Faceby Lodge Farm,
Faceby, North Yorkshire

NYMNPA

07/11/2019

Ecology Report (Inc. bats and birds)

August 2019

Report reference	1270
Revision	1
Prepared by	Thomas McQuillan
Approved by	Andrew Westgarth
Issue date	23rd August 2019

This report is valid for a period of 12 months from the issue date.

quantsenvironmental.com

Quants Environmental Ltd, 65 Kirkby Road, Ripon, North Yorkshire. HG4 2HH

Contents

1 Introduction

1.1.1.1 This report presents the results of an Ecological Survey undertaken at Faceby Lodge Farm, Faceby, North Yorkshire, TS9 7DP. The survey has been completed to provide supporting information for a planning application for the proposed development at the site[1]. The survey included an ecological appraisal, bat scoping survey, dusk bat surveys and a barn owl survey.

1.1.1.2 The site is located at OS grid reference NZ49880432 at an altitude of ~90 m above sea level and comprises several agricultural buildings in various states of use on the Faceby Lodge farmstead. The site is located 3.1 km to the south-west of the village of Great Busby; 15.9 km south of Middlesbrough (see Figure 1).

1.1.1.3 The aim of the survey was to determine the potential for the proposed development to affect protected/notable species and habitats, and to provide recommendations for mitigation and/or compensation input where required. The survey was completed to inform planning decisions in relation to the proposed development.

Figure 1. Approximate site location shown by red line red (aerial imagery dated 2018)[2]

[1] Refer to design plans at Appendix 3. The proposed works will include the demolition, and conversion of the remaining buildings to form 9 no. holiday units and 1 no. managers unit together with associated access improvements, parking areas with pergola and landscaping works.

[2] Refer to the design plans for the exact site boundary.

2 Methodology

2.1 Desk Study

2.1.1.1 An ecological data search of protected / notable species was commissioned from the North and East Yorkshire Ecological Data Centre (NEYEDC) in order to identify any existing records of protected / notable species within 2 km of the site. The search included non-statutory sites within the search area.

2.1.1.2 In addition, the following web sources were searched for statutorily protected sites and additional ecological data of most relevance: Multi-Agency Geographic Information for the Countryside (MAGIC), Ordnance Survey 1:25,000 mapping and aerial imagery (dating 2001, 2002, 2006, 2007, 2009 and 2018).

2.1.1.3 The findings of previous ecological surveys[3] undertaken on the site were reviewed as part of the desktop study.

2.2 Study Area

2.2.1.1 The survey covered the areas proposed for development (Refer to Design Plans at Appendix 3). The site area covers approximately 0.9 ha.

2.3 Personnel

2.3.1.1 The surveys were led by Thomas McQuillan MCIEEM[4] [5].

2.4 Preliminary Ecological Appraisal

2.4.1.1 A site visit on 3rd July 2019 was completed using extended Phase 1 habitat survey techniques as defined in the standard methodology[6].

2.4.1.2 The aim of the site visit was to gather sufficient baseline information on the habitats within the site in order to allow an interpretation of the associated ecological value. In addition, the site was searched for incidental evidence of protected / notable fauna and assessed in terms of its potential to support protected / notable fauna including species listed within European, national and local legislation and policies. For example, badgers were accounted for within the site visit by way of documenting any incidental evidence of badger activity within or adjacent to the site.

2.4.1.3 The features subject to visual assessment included the proposed development site and land adjacent where access was available. The weather conditions at the time of survey were: 20°C, dry, 10% cloud, wind 1 (Beaufort Scale) with good visibility.

2.4.1.4 The site visit was completed within the optimal period for extended Phase 1 habitat surveys (May to September). Sufficient information was gathered on protected / notable species in terms of the likelihood of occurrence at the site (as far as is reasonably possible). With consideration of the homogenous habitat type within the site, the production of a Phase 1 map was not considered necessary for this particular appraisal.

2.4.1.5 Overall, it is considered that there were no significant constraints to achieving the purpose of the assessment.

---

[3] Faceby Lodge Farm, Faceby – Bat Risk Assessment – Feb 2019 – Applied Ecological Services Ltd. Ecology Survey - Brindle & Green – 2014.

[4] Natural England Class Licence Registration No. 2015-11312-CLS-CLS - CL18 Level 2 (Bats).

[5] Natural England Class Licence Registration No. WML- CL09:2014-6237-CLS-CLS (Great Crested Newts).

[6] JNCC, (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit,* ISBN 0 86139 636 7.

2.5 Bat Scoping Survey and Inspection Survey

2.5.1.1 The buildings proposed for development were subject to detailed external and internal inspections for signs of bats on 26th June 2019. This involved searching the exterior and interior of the buildings for signs of bats such as droppings and for potential bat roost locations. The survey was undertaken in accordance with current good practice guidelines[7].

