



**Glaven Ecology**

www.glavenecology.co.uk | Tel: 07532444829 | Email: office@glavenecology.co.uk

---

## Protected Species Survey

Linda,  
Aylmerton



Prepared for Mr. M. Bacon

Reference: 2040-MB

# Contents

1	Summary .....	2
2	Legal Protection.....	4
3	Survey Methods.....	6
4	Results.....	9
5	Impact Assessment.....	15
6	Recommendations .....	16
7	Enhancements.....	17
8	References .....	19
	Appendix 1 – Site Location .....	20
	Appendix 2 – Statutory and non-statutory sites .....	21
	Appendix 3 –Nocturnal Survey results .....	22

Version	Status	Changes	Date	Author
1.1	Draft	Site visit and desk top results added	07/08/2020	Carolyn Smith BSc (Hons), MCIIEEM
1.2	Draft	Nocturnal results added	04/09/2020	Carolyn Smith BSc (Hons), MCIIEEM
1.4	Issued	Reviewed	07/09/2020	Carolyn Smith BSc (Hons), MCIIEEM

# 1 Summary

- 1.1 Glaven Ecology was commissioned to undertake a Preliminary Roost Appraisal (PRA) at Linda, The Street, Aylmerton, Norfolk, NR11 8AA. The initial survey work was completed by Carolyn Smith BSc. (Hons) MCIEEM on 6<sup>th</sup> August 2020.
- 1.2 Follow-up dusk emergence surveys were completed on 6<sup>th</sup> August 2020 and 3<sup>rd</sup> September with a dawn re-entry survey on 21<sup>st</sup> August 2020. A static detector was left in the loft for two weeks between the first and second surveys.
- 1.3 Plans include the demolition of the existing bungalow on site to construct two new residential properties.
- 1.3.1 The site sits within the SSSI Impact Risk Zone for Felbrigg Woods but does not fall within the categories requiring further consultation with Natural England.
- 1.3.2 No bats were seen emerging or returning to roost in the bungalow during the nocturnal surveys. No recordings were logged on the static detector throughout its two week placement in the loft.
- 1.4 Bat activity around the site was low with only four species being recorded. The majority of activity was limited to commuting and foraging close to site boundaries. Three common pipistrelle were observed emerging from the neighbouring house to the east.
- 1.5 The following recommendations have been made for protected species:

Species	Conclusions and Requirement for Further Surveys	Recommendations
Bats	None required	<p>Bats are highly mobile creatures and due to the observed roost in the neighbouring house it is recommended that, as a precautionary measure, the roof tiles are removed by hand outside of the main bat activity season (October to April).</p> <p>In the unlikely event bats are found during the demolition process, works should cease, and a licenced bat worker contacted to advise on how to proceed.</p> <p>A low light level regime around the new builds should be installed, without use of high powered security lighting, to minimise impacts on bats that may forage and commute in the vicinity.</p>

# Introduction

## 1.6 Background

1.6.1 Glaven Ecology was commissioned to undertake Preliminary Roost Assessment (PRA) at Linda, The Street, Aylmerton, Norfolk, NR11 8AA. The initial survey work was completed by Carolyn Smith BSc. (Hons) MCIEEM on 6<sup>th</sup> August 2020. Follow-up dusk emergence surveys were completed on 6<sup>th</sup> August 2020 and 3<sup>rd</sup> September with a dawn re-entry survey on 21<sup>st</sup> August 2020. A static detector was left in the loft for two weeks between the first and second surveys.

1.6.2 The survey and report aim to describe how the building supports bats and any other protected species. It assesses potential impacts on these features as a result of the works and advises on the need for further surveys or mitigation strategies.

## 1.7 Site Location and Description

1.7.1 The site was located at OS Grid Reference TG 18238 39710 (Appendix 1 – Site Location) and consisted of a 1970s detached, brick built bungalow with a pantile roof. The bungalow was set within a garden setting of predominantly mown lawn with a species poor hedgerow to the western and southern boundaries.

1.7.2 The surrounding area was predominantly arable fields to the west with the woodlands and parklands of Felbrigg Hall to the east. There was also an area of woodland to the southeast associated with Rounce's Coverts.

## 1.8 Project Overview

1.8.1 Plans include the demolition of the existing bungalow on site to construct two new residential properties.

## 2 Legal Protection

2.1.1 The main piece of legislation relating to nature conservation in Great Britain is The Wildlife and Countryside Act 1981 (as amended). This Act is supplemented by provision in The Countryside and Rights of Way (CRoW) Act 2000 and The Natural Environment and Rural Communities Act 2006 (in England and Wales). This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds and their nests and eggs.

2.1.2 UK wildlife is also protected under The Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2010, these Regulations, together with subsequent amendments, were consolidated into The Conservation of Habitats and Species Regulations 2010.

