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Preliminary Roost Appraisal

Wayside Farm
Felbrigg



Prepared for Norfolk & Norwich Architecture Ltd

2112-GE-SP

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1.1	Draft	Site visit and desktop results added	22/02/2021	Carolyn Smith BSc (Hons), MCIEEM
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The data contained within the report are accurate to the best of our knowledge and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. The report conforms to the British Standard 42020:2013 Biodiversity – Code of practice for planning and development.

We confirm that any opinions expressed are our best and professional true opinions. This report has been prepared by an ecology specialist and does not purport to provide legal advice.

1 Summary

- 1.1 Glaven Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) on a storage building at Wayside Farm, Felbrigg, NR11 8PP. The survey work was completed by Carolyn Smith BSc. (Hons) MCIEEM on 22nd February 2021.
- 1.2 It is proposed to convert the building into one holiday let unit.
- 1.3 The site sits within the SSSI Impact Risk Zone for Felbrigg Woods which may require further consultation with Natural England; *All planning applications except householder*. However, taking into consideration the size and scope of the development plus the nature of the site no impacts on the Designated Site are envisaged.
- 1.4 The building was assessed as having negligible potential for bats, with minimal roosting opportunities noted.
- 1.5 No other protected species were assessed as being on site.
- 1.6 The following recommendations have been made for protected species:

Species	Requirement for Further Surveys and Recommendations
Bats	No further surveys required. Any external lights associated with the new house should be of a low light level to minimise impacts on bats that might forage and commute in the vicinity. Warm white lights should be used at <2700k. This reduces the ultraviolet component or that has high attraction effects on insects which can lead to a reduction in prey availability for some light sensitive bat species.
Birds	No further surveys required.

- 1.7 Enhancement suggestions include the installation of a bat box and bird boxes.

2 Introduction

2.1 Background

2.1.1 Glaven Ecology was commissioned to undertake a Preliminary Roost Assessment (PRA) on a storage building at Wayside Farm, Felbrigg, NR11 8PP. The survey work was completed by Carolyn Smith BSc. (Hons) MCIEEM on 22nd February 2021.

2.1.2 The survey and report aim to describe how the house supports birds, 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.

2.2 Site Location and Description

2.2.1 The site was located at OS Grid Reference TG 20194 40571 (Appendix 1 – Site Location) and consisted of a breezeblock and weather boarded outbuilding with recently installed pitched roof. The building was part of a complex at Wayside farm, set within hardstanding.

2.2.2 The site was adjacent to the eastern boundary of Felbrigg Woods. The wider environment to the south and east was arable with the main residential areas of Cromer beyond to the north east.

2.3 Project Overview

2.3.1 It is proposed to convert the building into one holiday let unit.

3 Legal Protection

3.1.1 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.

3.1.2 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.

3.2 Birds

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

3.3 Bats

3.3.1 All bat species are listed under Annex IV (and certain species also under Annex II) of the European Union's Council Directive 92/43/EEC (The Habitats Directive) and are given UK protected status by Schedule 2 of the Conservation of Habitats and Species Regulations 2010. All UK bat species are also protected under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).

3.3.2 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.

3.4 Statutory Designated Conservation Sites

3.4.1 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.

4 Survey Methodologies

4.1 Desk Study

4.1.1 Records held on Magic.gov.uk on Designated Sites and granted European Protected Species Licences were reviewed in February 2021 as was the map of Norfolk County Wildlife Sites on data.gov.uk.

4.1.2 A quantification of the value of the building for bats was carried out using the Bat Roost Trigger Index (BRT) (Underhill-Day, 2017). The BRT Index uses a suite of 28 environmental and habitat features recorded during the PRA survey which are known to influence roost selection. This generates a numerical value, from 0 to 1, which is in turn used to assign to a corresponding roost suitability class of either negligible, low, moderate or high potential. This is used as guidance only.

4.2 Protected Species Survey

4.2.1 The survey was undertaken by Carolyn Smith BSc (Hons) MCIEEM (Natural England Level 1 Licence for bats [reference 2018-34461-CLS]) on 22nd February 2021.

Birds

4.2.2 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.

Bats

4.2.3 A Preliminary Roost Assessment was completed on the building. The survey work 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.

4.2.4 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

4.2.5 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.

