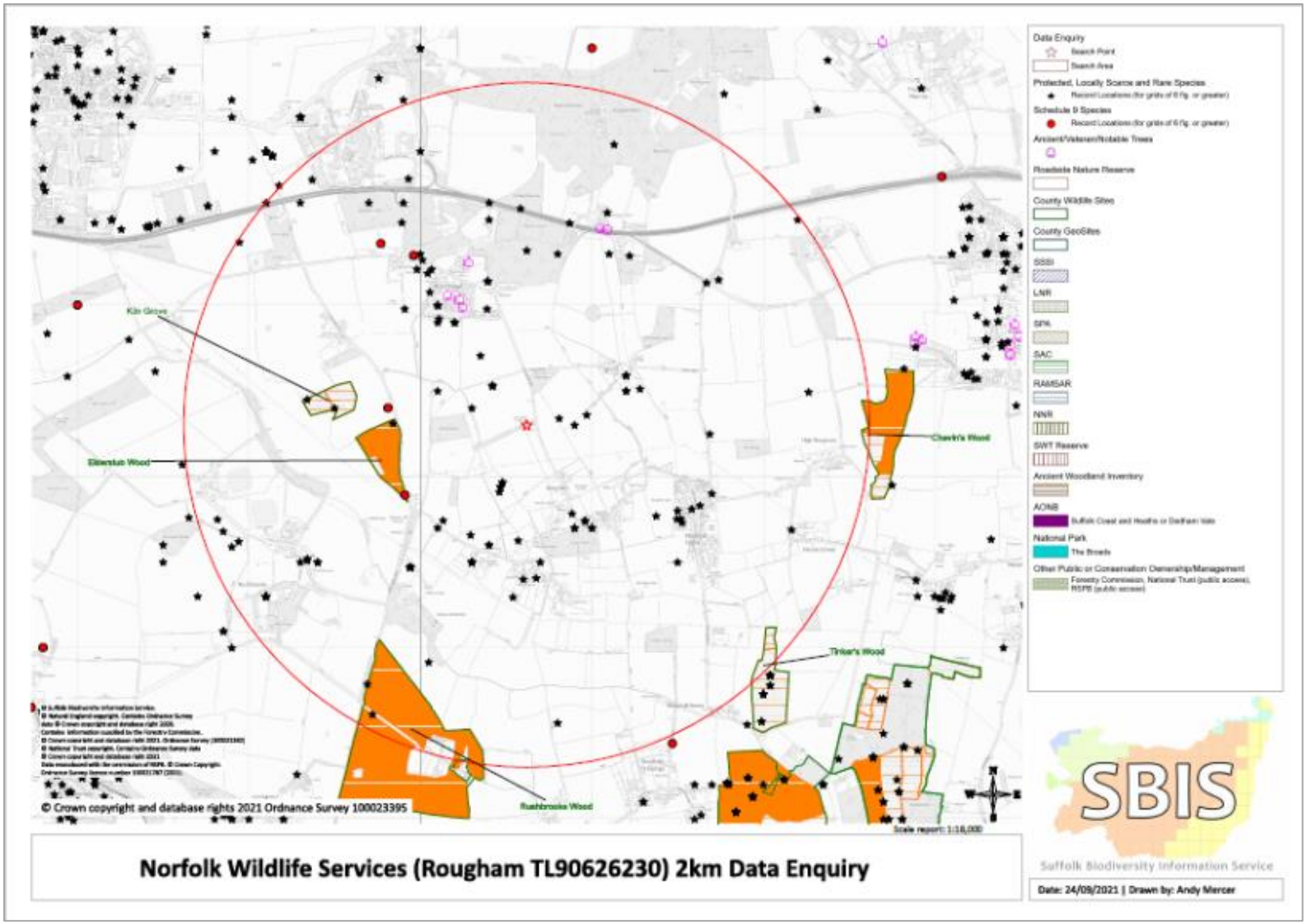


Figure 5: Bat roost emergence survey results for 13/07/2021 and 03/08/2021

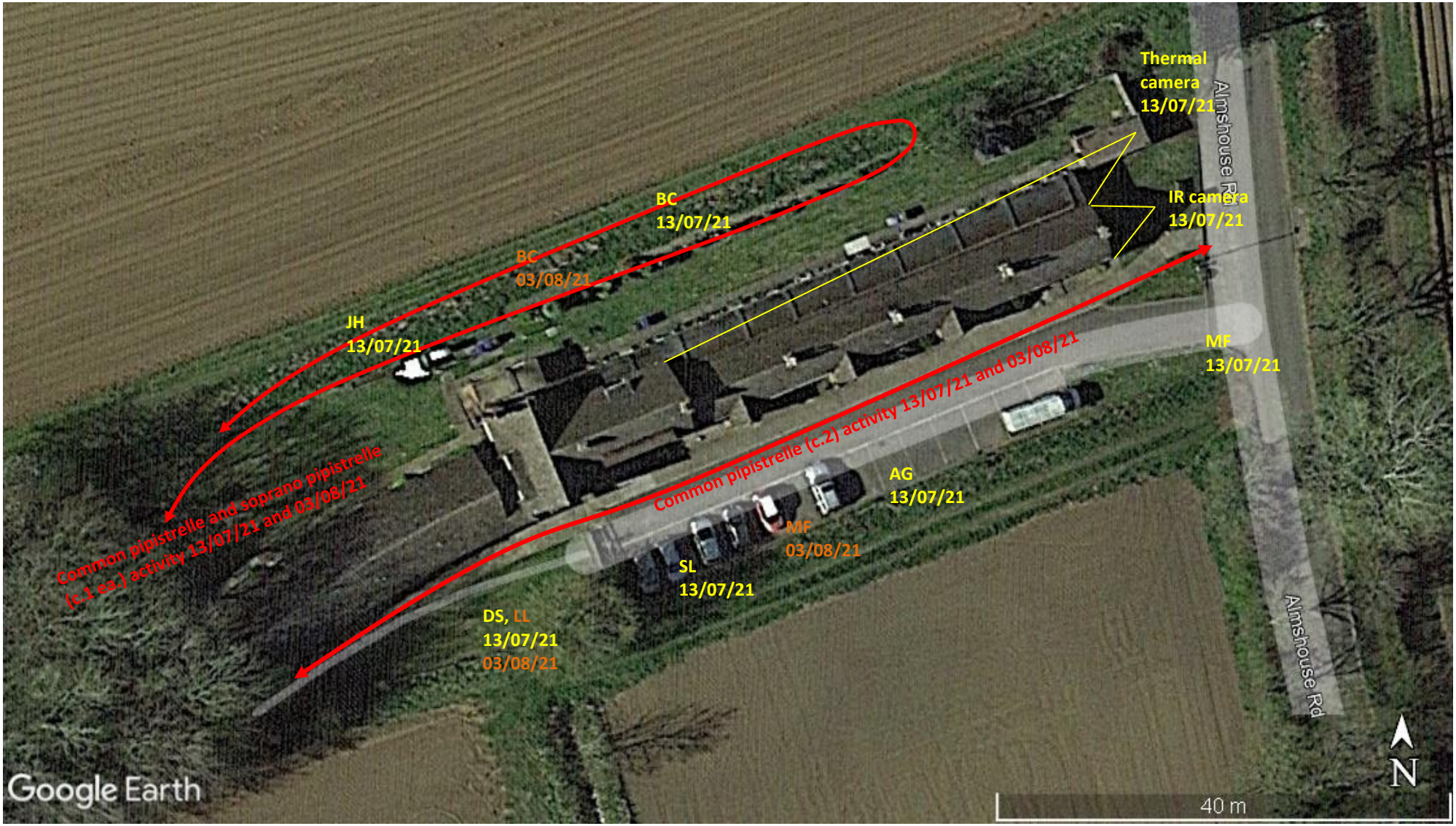


Figure 6: Bat roost emergence survey results for 05/09/2023

5. Ecological Impact Risk Assessment

5.1. Potential impacts

5.1.1. Designated nature conservation sites

The proposed development (refurbishment of existing dwellings and car park expansion) presents no credible risk of impacts to any statutory or non-statutory designated nature conservation site. A *neutral* impact on all designated nature conservation sites is predicted for the construction and occupation of the new residences.

5.1.2. Habitats

The proposal site primarily comprises built structures and gardens, which are expected to experience a *neutral* impact. There will be a minor amount of land take to expand the car parking area, which would have a *minor negative* and not significant impact on the local abundance of other neutral grassland.

5.1.3. Protected species

Mammals

The development is predicted to have a *minor negative* impact on the local common pipistrelle population by way of the displacement of an occasional day roost.

There is a measure of bat commuting and foraging use of the cottages location, mainly by common pipistrelles but to a lesser extent also by soprano pipistrelles. The James Stiff Cottages site is in a linkage position between the shelterbelt woodland to the west and the hedgerow with trees along Almshouse Road (as well as another field boundary with trees running south of the cottages). There is a potential for a *minor negative* habitat connectivity impact on local bat populations if the new development were to add an insensitive lighting scheme in excess of the lighting that is already present.