### Badgers

2.1.3 Badgers are protected under the Protection of Badgers Act 1992. Under the Act, it is a serious offence to kill, injure, interfere or take a badger. It is also an offence to damage or interfere with an actively used sett unless a licence is obtained.

## 2.2 Bats

2.2.1 All UK bat species are protected under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). This legislation fully protects bats and their breeding sites or resting places, making it an offence to deliberately capture, injure or kill bats, deliberately disturb bats, damage or destroy a bat breeding or resting place.

### Birds

2.2.2 All birds, their nests and eggs are protected by law under Part 1 of the Wildlife and Countryside Act 1981 (as amended).

2.2.3 Certain species (including barn owl *Tyto alba*) are also listed under Schedule 1 of the Wildlife and Countryside Act 1981, which prevents disturbance of the species or its nest and/or eggs at any time with protection by special penalties.

## 2.3 Great Crested Newt

2.3.1 Great crested newts *Triturus cristatus* and their habitat (aquatic and terrestrial) are afforded full protection by The Wildlife and Countryside Act 1981 (Section 9, Schedule 5

and as amended) and The Conservation (Natural Habitats & c.) Regulations 1994. It is an offence to:

- 1) Disturb, injure or kill recklessly a great crested newt;
- 2) Disturb or destroy recklessly great crested newt habitat (a breeding site or place of shelter).

## **2.4 Reptiles**

**2.4.1** Reptiles are all given limited legal protection under part of Section 9 (1) and all of Section 9 (5) of the Wildlife and Countryside Act 1981 (as 1.1.1 amended). This means that it is an offence to intentionally kill, injure and offer for sale.

## **2.5 Statutory Designated Conservation Sites**

**2.5.1** National designations such as Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR), are afforded statutory protection. SSSIs are notified and protected under the Wildlife and Countryside Act 1981 as amended. SSSIs are notified based on specific criteria, including the general representativeness and rarity of the site and of the species or habitats supported by it.

## 3 Survey Methods

### 3.1 Desk Study

3.1.1 Records held on Magic.gov.uk on Designated Sites and granted European Protected Species Licences were reviewed in August 2020 as was the map of Norfolk County Wildlife Sites on data.gov.uk.

3.1.2 An NBIS data search from a recent nearby planning application (ref. PF/20/0923) was used to inform the baseline ecology of the area.

### 3.2 Protected Species Survey

3.2.1 The survey was undertaken by Carolyn Smith BSc (Hons) MCIEEM (Natural England Level 1 Licence for bats [reference 2018-34461-CLS]) on 6<sup>th</sup> August 2020.

#### *Bats*

3.2.2 A Preliminary Roost Assessment was completed in accordance with the Bat Conservation Trust's "Bat Surveys for Professional Ecologists" (Collins, 2016). A scoring system was applied to the building using the criteria shown in Table 1.

3.2.3 The building was investigated for evidence of bat use and evaluated for bat roosting potential. The visual search for signs of bats consisted of a slow methodical search both internally and externally for actual roosting bats and their signs:

- Droppings on walls, windowsills and floors can be used to identify species;
- Scratch marks and staining at roosts and exit holes can be used to identify the presence of bats;
- Dense spider webs at a potential roost can often indicate bat absence;
- The presence of butterfly wings may be an indication of bat presence.

Table 1: Assessing the potential suitability of a development site for bats (Collins, 2016)

Suitability	Description of roosting habitats	Description of commuting and foraging habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features onsite likely to be used by commuting or foraging bats
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats</p> <p>A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential</p>	<p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed)	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge

3.2.4 A dusk emergence survey was undertaken on the property by Carolyn Smith (NE Level 1 Licence for bats [reference 2018-34461-CLS]) and Joe Hassall on 6<sup>th</sup> August 2020. The survey took place 20 minutes before sunset until 1.5 hours after sunset.

3.2.5 A static detector was placed inside the loft for two weeks, to be retrieved after the dawn survey.

3.2.6 The dawn re-entry survey was undertaken by Carolyn Smith and Joe Hassall on 21<sup>st</sup> August 2020. The survey took place 2 hours before sunrise until 15 minutes after sunrise.



3.2.7 A dusk emergence survey was undertaken by Carolyn Smith and Joe Hassall on 3<sup>rd</sup> September 2020. The survey took place 20 minutes before sunset until 1.5 hours after sunset.

3.2.8 Bat species were detected and analysed using Echo Meter Touch2 detectors with automatic recording facilities. Surveyor locations are indicated in Appendix 3. Bat calls were analysed using AnalookW and Kaleidoscope software.

### *Birds*

3.2.9 On-site habitats were assessed for their potential to support breeding (nesting) birds. This consisted of a methodical search for actual nesting birds or their signs.

### *Great crested newts*

3.2.10 The habitat was assessed for its suitability to support the terrestrial phase of amphibians and ponds within 250m were subjected to the Natural England Rapid Risk Assessment tool.