2.5.1.2 The buildings were assessed in terms of its potential to support bat roosts using the following categories:

- Negligible potential.
- Low potential.
- Moderate potential.
- High potential.
- Confirmed roost.

2.5.1.3 Except building 2 (granary), there was full access into all the buildings, which allowed for a detailed search for evidence of bats. In a number of the derelict / open barns (buildings 5, 8 and 9) the recently disturbed floors and soil substrates made it difficult to find evidence of bat activity (i.e. droppings and feeding remains). Overall, it is considered that there were no significant constraints to achieving the purpose of the assessment.

2.6 Dusk Emergence Bat Surveys

2.6.1.1 Dusk emergence bat surveys were undertaken on the buildings at Faceby Lodge Farm on 26th June 2019, 10th July 2019 and 24th July 2019, with six surveyors present during each survey[8].

2.6.1.2 Good views of all Potential Roost Features (PRFs) on the buildings proposed for conversion/demolition/renovation were held during each survey. The surveyors used Pettersson D200 heterodyne, Peersonic RPA3 and Echo Meter Touch 2 Pro bat detectors.

2.6.1.3 The dusk emergence survey conditions are summarised in Table 1. The survey was undertaken in accordance with current good practice guidelines[9].

2.6.1.4 The surveys were completed within the main bat survey season of May – August inclusive.

Table 1. Bat Survey Conditions

Date	26th June 2019	10th July 2019	24th July 2019
Sunset	21:43	21:34	21:19
Survey duration	21:30 – 23:15	21:15 – 23:10	21:00 – 23:00
Weather conditions	10.9 °C, dry, cloud 5 %, wind Bft 0-1 and humidity 92 %.	17.9 °C, dry, cloud 0 %, wind Bft 0 and humidity 95%.	25 °C, dry, cloud 20 %, wind Bft 0-1 and humidity 72 %.

[7] Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust. ISBN-13: 9781872745985.

[8] 26/06/2019 - Thomas McQuillan, Andrew Westgarth (WML-CL18 Level 2: 2015-14953-CLS-CLS), Rob Adams, Lynn Mason, Phil Taylor and Helen Sewell.

10/07/2019 – Andrew Westgarth, Lynn Mason, Erica Westgarth, Rob Adams, Phil Taylor and Helen Sewell.

24/07/2019 – Andrew Westgarth, Lynn Mason, Erica Westgarth, Rob Adams, Phil Taylor and Helen Sewell.

[9] Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust. ISBN-13: 9781872745985.

2.7 Bat Dropping DNA Analysis

2.7.1.1 One bat dropping sample was collected on 3rd July 2019 from inside building 10; this was sent to the University of Warwick for DNA species analysis and genotyping confirmation.

2.8 Barn Owl Survey

2.8.1.1 A barn owl survey was undertaken on 8th July 2019 by Dave Tate, an experienced barn owl surveyor. The survey was undertaken between 19:30 – 22:30.

2.8.1.2 The calm, mild, dry and clear weather conditions were ideal for observations. Each of the outbuildings was searched for regurgitated pellets and excrement known as ‘splash’.

3 Results

3.1 Desk Study

3.1.1 Statutory Wildlife Sites

3.1.1.1 *North York Moors SSSI SPA SAC*[10] is located 2.4 km southeast of the application site. This area contains the largest area of continuous heather moorland in England. Ecologically this area can be generally classified as a sandstone upland and consists of a large treeless moorland plateau with several scattered woodland valleys and areas of blanket bog, semi-natural heathland, and pasture. The park and surrounding natural areas are largely unpopulated. The importance of the North York Moor's moorland bird population has been internationally recognised.

3.1.1.2 The site is located within the *North York Moors National Park*.

3.1.2 Non-Statutory Wildlife Sites

3.1.2.1 There are no non-statutory wildlife sites within 2 km of the application site.

3.1.3 Protected and Notable Species

3.1.3.1 NEYEDC provided the following species records:

3.1.3.2 Amphibians: no records within 2 km of site.

3.1.3.3 Reptiles: one record of a slow-worm for Swainby; record dated 2003 for NZ4702.

3.1.3.4 Birds: there are five records within 2 km of site; all for the village of Carlton-in-Cleveland; recorded species include sparrowhawk, swallow, tawny owl and swift (two records).

3.1.3.5 Mammals: excluding bat species located within 2 km of site. The two recordings consisted of a brown hare in Carlton-in-Cleveland and European rabbit.

3.1.3.6 Bat species: Three records of common pipistrelle bats within 2 km of the application site all for the village of Carlton-in-Cleveland.

[10] SSSI – Site of Special Scientific Interest. SAC – Special Area of Conservation. SPA – Special Protection Area.