There is a potential for *minor negative* impacts on a local hedgehog population by way of accidents occurring to transient hedgehogs during the site construction, but the long-term impact on hedgehogs from the new residences is expected to be *neutral*. Mitigation is advised.

Birds

The proposal site has very minor bird nesting potential. Exterior works to the cottages within the main breeding season (March to end August) could conceivably result in active nest disturbance and/or destruction. The result could be *minor negative* impacts affecting the site populations of common species. Mitigation is advised.

Reptiles

A *neutral* impact on reptiles is expected.

Amphibians

The James Stiff Cottages site is well separated from the nearest ponds and offers poor terrestrial habitat for amphibians. A *neutral* impact on great crested newts and common toads is predicted for the demolition and construction phases of the proposed development.

5.2. Cumulative effects

The James Stiff Cottage site is quite isolated from other developable areas, and itself presents only a risk of minor negative impacts to certain ecological receptors. No significant cumulative impacts are predicted.

5.3. Mitigation measures

5.3.1. Habitats

Landscape planting for the development site is to use native tree and shrub species.

5.3.2. Bats

A European Protected Species mitigation licence for bats would be required for the development to lawfully proceed if the proposed refurbishment works require a roof replacement for Cottage 7. Cottage 7 is the only dwelling where a bat roost was identified.

A mitigation licence derogating from the legal protection afforded to roosting bats by the Conservation of Habitats and Species Regulations 2017 (as amended) can only be granted in cases where the activity meets the following three tests.

1. Overriding public interest

The overriding public interest of the proposed development project is derived from its updating older dwellings to modern amenity and energy efficiency standard. The cost would be a negative ecological impact which is rated as being of a very minor magnitude at a local population level, and which would be amenable to effective mitigation and compensation.

2. There is no satisfactory alternative

The proposal is to convert an existing redundant barn into five new dwellings. The alternatives to the proposed works are:

a) Do nothing and leave Cottage 7 as it is. This would leave Cottage 7 in a condition out of step with the other refurbished cottages, and in a state offering sub-optimal amenity and energy efficiency.

b) Undertake the works but avoid the bat roost entirely. This option would provide the benefit of improving Cottage 7 while also not impacting the discovered bat roost. This option will be taken if the roof condition of Cottage 7 is judged as acceptable at the time of the works.

c) Undertake the works under the conditions of a mitigation licence. This option would provide the benefit of improving Cottage 7, but there would be a minor negative impact on the local population of common pipistrelle. Proper mitigation and compensation should make the impact temporary.

A cost vs. benefit analysis considering public interest and bat conservation status concludes that options b) and c) are both reasonable alternatives.

3. The resulting permitted actions will not be detrimental to the maintenance of the populations of the species concerned at a favourable conservation status within their natural range

The bat roosting use of James Stiff Cottages has been observed to be both occasional and minimal, and was restricted to a single relatively common species. With appropriate mitigation measures undertaken under licence, and compensation provided, there is no probable reason why the favourable conservation status of the local common pipistrelle population would suffer significant negative impacts from the proposal.

Following the UK Bat Mitigation Guidelines[9], the appropriate mitigation/compensation requirement for the level of impact currently predicted (i.e. site – local importance) would be: "*Flexible (type); do not leave bats without a roost*." There is no need for a seasonal timing restriction.

To ensure that the proposal will not harm the long-term conservation status of the bat species concerned, a planning consent condition could require submission of proof of bat mitigation licensing (as per D.6.2 of the British Standard 42020:2013). An outline mitigation strategy is provided here following standard licensed mitigation measures:

- Prior to the commencement of licensed activities, the 'Named/Registered Ecologist' (acting on behalf of the licensee) must ensure that all persons to be directly involved with these activities are given an appropriate tool-box talk.
- Works that would disturb/damage/destroy the identified bat roosts (i.e. surrounding roof tile and lead flashing removal) must be done at the appropriate time, by hand and be supervised by the Named/Registered Ecologist or an Accredited Agent.
- The capturing and handling of all bats must only be undertaken by the Named/Registered Ecologist or an Accredited Agent.

Bat roost compensation will be by provisioning two external crevice-style bat boxes (e.g. Vivara Pro Beaumaris Woodstone Bat Box, Chillon WoodStone Bat Box, Elisa Bat Box, Greenwood's Single Crevice Bat Box, 2FE Schwegler Wall-mounted Bat Shelter). One box would be on the south-facing upper gable of Cottage 5 (see Photo 4) and the other on the upper east elevation of Cottage 14 (see Photo 1). The box positioning should be as advised by a licensed bat surveyor. Long-term maintenance of the two bat roost boxes should be minimal, as the advised roost models are self-cleansing of droppings, but the attachments to the buildings should be regularly checked.