### *Reptiles*

3.2.11 The habitat was assessed for reptiles and suitable materials were lifted to check for signs of these species.

3.2.12 Table 2 shows the criteria used when assessing the likelihood of a protected species being present within the survey area:

*Table 2: Criteria considered when assessing the likelihood of occurrence of protected species*

Assessment Category	Criteria
Present	Species are confirmed as present from the current survey or historical confirmed records.
High	Habitat and features of high quality for species/species assemblage. Species known to be present in wider landscape. Good quality surrounding habitat and good connectivity.
Moderate	Habitat and features of moderate quality. The site in combination with surrounding land provides all habitat/ecological conditions required by the species/assemblage. Within known national distribution of species and local records in desk study area. Limiting factors to suitability, including small area of suitable habitat, some severance/poor connectivity with wider landscape, poor to moderate habitat suitability in local area.
Low	Habitats within the survey area poor quality or small in size. Few or no records from data search. Despite above, presence cannot be discounted as within national range, all required features/conditions present on site and in surrounding landscape. Limiting factors could include isolation, poor quality landscape, or disturbance.
Negligible	Very limited poor quality habitats and features. No local records from desk study; site on edge of, or outside, national range. Surrounding habitats considered unlikely to support species/species assemblage.

## 4 Results

### 4.1 Desk Study

4.1.1 The site sits within the Norfolk Coast Area of Outstanding Natural Beauty (AONB)

4.1.2 One further Statutory Designated Site was identified within 2km of the site on MAGIC Maps and three non-statutory designated sites, all county wildlife sites, were identified by the Norfolk County Wildlife Sites search on data.gov.uk (Table 3).

4.1.3 The site sits within the SSSI Impact Risk Zone for Felbrigg Woods but does not fall within the categories requiring further consultation with Natural England (i.e. infrastructure projects or rural residential development of over 50 units).

Table 3: Statutory and Non-statutory Designated Sites within 2km of development site

Site name and Designation	Site citation (Statutory designated sites)	Closest point to site
Felbrigg Hall Estate County Wildlife Site (CWS) 1143	-	500m east
Felbrigg Woods Site of Special Scientific Interest (SSSI)	Felbrigg Woods are situated on the edge of the Cromer Ridge on a plateau that slopes to the south. The Great Wood is one of only two known sites for acid Beech stands in Norfolk and probably represents an outlying native population of Beech <i>Fagus sylvatica</i> at the edge of its range.	700m east
Fairies' Lane Meadow CWS 1142	-	1500m south west
Roman Camp and Beeston Regis Heath CWS 1147	-	1600m north

4.1.4 There were no records of a granted European Protected Species Mitigation Licence within 2km of the site showing on MAGIC maps.

4.1.5 Three water bodies were identified within 250m of the site all to the north of the site.

4.1.6 There are no records of great crested newts or reptiles within 2km of the site. There were no listed great crested newt licence returns recorded on Magic Maps.

4.1.7 There are 230 records of mammals within 2km of the site, including hare *Lepus europaeus* in the arable fields to the north west of the site and in Felbrigg Hall Estate to the east.

## 4.2 Habitats

4.2.1 The development site comprised a well-managed garden, laid mostly to mown lawn with shrub, hedgerows and trees bordering.

4.2.2 The hedgerow to the west was predominantly hawthorn with some leylandii, laurel and elder.

4.2.3 There was a dry ditch to the northern boundary and three mature oak trees.

4.2.4 There was an existing accessway leading to a gravelled area at the rear of the bungalow.

## 4.3 Protected Species

### Badgers

4.3.1 The site is not suitable for badger sett creation. No signs of badgers such as hairs or droppings were observed.

4.3.2 The likelihood of badgers being present on site is **negligible**.

### Bats

#### Foraging and Commuting

4.3.3 The habitats immediately around the site were considered to have **moderate** potential to support foraging and commuting bats. The wider environment offered **high** foraging and commuting opportunities especially to the east towards the woodlands and parklands of Felbrigg Woods.

### Visual inspection

4.3.4 The bungalow was a detached 1970s brick structure with a pantile roof with a flat roof extension to the rear (Figure 1).

4.3.5 The ridge tiles were all well sealed, but there were raised pantiles on both aspects of the roof.

4.3.6 The main area of raised tiles was on the southern aspect in the west corner. There were also raised tiles around the base of the chimney on the southern aspect (Figures 2 and 3). There was no flashing at the base of the chimney.

4.3.7 The plastic soffits were well sealed, and no gaps were noted.

4.3.8 There was uPVC style weatherboarding on each gable end which was well sealed with no gaps.

4.3.9 The flat roof extension was well sealed with what looked like a fibre glass covering (Figure 4). There were cobwebs around the fascia where it met the wall, no gaps were present.