3.2 Phase 1 Habitat Survey

3.2.1 Overview

3.2.1.1 The application site covers ~0.9 ha and includes several agricultural buildings of mixed age and construction which form part of the Faceby Lodge farmstead. The farm is located within a rural location and is accessed by a narrow track that links to the A172 to the north.

3.2.1.2 Areas of hard standing, encroaching scrub and occasional trees surround the agricultural buildings. Further buildings are located to the south and west of the site with the dominant habitat within the local area being permanent livestock grazed pasture. There are no ponds on site.

3.2.2 Mature Trees

3.2.2.1 There are two small groups of trees on site. A small group of trees is located on the northern edge of the site adjacent to the farm gate, with a small group of trees located on the south-west edge of the site to the west of building 9.

3.2.2.2 Trees species on site include ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus*.

3.2.3 Encroaching Scrub

3.2.3.1 Throughout the site there are numerous areas of scrub and rubble piles bordering the areas of hardstanding and the buildings. Following the western border of the site is an area of encroaching scrub (previously a barn was located in this area). These habitats were characterised the following species: bramble genus: *Rubus*, creeping thistle *Cirsium arvense*, greater willowherb *Epilobium hirsutum*, hedge bindweed *Calystegia sepium* and false oat grass *Arrhenatherum elatius*. Towards the north-west of the site there are also several small oak *Quercus robur*, ash *Fraxinus excelsior* and elder *Sambucus nigra* saplings close to areas of hardstanding.

3.2.4 Buildings

3.2.4.1 See photos at Appendix 2. The surveyed site includes several agricultural buildings of mixed age and construction[11], the buildings which have been numbered 1-11, are described below:

3.2.4.2 Building 1: an L-shaped agricultural barn in the north-west region of the site. The main part of the building measures 35 m (L) x 7 m (W) and was considered to be moderate state of repair. The two western rooms are in-use as stables and connect to the adjacent cottage which is located beyond the site boundary to the west; all other rooms are not in-use and are empty. This building is a sandstone construction with a timber roof structure. The building has a pitched roof with north and south elevations. The roof has a covering of slate tiles with several tiles missing or damaged. There are two timber-framed windows on the north elevation, with several stable doors on the southern elevation. The southern wing is of sandstone construction with a tiled roof (slate tiles on an east and west elevation); several doors are located on the western elevation with this part of the building used for storage and as a chicken coop.

3.2.4.3 Building 2: the two-storey former granary is located in the centre of the site. The building measures 32 m (L) x 9.5 m (W). The building is in poor condition and not in use. There are five ground floor rooms. The first floor was inaccessible due to a damaged staircase and unsafe floor. The building is of sandstone and redbrick construction with a steel reinforced timber frame. The roof is pitched, and is clad with asbestos sheeting (with some translucent tiles), and has north and south elevations. Guttering is also asbestos. There is no enclosed loft void with the first floor rooms open to the underside of the roof sheets.

3.2.4.4 Building 3: a single-story building on the eastern region of the site. The building measures 21 m (L) x 6 m (W), and was in poor condition and not in-use. The building is of sandstone construction with

[11] Refer to the design plans in Appendix 3, which shows the locations of the buildings on site.

a timber roof frame. The roof is pitched with east and west elevations; roof tiles are slate with timber sheeting below. Defunct plastic guttering is present on the building. Yorkshire boarding clads the western elevation of the building.

3.2.4.5 Building 4: an open-sided agricultural barn in the north-west corner of the site. The building measures 20 m (L) and has two sections with widths of 5 m (east part) and 9 m (west part). The eastern section has a timber frame with the walls clad with tin sheeting; this section is in a state of disrepair and not in-use. The western section is used as an open chicken enclosure. Three of the four walls are open and bordered by timber fencing, with the northern wall clad with tin sheeting. The roof has a covering of asbestos sheeting with a north elevation,

3.2.4.6 Building 5: a large open agricultural storage barn on the northern region of the site. The building measures ~34 m x 34 m. This barn is in use for general agricultural storage; hay bales currently occupy the barn. The timber and steel frame support a multi-pitched roof, which has a covering of tin and asbestos sheeting with some translucent sections. The internal area is divided into four loose rooms separated by low breeze block walls, timber panels and several steel gates.

3.2.4.7 Building 6: while present on plans this building is no longer standing.

3.2.4.8 Building 7: a large agricultural building at the centre of the site. The building measures 32 (w) x 20 (L). This barn is of sandstone construction is divided into two large linear barns. The roof on the eastern room has collapsed and the barn composed totally of rubble and loose material. The western room is vacant with significant damage and includes disused livestock pens. The roof on the western room is pitched with a covering of asbestos sheeting, although much of the roof has collapsed. The barns have a steel and timber roof structure.