5 Results

5.1 Desk Study

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

5.1.2 One other statutory designated site and seven non-statutory sites were identified within 2km of the site on MAGIC Maps and data.gov.uk (Table 3, Appendix 2).

5.1.3 The site sits within the SSSI Impact Risk Zone for Felbrigg Woods which may require further consultation with Natural England; All planning applications except householder. However, taking into consideration the size and scope of the development plus the nature of the site no impacts on the Designated Site are envisaged.

Table 3: Non-statutory designated sites within 2km of Cherry Tree Cottage

Site designation and name	Site description (Statutory designated sites only)	Distance from site
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	Adjacent to western site boundary
Smith's Rough County Wildlife Site (CWS) - 1192	-	420m south east
Greens Common CWS - 2234	-	800m north
Felbrigg Estate CWS – 1143	-	1000m south
East Wood CWS– 2100	-	1200m north east
Abbs Common CWS – 2233	-	1300m north west
Roman Camp & Beeston Regis Heath CWS – 1147	-	1800m north west

5.1.4 There is one record of a granted European Protected Species Mitigation Licence within 2km of the site showing on MAGIC maps. This is for the damage and destruction of a resting place for common pipistrelle and brown long-eared bats (2014-4821-EPS-MIY, 580m north east).

5.1.5 The Bat Roost Trigger (BRT) assessment concluded that the building offers negligible roost suitability for bats giving a score of 0.49 (Table 4). The full results of this assessment and the 28 roost selection parameters used in the BRT Index are included in Appendix 3.

Table 4: Bat roost trigger index score and roost suitability class highlighted for the building (Underhill-Day, 2017)

> 0.7	HIGH	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.
0.6 - 0.7	MODERATE	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.
0.5 - 0.6	LOW	One survey visit. One dusk emergence or dawn re-entry survey.
< 0.5	NEGLIGIBLE	No further surveys required. Reasonable precautionary measures applicable.

5.2 Protected Species - Bats

Foraging and Commuting

5.2.1 The habitats immediately around the site were considered to have **moderate** potential to support foraging and commuting bats especially along and in the adjacent woodland. The wider environment offered **moderate** foraging and commuting opportunities predominantly along woodland edges.

Visual inspection

5.2.2 The building was of concrete breeze block construction with weatherboarding on the gable ends and northern aspect, with a pantile pitch roof (Figures 1 and 2).

5.2.3 The ridge tiles were well sealed with no gaps or cracks in the mortar.

5.2.4 The tiles on both aspects were well sealed and flush with only one raised tile noted, on the southern aspect towards the ridgeline of the roof (Figure 3). The roof had relatively recently been constructed with the building previously having a flat roof.

5.2.5 The weather boarding on the gables and the northern aspect was well sealed and newly painted. There were gaps at the eaves, but these were wide on inspection with a high powered torch did not offer any cavity space for roosting bats.

5.2.6 There were some gaps in the mortar on the western aspect but these appeared shallow and were well cobwebbed.



Figure 1: South and western aspects



Figure 2: Western aspect.



Figure 3: Location of lifted tile circled red.

5.2.7 Internally the building was being used for storage (Figure 4) and split over two floors. The second floor was accessed via a wooden staircase and was open to the roof structure (Figure 5).

5.2.8 The roof lining was intact and no access points were noted. The beams were narrow and machine cut with no cracks or splits, they were relatively new and well-sealed.

5.2.9 There was heavy cobwebbing at the apex and around the gable walls.



Figure 4: Internal view – first floor.



Figure 6: Second floor open to roof structure.

5.2.10 There was another ground floor space on the northern aspect which was open-sided (Figure 6). The ceiling was boarded and the internal walls were well sealed.



Figure 6: Northern aspect room with boarded ceiling.

5.2.11 No signs of bats such as droppings or staining were found during the visual inspection. No actual bats were observed.

5.2.12 The building is assessed as having **negligible potential** to support roosting bats.

5.2.13 The building offered minimal roosting opportunities, with the only one raised tile noted. There were gaps in the breeze block mortar but these were shallow and well cobwebbed. The weatherboarding was well sealed.

5.2.14 The building has **negligible potential** to support hibernating bats.

5.3 Other protected species

5.3.1 There was moderate bird activity in the woodland adjacent to the property but no birds or bird's nests were noted within the site boundary.