4.3.10 The brickwork throughout was in excellent condition and all uPVC doors and windows were well sealed.



Figure 1: Linda - southern and western aspect



Figure 2: Close up of southern aspect roof at western corner, lifted tiles circled.



Figure 3: Close up of chimney with raised tiles at base.



Figure 4: Northern aspect with flat roof extension.

4.3.11 Internally the bungalow was in a good state of repair with the loft space accessed via a hatch in the hallway.

4.3.12 The loft was one space spanning the whole bungalow (Figure 5). It was very warm at the time of the survey.

4.3.13 There was a small window in the western gable (Figure 6) end letting in some light with another small point of light ingress through the lining in the south westernmost corner.

4.3.14 There was one layer of loose lining with tears and gaps in (Figure 7) with a second layer of lining underneath which appeared to be in a relatively good state of repair, where visible.

4.3.15 The beams were all modern machine cut with no cracks or splits.

4.3.16 The breezeblock at each gable end was in good condition. The chimney breast brickwork was in sound condition. There was also a cut off chimney breast finishing in the loft space (see Figure 7). The cut off chimney inside was intact, dusty and no visible roosting opportunities were noted.

4.3.17 There were two old pipistrelle droppings on the insulation in the western corner of the loft (Figure 8). There were also a number of mice droppings in the loft, but again, these were not fresh.

4.3.18 The space was moderately cobwebbed throughout.

4.3.19 There were only a few items stored within the loft and all areas were available for survey.



Figure 5: Loft space.



Figure 6: Eastern gable end window.



Figure 7: Loft space with tom felt to right of picture and cut of chimney in centre.



Figure 8: Old pipistrelle droppings

4.3.20 The bungalow was assessed as having **moderate potential** to support roosting bats.

There were two old pipistrelle droppings at the western end of the loft space, but no other signs were found. There was one possible access point through the felt lining, but this appeared cobwebbed. There were no obvious roosting opportunities within the loft space itself.

4.3.21 There was a wooden storage shed close to the north of the bungalow which offered no roosting opportunities for bats.

#### Dusk emergence survey – 6<sup>th</sup> August 2020

4.3.22 Sunset was at 20:38 and the conditions were suitable throughout; the temperature was 25°C at the start and had dropped to 21°C at the end. There was a moderate breeze and 70% cloud cover. Full results are in Appendix 3.

4.3.23 No emergence was observed from the bungalow, but three common pipistrelle bats were observed emerging from a ventilation grille high up on the gable end of the neighbouring house. Only three species of bats were noted during the survey, common pipistrelle, soprano pipistrelle and noctule.

#### Dawn re-entry survey – 21<sup>st</sup> August 2020

4.3.24 Sunrise was at 05:48 and the conditions were suitable throughout; the temperature was 19°C at the start and had dropped to 17°C at the end. There was a moderate breeze and 20% cloud cover. Full results are in Appendix 3.

4.3.25 No bats returned to roost in the bungalow and bat activity was low with much of the activity occurring off site out of visual contact with the surveyors, although some commuting across site was observed.

#### Static bat detector – 6<sup>th</sup> August until 21<sup>st</sup> August 2020

4.3.26 No recordings were logged on the static detector throughout its two week placement in the loft.

#### Dusk emergence survey – 3<sup>rd</sup> September 2020

4.3.27 Sunset was at 19:38 and the conditions were suitable throughout; the temperature was 18°C at the start and had dropped to 15°C at the end. There was no breeze and 40% cloud cover. Full results are in Appendix 3.

4.3.28 No emergence was observed from the bungalow, and activity was limited to commuting across site and foraging over lawn towards western boundary.

### Birds

4.3.29 Bird activity around the site was low at the time of the survey.

4.3.30 There were no or active birds nest observed within or around the bungalow although it is likely that birds nest within the western boundary hedge.

4.3.31 The likelihood of these species being present within site boundaries is **moderate**.

### Great crested newts

4.3.32 The terrestrial habitat within the site is of a sub-standard nature to support this species being predominantly mown lawn.

4.3.33 There were two ponds identified within 250m of the site. A Natural England Rapid Risk Assessment of the ponds gave a result of 'Green: Offence Highly Unlikely'. This indicates that, assuming the ponds are breeding ponds, it is highly unlikely that an offence would be committed during the works, due to the area of the site, the distance to the ponds and the limited habitat on site for this species.

4.3.34 No records of great crested newts or reptiles within 2km of the site. The likelihood of these species being present within site boundaries is **negligible**.