3.2.4.9 Building 8: a large agricultural building at the centre of the site. The building measures 32 (w) x 10 (L). This barn is of sandstone construction and is in-use for livestock storage. The roof is pitched with a covering of asbestos sheeting. The barn has a steel and timber roof structure. The barn contains a single room with no enclosed loft void. Windows are located on the eastern elevation with a doorway on the southern elevation.

3.2.4.10 Building 9: a series of agricultural sheds in the south-east region of the site. These buildings are of 'modern' design with breeze block walls, steel and/or timber frames and corrugated sheeting on the roofs. The eastern shed has partially collapsed with the remainder of the structure is in-use for livestock storage. The roof is pitched with east and west elevations and is composed of corrugated tin sheeting.

3.2.4.11 Building 10: a single storey stable containing two rooms in the south-west of the site. This building is of red brick construction with a pitched, slate tiled roof, with north and south elevations. The roof has a timber frame. There are timber framed windows on the north and south elevations.

3.2.4.12 Building 11: a single storey stable containing two rooms in the south-west of the site. This building is of red brick construction with a pitched, slate tiled roof, with east and west elevations. The roof has a timber frame with doors on the eastern elevation. Both rooms were empty.

3.2.5 Overview of Surrounding Habitats

3.2.5.1 The surveyed site is positioned in a rural setting 0.92 km to the north of the village of Faceby. The site is accessed directly off a narrow unnamed agricultural track running south from the A172. The site is surrounded on all sides by agricultural farmland; predominantly grazed pasture. Further buildings, which form part of Faceby Lodge Farm, are located to the east and south-east of the application site.

3.2.5.2 Pasture farmland is the dominant land use within the local area; mostly sheep grazing. Faceby Beck is located 150 m to the south of the application site; an area of woodland (Prioirty Habitat Inventory – Deciduous Woodland) edges the beck. There are several areas of mixed and deciduous woodland in the surrounding area, including Busby Wood 1.8 km to the south-west, Whorl Hill Wood 1 km to the south and Nine Acre Plantation 2 km to the east.

3.3 Bat Survey

3.3.1 Bat Scoping Survey (Inc. findings of previous bat surveys)

3.3.1.1 Building 1: Previous surveys on the site recorded the presence of a soprano pipistrelle roost (2 bats) within an interior wall of this building and a brown long-eared feeding roost within the southern wing of the stables. Building 1 was considered to hold Bat Roost Features of moderate potential to support roosting bats. Typical roost features included gaps under the roof tiles and crevices within the internal and external walls.

3.3.1.2 Building 2: Evidence (bat droppings) to indicate bat roosting activity was recorded within building 2, with a low-moderate density of droppings noted within the ground floor rooms. Building 2 was considered to hold Bat Roost Features of moderate potential to support roosting bats. Typical roost features included gaps and crevices in the internal and external walls, and gaps under roof sheets.

3.3.1.3 Building 3 was considered to hold Bat Roost Features of moderate potential to support roosting bats. Typical roost features included gaps under the roof tiles and crevices within the internal and external walls.

3.3.1.4 Building 4 was considered to hold Bat Roost Features of low potential to support roosting bats. Typical roost features included gaps between the timber frame and the roof cladding.

3.3.1.5 Building 5 was considered to hold Bat Roost Features of low potential to support roosting bats. Typical roost features included gaps between the timber frame and the roof cladding.

3.3.1.6 Building 7: Previous surveys on the site recorded the presence of a common pipistrelle roost (5 bats) within an interior wall of this building and a common pipistrelle roost (3 bats) within a crevice on the southern wall of this building (above a doorway). Building 7 was considered to hold Bat Roost Features of moderate potential to support roosting bats. Typical roost features included gaps between roof sheets and framework, and gaps in internal and external walls.

3.3.1.7 Building 8 was considered to hold Bat Roost Features of moderate potential to support roosting bats. Typical roost features included gaps between roof sheets and framework, and gaps in internal and external walls.

3.3.1.8 Building 9: Previous surveys on the site recorded the presence of a common pipistrelle roost (10 bats) within this barn. Building 9 was considered to hold Bat Roost Features of low potential to support roosting bats. The value of this building to roosting bats has reduced since 2014 as much of the eastern part of the barn has collapsed. Typical roost features on this building included gaps between the timber frame and the roof cladding.

3.3.1.9 Building 10 was considered to hold Bat Roost Features of moderate potential to support roosting bats. Typical roost features included gaps under the roof tiles and crevices within the internal and external walls.

3.3.1.10 Building 11: Previous surveys on the site recorded the presence of a brown long-eared roost within this building. Building 11 was considered to hold Bat Roost Features of moderate potential to support roosting bats. Typical roost features included gaps under the roof tiles and crevices within the internal and external walls.