To mitigate the potential for negative impacts on bat foraging and commuting from the lighting of the new unit, wildlife-sensitive lighting should be adopted as per Institution of Lighting Professionals and Bat Conservation Trust guidance[10]. Any new exterior lighting should be unobtrusive and downcast/directional to prevent direct illumination of bat flight paths and foraging areas as best as possible. Exterior lighting should be PIR activated and on short timers (< 1 minute). Lighting on site is also recommended to avoid blue-white short wavelength and lights with high UV contents, as these have a negative impact on insect populations and over time can reduce foraging for bats[11].

5.3.3. Hedgehogs

The site clearance risk to hedgehogs and other terrestrial animals is to be mitigated by adherence to a precautionary working Method Statement that should include:

- Providing a toolbox talk to the contractors at the beginning of the development, advising a level of awareness and care when working on site.
- Covering excavations overnight or fitting any open excavations with escape ramps. All excavations left open overnight must be checked for animal occupants before being filled.

[9] Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

[10] Ferguson, J., Fox, H. & Smith, N. (2018) Bats and artificial lighting in the UK. Bats and the Built Environment series, Guidance Note 08/18. Institution of Lighting Professionals and Bat Conservation Trust.

[11] Stone, E.L. (2013) Bats and lighting: Overview of current evidence and mitigation. University of Bristol, UK.

- All waste and spoil should be loaded into skips or removed from site at the end of the day to minimise the chance of being used as a refuge by animals that could be injured/killed during the eventual removal.
- Building materials stores to be kept on hard-standing, in skips or on pallets.
- Barricades need to be set around any wet/drying concrete when left overnight.
- Ensure all pipework is capped to prevent animals from gaining access.
- Any encountered animals are to be relocated to a safe area of the landholding away from the construction zone.

5.3.4. Birds

The commencement of any external building works and vegetation clearance works will either need to avoid the main nesting season (March to August) or else beforehand undergo a reasonable check for bird nesting activity. Any identified active nests would need to be given a suitable works exclusion buffer (as determined by an ecologist) until the nesting attempt reaches a natural conclusion.

5.3.5. Amphibians

There is no expectation that great crested newts will be encountered during the construction phase of the development, but nevertheless site inductions for contractors should include mention of procedures in regards to any protected species discoveries. The instructions given should be that if any newt was to be discovered on site during the works, then all site works must immediately stop and a qualified ecologist (great crested newt survey licensed) consulted to identify the newt species and advise on a course of action.

5.4. Residual impact assessment

Table 4: Residual impact risk assessment

Receptor	Potential impact	Mitigation	Residual impact
Habitats	Minor negative impact on local abundance of other neutral grassland	Landscape planting for the development site is to use native tree and shrub species.	Minor negative but not significant
Bats - roosting	Minor negative impact on site common pipistrelle population from roost displacement.	Follow precautionary measures during conversion works as per mitigation licence Method Statement. Providing two external bat boxes with the new development.	Short-term minor negative, long-term neutral
Bats - foraging	Minor negative impact on foraging and commuting behaviour from new external lighting.	Follow an approved wildlife-sensitive lighting scheme.	Neutral
Hedgehogs	Minor negative impact on local population from accidental injury/death during construction.	Barricading wet/drying concrete, fitting any open excavations with escape ramps and having precautionary methods of green waste and building material storage and movement.	Neutral

Birds	Minor negative site impact to common breeding bird species as a result of nest disturbance/ destruction.	Timing the start of works outside the main nesting season if feasible, or completing a competent inspection for nests prior to commencing.	Short-term minor negative, long-term neutral

6. Enhancements

6.1. Bird nest boxes

The very low heights of most of the cottages limits the credible potential for nest boxes. Three sparrow terraces will be provided with the new development. The north elevation of the detached outbuilding (see Photo 8) is considered to offer a suitable location for two of the nest boxes, and the third was be the north elevation (upper gable) of Cottage 5 (see Photo 6).

The sparrow terraces will be any of the following models: Habibat Terraced Sparrow Box; 1SP Schwegler Sparrow Terrace; Vivara Pro WoodStone House Sparrow Nest Box (double chamber). Substitutes for the indicated nest box models may be used if availability is an issue, but must be justifiable on the basis of equivalent suitability for the target species and durability of materials.