## 4.4 Other Protected species

4.4.1 No other protected species were assessed as being present within or around the development site.

## 4.5 Survey Limitations

4.5.1 There were no significant limitations to the survey.

## 5 Impact Assessment

5.1.1 Table below summarises the potential impacts of the works:

Table 4: Impact assessment on the ecology of the site

Ecological Factor	Impact Assessment
Designated Sites and Habitats	<p>No impacts on Designated Sites are envisaged given the scale of the development and absence of sites within 2km.</p> <p>No other habitats of ecological significance will be impacted by the proposed works</p>
Badgers	<p>The desk study and field survey suggest it is highly unlikely that this species would be present on site.</p> <p>The works will not impact this species.</p>
Bats	<p>No emergence or re-entry was observed and none were recorded by the static detector in the loft. There was low bat activity across the site which was limited to commuting and foraging behaviour.</p> <p>Demolition: It is considered that the works will have a negligible impact on local bat populations.</p> <p>Construction/post construction: No impacts envisaged. Positive impact may result through enhancements (Section 7).</p>
Birds	<p>There were no nesting opportunities within the bungalow but it is likely that birds use the western hedgerow for nesting.</p> <p>It is considered that the works will have a negligible impact on local bird populations.</p>
Great crested newts	<p>The desk study and field survey suggest it is highly unlikely that this species would be present on site.</p> <p>The works will not impact this species.</p>
Reptiles	<p>The desk study and field survey suggest it is highly unlikely that this species would be present on site.</p> <p>The works will not impact this species.</p>



## 6 Recommendations

6.1.1 As good practice, any trenches or holes created during the works must be backfilled at the end of the day or covered overnight to ensure any wildlife passing through the site, such as hedgehogs, do not get trapped.

6.1.2 The following species-specific recommendations are made for the site:

*Table 6: Recommendations for further surveys and mitigation*

Species affected	Requirement for Further Surveys	Mitigation Requirements
Badgers	None	None
Bats	None required.	<p>Bats are highly mobile creatures and due to the observed roost in the neighbouring house it is recommended that, as a precautionary measure, the roof tiles are removed by hand outside of the main bat activity season (October to April).</p> <p>In the unlikely event bats are found during the demolition process, works should cease, and a licenced bat worker contacted to advise on how to proceed.</p> <p>A low light level regime around the new builds should be installed, without use of high powered security lighting, to minimise impacts on bats that may forage and commute in the vicinity.</p>
Birds	None	None.
Great Crested Newts	None	None
Reptiles	None	None



## 7 Enhancements

7.1.1 The Local Planning Authority has a legal duty to consider enhancements on proposed development sites. Furthermore, the National Policy Planning Framework (NPPF) requires planning decisions to aim to promote net gains in biodiversity on development sites.

7.1.2 There are excellent opportunities to improve this site for wildlife. Full plans were not available at the time of writing, but where designs permit, the following enhancements are suggested:

- Two bat access tiles to be installed on the southern aspect of the roof of each new property something similar to the [bat access tile kit](#) would be suitable.
- One bat box to be installed on the southern or eastern aspects of the new properties. Boxes should be at least 3m high where there is a clear flight path for bats entering and leaving. There are two options available:
  - *Integrated bat box.* These are built into the fabric of the property and come in a variety of designs depending on the materials being used. For example, the Habibat bat box comes in a selection of designs to suit brick built buildings (Figure 9), whilst the Schwegler bat tube (Figure 10) is designed to be installed beneath a rendered surface. This makes it ideal for situations where you wish the box to be discrete as only the entrance hole will be visible. It can also be painted to match your building with an air permeable paint if desired.
  - *Wall mounted bat box.* Fixed to the external wall of a building, the [Beaumaris bat box](#) is a popular choice as is the [Schwegler 1FQ Bat Roost](#).



Figure 9: Habitat integrated bat box with brick finish.

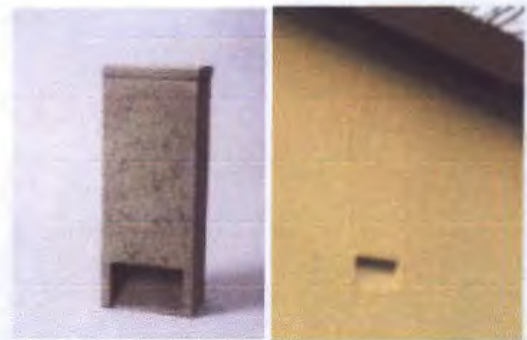


Figure 10: Schwegler 1FR bat tube and rendered finish with only the hole visible.