3.3.1.11 None of the trees on site were considered to hold features suitable for roosting bats. The habitats on site, including the buildings and boundary trees, were considered suitable for foraging and commuting bats.

3.3.1.12 As part of the previous ecological surveys undertaken on the site the following roosts were recorded on buildings at Faceby Lodge Farm that are outside the application site. These roosts included a maternity bat roost within the farmhouse to the south-west of the application site (species unknown) and a common pipistrelle day roost within the open fronted barn to the west of the granary (building 2).

3.3.2 Dusk Emergence Surveys

3.3.2.1 During the dusk emergence bat survey on 26th June 2019, one common pipistrelle bat was recorded to emerge from the eastern elevation of building 2, one soprano pipistrelle was recorded to emerge from building 1 on the northern elevation, and one common pipistrelle bat was recorded to emerge from the southern elevation of building 7. During the survey foraging and commuting activity was recorded within the site from common pipistrelle and soprano pipistrelle bats. Other findings included a hedgehog and several recordings of barn owl across the site (two adult birds recorded). Refer to Figure 2 for roost locations.

3.3.2.2 During the dusk emergence bat survey on 10th July 2019, one common pipistrelle bat was recorded to emerge from the eastern elevation of building 2, two common pipistrelle bats were recorded to emerge from the southern elevation of building 7, and one brown long-eared bat was recorded to emerge from building 10. During the survey foraging and commuting activity was recorded within the site from brown long-eared, common pipistrelle and soprano pipistrelle bats. Other findings included several recordings of barn owl across the site (two adult birds recorded). Refer to Figure 2 for roost locations.

3.3.2.3 During the dusk emergence bat survey on 24th July 2019, two common pipistrelle bats were recorded to emerge from the southern elevation of building 7 and one common pipistrelle was recorded to emerge from building 1. During the survey foraging and commuting activity was recorded within the site from common pipistrelle, brown long-eared, soprano pipistrelle and noctule bats. Other findings included a hedgehog foraging to the south of building 8, several recordings of barn owl across the site and a tawny owl recorded to the east of the farm. Refer to Figure 2 for roost locations.

3.3.3 Bats – Survey Findings

3.3.3.1 The desktop assessment, daytime building inspection and dusk emergence surveys recorded the presence of bat roosting activity within buildings 1, 2, 7, 8, 9, 10 and 11 as follows (refer to Figure 3):

- Building 1 – common pipistrelle day roost within the eastern part of the barn. On 24th July 2019 one common pipistrelle bat was recorded to emerge from this barn (roost located within the eastern part of the barn, with the bat using an open doorway on the southern elevation to exit the building).

- Building 1 – previous surveys on the site recorded the presence of a soprano pipistrelle roost (2 bats) within an interior wall of this building. On 26th June 2019 one soprano pipistrelle bat was recorded to emerge from this barn (eastern part of the barn using a hole in the roof to exit the barn). Likely day roost.

- Building 1 – previous surveys on the site recorded the presence of a brown long-eared feeding roost within the southern wing of the stables. The internal rooms on the southern wing of building 1 remain suitable for perching brown long-eared bats and whilst no evidence of this roost was recorded during the 2019 surveys with brown long-eared bats recorded foraging on the site on 24th July 2019 this roost is considered to be active and used on an occasional basis.

- Building 2 – common pipistrelle day roost (max. 1 individual bat). Roost located within a crack around the first floor doorway on the eastern elevation of the barn.

- Building 7 – previous surveys on the site recorded the presence of a common pipistrelle roost (5 bats) within an interior wall of this building. No evidence of this roost was recorded during the 2019 surveys and given that the condition of this building has deteriorate significantly (roof collapsed on much of the barn) this roost is unlikely to still be active.

- Building 7 – common pipistrelle day roost (max. 3 individual bats) within the gaps in the stonework on the southern elevation of the barn (above the large doorway). This roost was recorded in 2014 and 2019.

- Building 9 - previous surveys on the site recorded the presence of a common pipistrelle roost (10 bats) within this barn. No evidence of this roost still being active was recorded during the 2019 surveys. The value of this building to roosting bats has reduced since 2014 as much of the eastern part of the barn has collapsed. Roost features on this building, which include gaps between the timber frame and the roof cladding, remain and there is the potential for this roost to remain active and used only on an occasional basis.

- Building 10 – brown long-eared day roost within the eastern room. (Approx. 1-2 individual bats; based on the number of droppings around the roost). Roost located along the ridge board (area clear of cobwebs). There was no evidence to indicate that this is a maternity roost. One dropping sample was taken for DNA analysis; this was confirmed as brown long-eared (Appendix 3 for DNA sequence). Based on the age (< 6 months) of the droppings this roost was considered to be active. One brown long-eared bat was recorded to emerge from building 10 on 10th July 2019.