5.3.2 There is a newly installed barn owl box on the eastern aspect of the building, but no owls have yet taken up occupancy. The box will be retained throughout the works.

5.3.3 No evidence of any other protected species was found during the survey.

5.4 Survey Limitations

5.4.1 There were no significant constraints to the surveys.

6 Impact Assessment

6.1.1 Table below summarises the potential impacts of the works:

Table 5: Impact assessment on the ecology of the site

Ecological Factor	Impact Assessment
Designated Sites and Habitats	<p>The site sits directly adjacent to the Felbrigg Woods SSSI, however the nature of the site and the scale of the works suggest that no impacts on Designated Sites are envisaged.</p> <p>The site sits within hard standing and there are no habitats of note within site boundaries. The proposals will utilise an existing access way and hardstanding</p> <p>No habitats of ecological significance will be impacted by the proposed works</p>
Bats	<p>The field survey and desk study conclude bats are highly unlikely to be present on site.</p> <p>The development is not considered to have a significant impact upon commuting or foraging bats and there will be no severing of connectivity.</p> <p>The works will have a negligible impact on these species.</p>
Birds	<p>No bird's nests were noted within the site boundary and nesting opportunities were limited.</p> <p>The barn owl box on site is new and has not yet been occupied (there is a webcam inside which has not picked up any birds).</p> <p>It is considered that the works will have a negligible impact on local bird populations.</p>

7 Recommendations

7.1.1 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.

7.1.2 All demolition waste shall be placed directly into a skip so that rubble piles and therefore potential refuge areas for wildlife such as amphibians are not created.

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

Table 6: Recommendations for further surveys and mitigation

Species	Requirement for Further Surveys and Recommendations
Bats	<p>No further surveys required.</p> <p>Any external lights associated with the new houses should be of a low light level to minimise impacts on bats that might forage and commute in the vicinity.</p> <p>Warm white lights should be used at <2700k. This reduces the ultraviolet component or that has high attraction effects on insects which can lead to a reduction in prey availability for some light sensitive bat species.</p>
Birds	No further surveys required.

8 Enhancements

8.1 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.

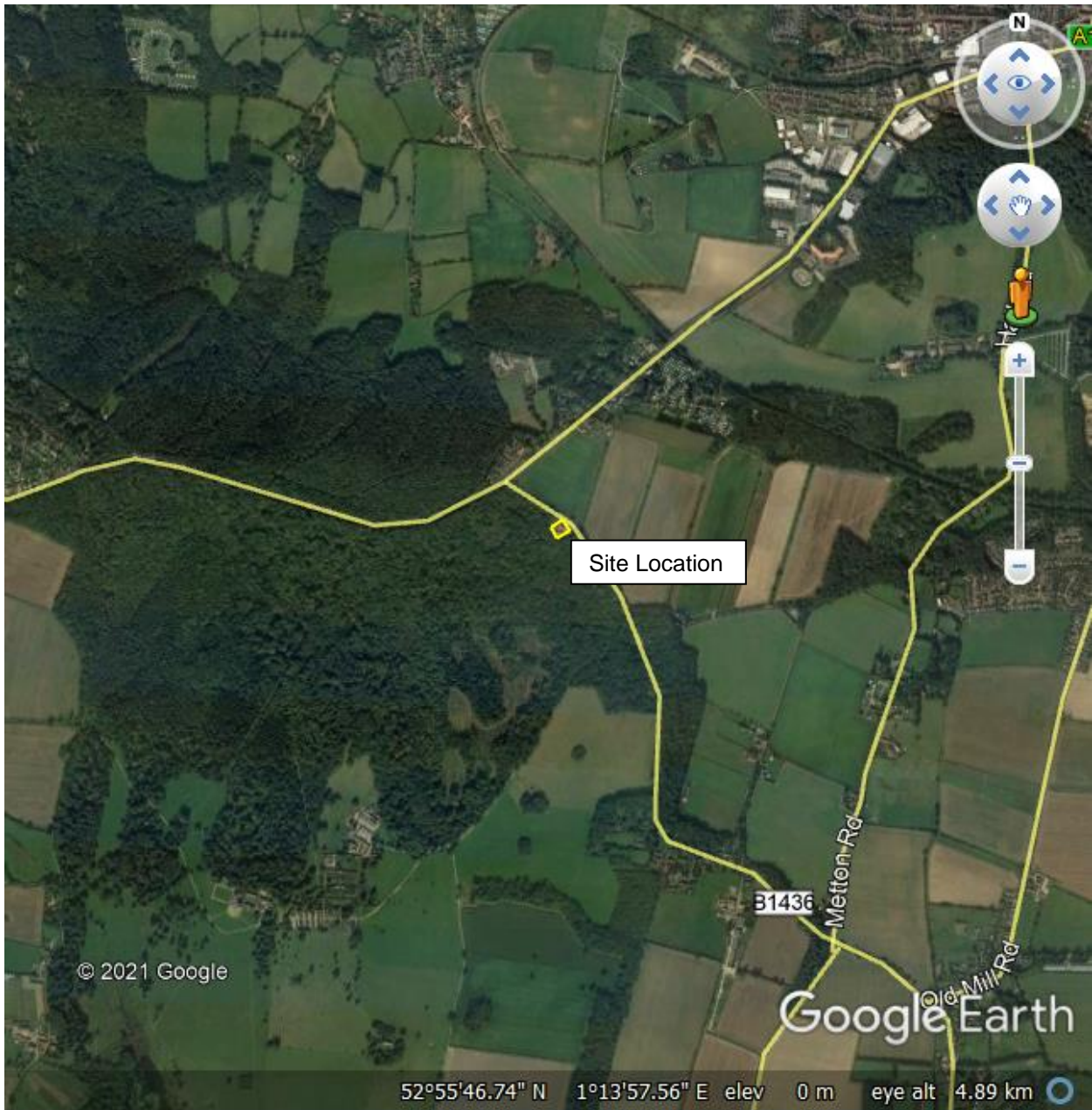
8.1.1 The following enhancement is suggested for the site:

- Two bat boxes to be installed on boundary trees or existing properties on site. Boxes should be sited at least 3-6m high and in a south or easterly facing direction. Something similar to the [Improved Crevice Bat Box](#) would be suitable.
- Two nest boxes suitable for wrens/robins to be sited low down (less than 2m from the ground) in an area well-hidden with vegetation. The [Wren and Robin FSC nest box](#) or similar would be suitable.

9 References

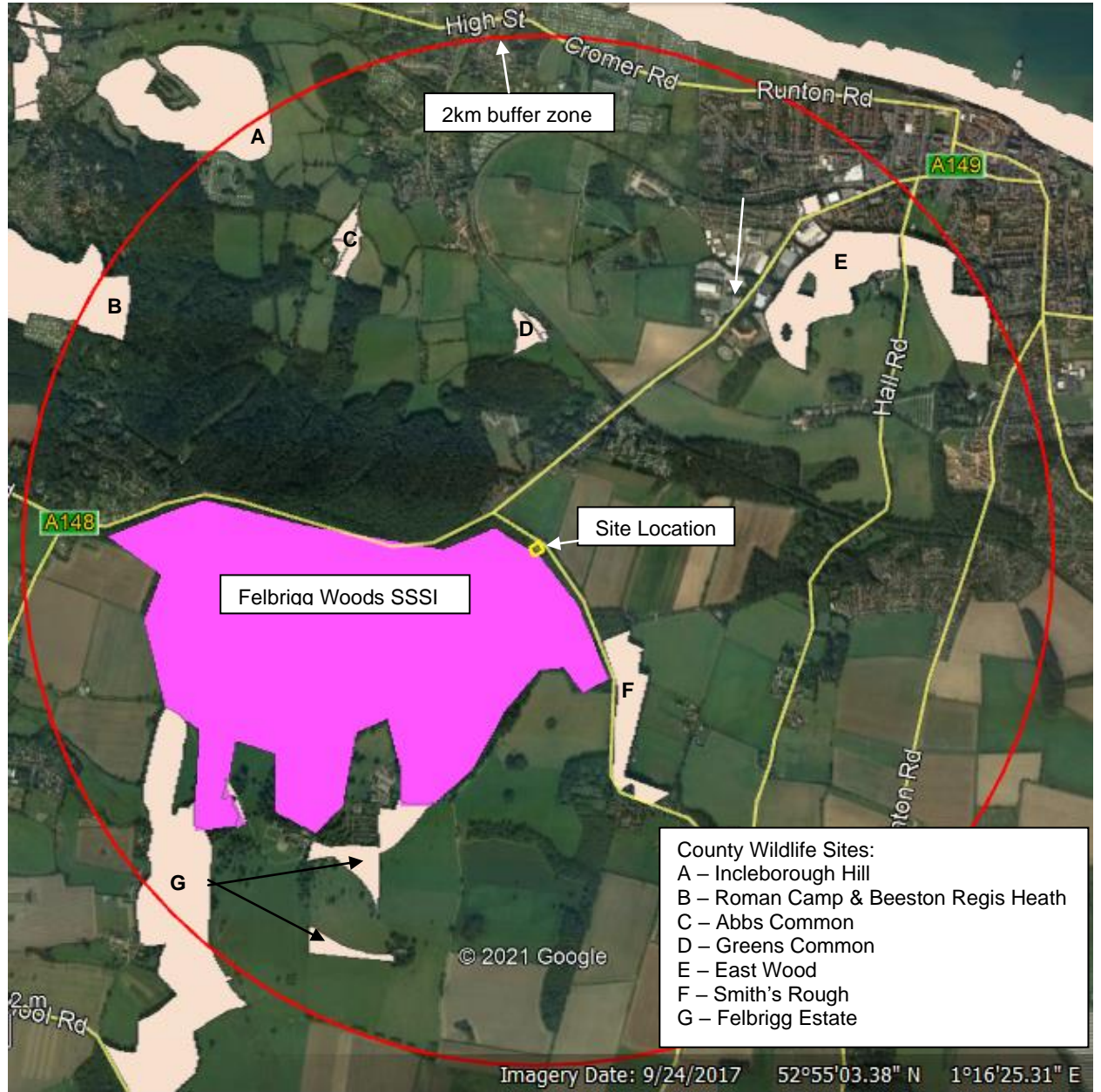
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Appendix 1 – Site Location



(Source Google Earth: 2021)

Appendix 2 – Statutory and non-Statutory Designated sites



(Image source Google Earth: 2021)

Appendix 3 – Bat Roost Trigger Assessment

Trigger Indices	Category	T1 Score
A) Location, habitat and environmental context		
T1: General location	Suburban or intensive farmland	0.67
T2: Foraging opportunities within 250 m	Good	1
T3: Foraging opportunities within 5 km	Good	1
T4: Commuting opportunities	Moderate	0.67
T5: Cover in vicinity of structure	Good	1
T6: External lighting in vicinity of structure	Low level	0.67
T7: Number and character of nearby buildings	Mixture of old and new	0.67
T8: Structure/building exposure	Moderate	0.67
B) Exterior features and characteristics of building		