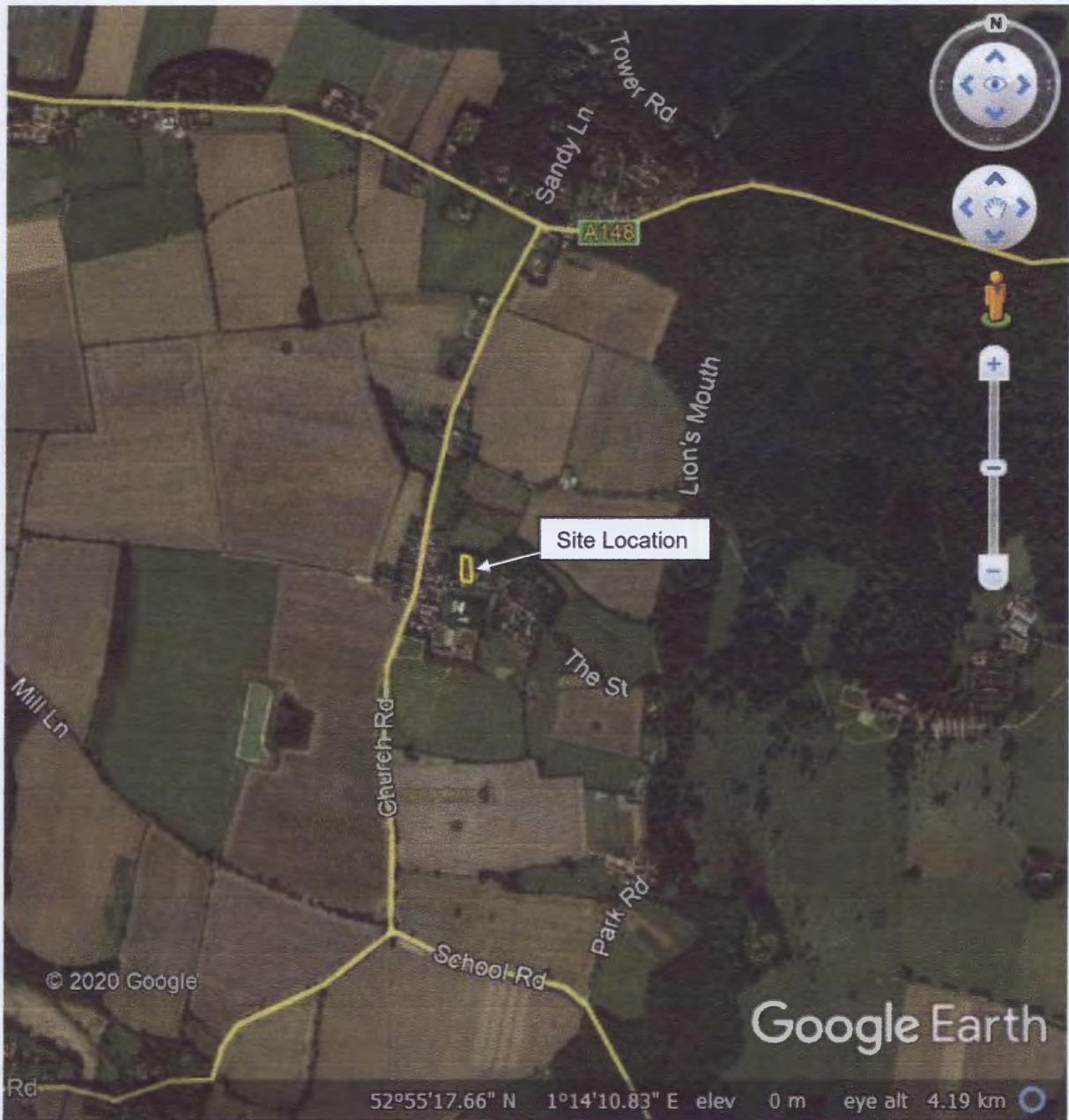
- Two bird boxes to be installed onto the new builds, one on the eastern aspect and one on the southern aspect. The type will depend on the design of the building:
  - For overhanging eaves a swift box or swallow cup can be installed. Suggestions for swallow cup include the [Eco Swallow Nest](#). There are many designs for swift boxes, depending on building materials used such as the [Woodstone Build-in Box](#) or the [Vivara Brick faced box](#). When installed the boxes are discreet and do not impact the building's aesthetic.
  - For wall mounted boxes the [Schwegler Brick nest boxes](#) have a variety of options to choose from.
- Any landscaping post works could incorporate bat friendly planting to enhance foraging opportunities on site:

<b>Bat Friendly Planting Suggestions</b>	
<b>Bedding Plants</b>	
Nottingham catchfly	<i>Silene nutans</i>
Night-scented catchfly	<i>S. noctiflora</i>
Bladder campion	<i>S. vulgaris</i>
Night-scented stock	<i>Matthiola bicornis</i>
Sweet rocket	<i>Hesperis matronalis</i>
Evening primrose	<i>Oenothera biennis</i>
Tobacco plant	<i>Nicotiana affinis</i>
Cherry pie	<i>Heliotropum x hybridum</i>
Soapwort	<i>Saponaria officinalis</i>
<b>Climbers</b>	
European honeysuckle	<i>Lonicera caprifolium</i>
Italian honeysuckle	<i>L. etrusca superba</i>
Japanese honeysuckle	<i>L. japonica halliana</i>
Honeysuckle (native)	<i>L. periclymenum...</i>
White jasmine	<i>Jasminum officinale</i>
Dogrose	<i>Rosa canina</i>
Sweetbriar	<i>R. rubiginosa</i>