- Building 11 – brown long-eared day roost recorded during the 2014 surveys. The building was considered to remain suitable for roosting bats and it is considered that this roost is still active although used on an occasional basis. Roost likely to be located along the timber ridge board / under the ridge tiles.

Figure 2 – Locations of Bat Roosts

3.4 Barn Owl

3.4.1.1 The mainly abandoned buildings at Faceby Lodge Farm were surveyed to determine barn owl occupancy on the evening of 8th July 2019. The conditions were mild (18°C at 21:10), dry, overcast but clear, with a light breeze from the south-west. Each of the outbuildings was searched for regurgitated pellets and excrement known as 'splash'.

3.4.1.2 One pellet and a small amount of splash were seen in a small outbuilding at the east end of building 10. Elsewhere, although there are many exposed horizontal beams in ground floor buildings they did not appear to have recently been used by perching barn owl. Evidence may exist in the open storage barns (building 5) but much of the floor has recently been filled with hay bales. Whilst searching the buildings the adjacent fields were scanned for hunting birds but none were seen.

3.4.1.3 At 20:14 the second floor granary (building 2) was viewed from the top of the stairs. A barn owl, most probably a male, was flushed from a beam and flew out to the west via a broken window. The granary floor is not sound so the search for splash and pellets was limited, though aided by torch light. There was insufficient evidence to suggest that breeding was taking place in the granary and it is likely that it is used as a roost site.

3.4.1.4 At 20:45 a darker barn owl, probably a female, was briefly seen as it flew west from the stables (building 1). It was not clear if the bird had come out of the stables via holes in the roof or an open window, or if it had come over the roof from elsewhere.

3.4.1.5 At 21:10 a barn owl was perched on the low fence to the north-west of the Cottage (off site to the west). The bird was in hunting mode and viewed the immediate area for 8 minutes before flying off to the north-west where it was lost from view after it cleared some conifers.

3.4.1.6 A fourth prolonged sighting started at 21:42 when a bird was seen hunting alongside the hedges of, and over, two sheep-grazed meadows to the north-west of the site. At some point a small mammal was caught and the bird came directly towards the surveyor with the prey at about 3 m above ground level. It flew over the surveyor at 21:55 and turned sharply eastwards and was lost to view behind buildings. The bird had appeared to have been heading for the stables and this area was watched from cover for 10 minutes but the bird did not return during that time. Afterwards the granary was re-visited without result and no further sightings were made by 22:30 when surveying was completed.

3.4.1.7 Although there were few signs of occupancy in the majority of the buildings a roosting bird, probably a male, was disturbed in the Granary. Later, there were three sightings of a female in the area of the Stables. These included both perched and flying hunting modes as well as prey carrying. The evidence strongly suggests that breeding is taking place at the site. The nest location was not determined for certain but is probably in the western part of the Stables where a horse is housed or in the first floor area of the Granary.

3.4.1.8 The findings of the barn owl survey are shown in Appendix 3.

3.5 Nesting Birds (excluding barn owl)

3.5.1.1 The following birds were recorded to be breeding on the site in 2019 blackbird, swallow (5-6 pairs), house sparrow, jackdaw and pied wagtail. At least ten swallow nests (5-6 of these were considered to be active) were recorded in building 2.

3.5.1.2 During the dusk bat survey on 24th July 2019 tawny owl were heard calling to the east of the farm.

3.5.1.3 There are numerous opportunities for birds to nest within the site; potential nesting features are located within the buildings and vegetation.

3.6 Badger

3.6.1.1 NEYEDC provided no records of badger within 2 km of the application site.

3.6.1.2 No evidence of badger activity was observed during the survey. The land within the site is generally unsuitable for sett digging due to its topography, habitat and disturbance from the nearby properties.

3.6.1.3 With mature hedgerows and woodland within 2 km of the site the species may be present in the local area. Rabbit activity was recorded within the site.

3.7 Great Crested Newts

3.7.1.1 NEYEDC provided no records of great crested newts within 2 km of the application site.

3.7.1.2 There are no ponds within the site.

3.7.1.3 A single pond has been identified within 500 m of the site; this is located 146 m to the south adjacent to Faceby Beck at grid reference NZ49590385. Access was requested on 26th June 2019 to survey the pond using the eDNA survey technique to determine the presence/absence of great crested newts; unfortunately permission to survey the pond was not granted by the landowner. There are no barriers to amphibian movement between the application site and the pond 146 m to the south. The pond 146 m to the south is surrounded by mature woodland and rough grassland providing optimal amphibian terrestrial habitat.