T9: Structure/building age	Less than 50 years	0.33
T10: Size of Building	Intermediate size	0.67
T11: Main wall construction material	Modern	0.33
T12: Condition of wall/roof pointing/render	Tightly sealed	0.33
T13: Condition of lintel/door frame features	Some gaps, cracks or crevices noted	0.67
T14: Condition of eaves/soffits/bargeboards	Tightly sealed	0.33
T15: Condition of weatherboarding/cladding	Tightly sealed	0.33
T16: Condition of lead flashing	No flashing	0.2
T17: Roofing material	Modern tiling or mixture	0.67
T18: Bat access potential	No gaps noted	0.33
C) Interior features and characteristics of building		
T19: Character of roof void/roof space	Small low void or open roof space	0.33
T20: Character and condition of roof supports	Tightly sealed modern timbers/supports	0.33
T21: Presence and extent of cobwebbing	Numerous cobwebs in roof space	0.33
T22: Presence and condition of roof lining	Potential cavity but very limited access	0.33
T23: Light levels in roof void/space	Intermediate	0.67
T24: Protection from weather/wind	Intermediate protection	0.67
T25: Temperature regime	Intermediate	0.67
T26: Level of (human, animal) disturbance	High	0.33
T27: Flight Space	Good	1
T28: Flying Access (Horseshoe bats)	None	0.33
TRIGGER INDEX SCORE =		0.49
BAT ROOST SUITABILITY =		NEGLIGIBLE