## 8 References

- British Standards (2013) *BS 42020, Biodiversity – Code of practice for planning and development*. BSI, London
- CIEEM (2019) Biodiversity Net Gain; Principles and guidance for UK construction and developments. <https://cieem.net/i-am/current-projects/biodiversity-net-gain/>
- CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal Institute of Ecology and Environmental Management* <https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/>
- CIEEM (2019) *Biodiversity net gain – a practical guide* <http://cieem.net/resource/biodiversity-net-gain-good-practice-principles-for-development-a-practical-guide/>
- Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists —Good Practice Guidelines*, 3rd edition, Bat Conservation Trust, London. <https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-3rd-edition>
- English Nature (1993) *Bats in Roofs; A Guide for Surveyors*. English Nature, Peterborough
- English Nature (2001) *Great crested newt mitigation guidelines*. English Nature, Peterborough
- Google Earth (2020) [https://www.google.co.uk/intl/en\\_uk/earth/](https://www.google.co.uk/intl/en_uk/earth/)
- Gunnell, K., Murphy, P. and Williams, C. (2013) *Designing for Biodiversity: a technical guide for new and existing buildings*. RIBA, London.
- HMSO. (1981) *Wildlife and Countryside Act 1981* (as amended). <http://jncc.defra.gov.uk/page-1377>
- HMSO. (2000) *Countryside & Rights of Way Act*. <http://jncc.defra.gov.uk/page-1378>
- HMSO. (2017) *The Conservation of Habitats and Species Regulations* <https://www.legislation.gov.uk/ukxi/2017/1012/contents/made>
- Magic database (2020) <http://www.magic.gov.uk/MagicMap.aspx>
- Mitchell-Jones, A. J. & McLeish A. P. (2004) *The Bat workers' manual* 3rd edition. Joint Nature Conservation Committee
- Norfolk County Council (2013) *Norfolk County Wildlife Sites*. <https://data.gov.uk/dataset/5b632bd7-9838-4ef2-9101-ea9384421b0d/sites-of-special-scientific-interest-england>

## Appendix 1 – Site Location



(Source Google Earth Pro: 2020)

## Appendix 2 – Statutory and non-statutory sites

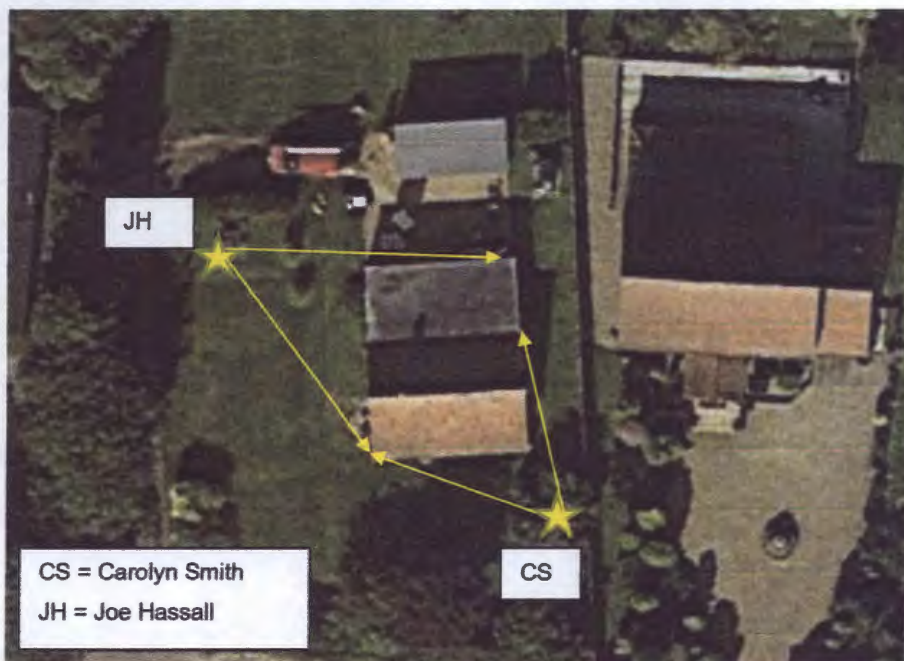


(Image source: Google Earth Pro, 2020)

County Wildlife Sites:  
1 – Roman Camp & Beeston Regis Heath  
2 – Felbrigg Hall Estate  
3 – Fairies' Lane Meadow

## Appendix 3 –Nocturnal Survey results

### Surveyor Locations:



(Image source: Google Earth Pro, 2020)