3.7.1.4 The habitats within the site were considered to be suitable for amphibians during their terrestrial phase; although given the significant coverage of buildings and hard standing, the terrestrial habitats within the site are unlikely to be of significant value to amphibian species.

3.8 Other Species

3.8.1.1 The habitats within the site were considered unsuitable for otter, water vole or reptile species.

3.8.1.2 Hedgehog was recorded on the site (08/07/2019 and 24/07/2019) and brown hare are likely to be present within the wider area.

4 Conclusions and Recommendations

4.1 Conclusions

4.1.1 Designated Sites

4.1.1.1 The site is located within the *North York Moors National Park*.

4.1.1.2 *North York Moors SSSI SPA SAC* is located 2.4 km southeast of the application site; it is not considered that the development will impact this site or other such sites in the local area.

4.1.2 Habitats

4.1.2.1 The application site covers ~0.9 ha and includes several agricultural buildings of mixed age and construction which form part of the Faceby Lodge farmstead. The farm is located within a rural location and is accessed by a narrow track that links to the A172 to the north.

4.1.2.2 Areas of hard standing, encroaching scrub and occasional trees surround the agricultural buildings. Further buildings are located to the south and west of the site with the dominant habitat within the local area being permanent livestock grazed pasture. There are no ponds on site.

4.1.3 Bats

4.1.3.1 NEYEDC provided three records of common pipistrelle bats within 2 km of the application site; these records were all for the village of Carlton-in-Cleveland.

4.1.3.2 The desktop assessment, daytime building inspection and dusk emergence surveys recorded the presence of bat roosting activity within buildings 1, 2, 7, 8, 9, 10 and 11 as shown in Figure 2).

4.1.3.3 The following roosts have been recorded within the surveyed buildings; five common pipistrelle day roosts, one soprano pipistrelle day roost, one brown long-eared feeding perch and two brown long-eared day roosts.

4.1.3.4 Based on the findings of the surveys there was no evidence to indicate the presence of maternity roosting activity within the surveyed buildings, with the recorded roosts considered to be daytime roosts used by low numbers of males or non-breeding females. Hibernation roosting activity cannot be discounted within the surveyed buildings.

4.1.3.5 None of the trees on site were considered to hold features suitable for roosting bats. The habitats on site, including the buildings and boundary trees, were considered suitable for foraging and commuting bats.

4.1.4 Barn Owl

4.1.4.1 During the barn owl survey on 8th July 2019 a roosting bird, probably a male, was disturbed in the Granary. Later, there were three sightings of a female in the area of the Stables. These included both perched and flying hunting modes as well as prey carrying. The evidence strongly suggests that breeding is taking place at the site. The nest location was not determined for certain but is probably in the western part of the Stables where a horse is housed or in the first floor area of the Granary.

4.1.5 Birds (excluding barn owl)

4.1.5.1 The following birds were recorded to be breeding on the site in 2019 blackbird, swallow (5-6 pairs), house sparrow, jackdaw and pied wagtail. At least ten swallow nests (5-6 of these were considered to be active) were recorded in building 2.

4.1.5.2 There are numerous opportunities for birds to nest within the site; potential nesting features are located within the buildings and vegetation.

4.1.6 Badger

4.1.6.1 NEYEDC provided no records of badger within 2 km of the application site. No evidence of badger activity was observed during the survey. The land within the site is generally unsuitable for sett digging due to its topography, habitat and disturbance from the nearby properties. Based on the survey findings, no specific mitigation input is deemed necessary for badger.

4.1.7 Great Crested Newts

4.1.7.1 NEYEDC provided no records of great crested newts within 2 km of the application site.

4.1.7.2 There are no ponds within the site and a single pond within 500 m of the site; this is located 146 m to the south adjacent to Faceby Beck. Access was requested on 26th June 2019 to survey the pond using the eDNA survey technique to determine the presence/absence of great crested newts; unfortunately permission to survey the pond was not granted by the landowner. The pond 146 m to the south is surrounded by mature woodland and rough grassland providing optimal amphibian terrestrial habitat.

4.1.7.3 The habitats within the site were considered to be suitable for amphibians during their terrestrial phase; although given the significant coverage of buildings and hard standing, the terrestrial habitats within the site are unlikely to be of significant value to amphibian species.

4.1.7.4 Whilst there is an information gap on the presence of great crested newts in the pond 146 m to the south, given the distance between the site and the pond, the extensive optimal terrestrial habitats immediately surrounding the pond and the significant coverage of buildings and hard standing the risk to great crested newts being impacted during the construction phase is considered to be low.

4.1.8 Other Species

4.1.8.1 The habitats within the site were considered unsuitable for otter, water vole or reptile species.

4.1.8.2 Hedgehog was recorded on the site (08/07/2019 and 24/07/2019) and brown hare are likely to be present within the wider area.