The described woodcrete/woodstone boxes are rot-resistant, but the attachment to the building should be checked at least annually. Sparrow terraces should be cleaned annually (Oct – Jan) by a site maintenance team.

6.2. Bat roost boxes

If the refurbishment works are able to retain the Cottage 7 roof and not impact the observed bat roost, then the two new bat boxes (as described in section 5.3.3) will be an enhancement.

7. Conclusions

An ecological impact assessment of the proposed redevelopment of the James Stiff Cottages site has predicted:

- No impacts on designated nature conservation sites.
- A minor negative impact on other neutral grassland, which it to be mitigated via new native-species landscape plantings.
- A possible minor negative roost displacement impact on the local common pipistrelle population. Mitigation would be by proceeding under the terms of a bat mitigation licence, and bat roost compensation would be provided.
- A possibility of minor impacts to a local hedgehog population; to be mitigated by precautionary working methods during the construction phase.
- A potential for a minor negative impact on the site bird population. This may be mitigated by sensitively timing the site works outside the nesting season, or by an inspection prior to starting works to confirm active nest absence.
- No impacts on reptiles.
- No impacts on amphibians including great crested newts.

Minor but proportionate wildlife enhancements for the new development are recommended in the form of three sparrow nest boxes.

Appendix 1: Relevant Legislation and Policy Guidance

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981, Section 9, states protections from intentional or reckless actions upon the certain animal species that are listed in Schedule 5 and the plant species listed in Schedule 8. The Schedule 5 listed species have different types of safeguards depending on whether they are protected by Section 9.1, 9.2, 9.4 and/or 9.5.

- Section 9.1 – protection from killing or injury; includes water vole, grass snake, common lizard, slow-worm and adder.
- Section 9.4a – protection from intentional damage or destruction to any structure or place used for shelter or protection; includes water vole.
- Section 9.4b – protection from intentional disturbance while occupying a structure or place used for shelter or protection; includes all bat species, hazel dormouse, otter, water vole and great crested newt.
- Section 9.4c – protection from access to any structure or place used for shelter or protection being obstructed; includes all bat species, hazel dormouse, otter, water vole, great crested newt and natterjack toad.

All wild birds are protected from destruction of their nests (with minor exceptions) under the Wildlife and Countryside Act 1981. A higher level of disturbance protection is extended to Schedule 1 species, such as barn owls, and their active nest sites.

Plants listed under Schedule 9 of the act are invasive and generally need controlling on a development site. It is an offence to "plant or otherwise cause to grow in the wild", the invasive species listed on this schedule. Disposal of the plants or soil contaminated by them may need to be to a controlled waste site.

Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017, as amended by the Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019, broadly retains the habitat and species protections that are required under the European Habitats Directive (EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) and the Birds Directive (Council Directive 2009/147/EC on the Conservation of Wild Birds). The statutory protection for European Protected Species and Natura 2000 sites (now referred to as 'National Site Network' sites) remains unchanged for now.

This legislation affords very strict protection to its Schedule 2 listed species, which includes all species of bats, hazel dormouse, otter, great crested newt and natterjack toad (Habitats Directive Annex IV species). Developments that are likely to have a significant impact upon any Schedule 2 listed species (e.g. bats and great crested newts) require a European Protected Species mitigation license from Natural England in order for the development to legally proceed.

Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 (NERC) came into force on 1 October 2006. Under Section 40 of the Act, all public bodies (including planning authorities) now have a legal duty to consider biodiversity in their work (i.e. a material consideration for planning applications). As such, in order to increase the likely success of any planning application, consideration should be given to enhancing the biodiversity value of the site following redevelopment. Section 41 lists priority (Principal Importance) habitats and species which are to be particularly considered with respect to potential impacts, and may include species which are not otherwise protected by UK legislation.

Appendix 2: Photographs

Photograph 1: South and east (left – right) elevations of the cottages

Photograph 2: North elevations of the cottages

Photograph 3: South elevation example (Cottages 10 and 11)

Photograph 4: South elevation of the two-storey Cottages 5, 6 and 7 (left – right)

Photograph 5: Closer view of south elevation of far west cottages (Cottage 2)

Photograph 6: North and west elevations (left – right) of Cottage 5

Photograph 7: North elevations of Cottages 1 - 4

Photograph 8: South and east (left – right) elevations of detached outbuilding

Photograph 9: Example of inspected loft space

Photograph 10: Example of inspected loft space

Photograph 11: Thermal camera field of vision on 05/09/2023, and showing common pipistrelle emergence.

Photograph 12: Thermal camera field of vision on 05/09/2023.