### Dusk survey results – 6<sup>th</sup> August 2020

Sunset: 20:38 - Start time: 20:25; End time: 22:10  
 Weather conditions: 25 down to 21°C, BWS 2, dry, 70% cloud cover.  
 Surveyors: Carolyn Smith, Joe Hassall

Time	Species and numbers	Comments	Surveyor
20:48	Common pipistrelle (C.pip) x 1	Emerged from house to east – gable end grille	JH
20:53	C.pip x 1	Flew from east commuting north	JH
21:00	Noctule x 1	Foraging overhead	JH
21:00	Noctule x 1	Heard not seen	CS
21:01	C.pip x 1	Foraging in north end of garden	JH
21:02	C.pip x 2	Emerged from house to east – gable end grille	CS
21:06 to 21:12	C.pip x 1	Foraging over to west by hedge	CS
21:06 to 21:30	C.pip x 1	Foraging in north of garden and over to neighbouring garden	JH
21:21	C.pip x 1	Flew west to east across grass	CS
21:22	C.pip x 2	Flew from south down eastern boundary	CS
21:24	C.pip x 1	Commuting south	CS
21:26	C.pip x 1	Foraging to west	CS
21:30	Noctule x 1	Heard not seen	CS
21:31	C.pip x 1	Two passes, heard not seen	CS
21:34	Soprano pipistrelle (S.pip) x 1	Heard not seen	CS
21:40	S.pip x 1	Two passes, heard not seen	CS + JH

21:42	C.pip x 1	Commuting north along western boundary	CS
21:43	S.pip x 1	Commuting west to east across site	CS + JH
21:44	Noctule	Heard not seen	CS + JH
21:51	C.pip x 1	Heard not seen	CS + JH

#### Dawn survey results – 21<sup>st</sup> August 2020

Sunrise: 05:48 - Start time: 04:00; End time: 06:05  
Weather conditions: 19 down to 17°C, BWS 2, dry, 20% cloud cover.  
Surveyors: Carolyn Smith, Joe Hassall

Time	Species and numbers	Comments	Surveyor
04:01	Soprano pipistrelle (S.pip) x 1	Heard not seen – brief call	CS
04:21	Brown long-eared (BLE) x 1	Foraging along west boundary	CS
04:29	Common pipistrelle (C.pip) x 1	Heard not seen	JH
04:30	C.pip x 1	Heard not seen	CS
04:37	C.pip x 1	Heard not seen	JH
04:38	BLE x 1	Heard not seen	JH
04:52	S.pip x 1	Heard not seen	CS
04:57	C.pip x 1	Heard not seen	CS
05:02	S.pip x 1	Heard not seen	CS
05:11	C.pip x 1	Commuting east across site	CS
05:14	C.pip x 1	Commuting east across site	CS
05:14	C.pip x 1	Heard not seen	JH
05:17	C.pip x 1	Foraging in field to north of site	JH
05:21	C.pip x 1	Foraging in field to north of site	JH

#### Dusk survey results – 3<sup>rd</sup> September 2020

Sunset: 19:38 - Start time: 19:25; End time: 21:10  
Weather conditions: 18 down to 15°C, BWS 0, dry, 40% cloud cover.  
Surveyors: Carolyn Smith, Joe Hassall

Time	Species and numbers	Comments	Surveyor
19:57	Noctule x 1	Flew from west over hedge towards north	JH
20:02	Soprano pipistrelle (S.pip) x 1	Heard not seen	JH
20:04	S.pip x 1	Commuting north along eastern boundary	CS
20:07	S.pip x 1	Flew from north foraging over grass	CS
20:08	Noctule x 1	Heard not seen	CS
20:10	Common pipistrelle (C.pip) x 1	Emerged from neighbour's grille on gable end	CS
20:13	C.pip x 1	Flying across lawn to north	JH
20:13	Noctule x 1	Commuting east flying high	CS
20:14	C.pip x 1	Commuting west to east	CS
20:17	Noctule x 1	Foraging over neighbouring house	JH
20:17	C.pip x 1	Heard not seen	CS
20:18	C.pip x 1	Heard not seen – foraging	CS
20:19	S.pip x 1	Heard not seen	CS
20:20	C.pip x 1	Commuting south to north	JH
20:22	S.pip x 1	Flew from north, foraging then flew east	CS
20:23	C.pip x 1	Heard not seen	CS
20:25	C.pip x 1	Flew from west over lawn then to east	CS
20:27	C.pip x 1	Heard not seen	JH
20:31	C.pip x 1	Commuting north along eastern boundary	CS



20:35	C.pip x 1	Heard not seen	JH
20:42	Noctule x 1	Heard not seen	JH
20:49	Brown long-eared (BLE) x 1	Heard not seen – multiple passes	JH
20:50	C.pip x 1	Heard not seen, brief call	CS
20:52	Noctule x 1	Heard not seen	CS
20:58	C.pip x 1	Heard not seen, with social calling	CS