4.2 Recommendations

4.2.1 Habitats

4.2.1.1 It would be recommended that the mature trees on the northern and western edges of the site be retained as part of the development and that native species are included within the landscape design plan for the site.

4.2.2 Bats

4.2.2.1 This report concludes that the buildings proposed for development include confirmed soprano pipistrelle, common pipistrelle and brown long-eared roosts. All roosts will be impacted by the development and therefore suitable mitigation and compensation input will be required.

4.2.2.2 A European Protected Species Mitigation (EPSM) licence will be required in order to permit works which would result in the damage, destruction, or blocking of access to, a breeding site or resting place used by a European Protected Species (including all bat species). NE is able to issue EPSM licences upon the presentation of evidence-based and proportionate mitigation provided the following '3 tests' are met:

1. That the action is for the purpose of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature;

2. That there is no satisfactory alternative; and

3. That the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

4.2.2.3 NE aims to process licence applications in 30 working days. If a period of time elapses after the date of the most recent bat survey (2019) and before the commencement of the proposed works, it may be necessary to undertake update surveys to confirm whether: a) an EPSM licence is required (i.e. whether the work will result in the damage, destruction, or blocking of access to, a breeding site or resting place used by a bat; and b) whether there are any satisfactory alternatives (see 2nd of the 3 tests above) which would negate the need for an EPSM licence. NE is only able to issue an EPSM licence if the '3 tests' are met and if the works would otherwise result in an offence. NE is not able to issue a licence on a precautionary basis, e.g. if there is not robust evidence that a bat's resting place would be damaged/ destroyed.

4.2.2.4 Recommendations for mitigation and compensation input should be finalised within the EPSM licence. Such information will be dependent on the final scope of works (i.e. timings for construction and demolition/renovation works). Mitigation input will relate to timings of works, method of working (where works must be completed by hand or with hand tools), the requirement for ecological supervision during works, procedures that should be following during the works stage should a bat be found, and details of temporary and permanent roost provision.

4.2.2.5 Appendix 4 provides an overview of the Mitigation and Compensation strategy recommended for the project. This information will form the basis of the NE EPSM licence application. Roost provision should include permanent features suitable for soprano pipistrelle, common pipistrelle and brown long-eared bats.

4.2.3 Barn Owl

4.2.3.1 Barn owl roosting activity was confirmed and nesting activity considered very likely within the surveyed buildings in 2019. It is recommended that the following Barn Owl Mitigation and Enhancement Strategy be implemented as part of the scheme.

Mitigation

4.2.3.2 Barn owls are afforded protection against killing, injury or capture under the Wildlife and Countryside Act (1981), under Schedule 1 of which, offenders are liable to special penalties. Their nests and eggs are also protected. Under Schedule 1 of the Act (as amended) breeding barn owls are afforded protection against reckless disturbance while at or near the nest and, for as long as they are dependent on the adults, recently fledged young are protected against reckless disturbance at all times wherever they are.

4.2.3.3 Prior to any works commencing (including set up works etc.) a pre-start check should be undertaken within the buildings on site to confirm the presence/absence of barn owl activity. Based on the findings of the pre-start check appropriate recommendations for mitigation and compensation input should be presented as required and implemented in full. The pre-start check should be completed < 48 hrs prior to the commencement of works on site. Should barn owl be recorded nesting within the building the ecologist to provide guidance on next steps.

Enhancement

4.2.3.4 To compensate for the loss of the buildings to barn owl the following enhancements are proposed:

4.2.3.5 Install 3 timber barn owl boxes in the mature trees on the site / in the local area (subject to landowner approval). These boxes should be installed on timber telegraph poles if the trees are unsuitable. All boxes to be installed prior to works commencing on site under the guidance of an ecologist. All boxes to be installed on land under the ownership of the applicant. These boxes will provide provision for nesting and roosting barn owl during the works phase.

4.2.3.6 To provide permanent nesting provision for barn owl as part of the development, two barn owl boxes should be installed within the new Bat and Barn Owl Building in the south-east corner of the site. The ecologist should provide guidance on the design, location etc. for the two boxes.

4.2.4 Birds (excluding barn owl)

4.2.4.1 All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs.

4.2.4.2 The demolition, initial ground works and any vegetation removal should be completed outside of March to August (inclusive). Alternatively, if such work is required during the breeding bird season, a breeding bird survey check must be undertaken in order to confirm absence or presence of nest sites. If an active nest is found within the site, it must be avoided until the nest is no longer in use which may cause delays to the development.

4.2.4.3 To enhance the nesting opportunities for birds within the site it is recommended that artificial bird nesting boxes are included as part of the development. It is recommended that the following nesting boxes be installed as part of the developments. These should include 8 house sparrow boxes, 6 swift bricks and 8 swallow cups. The nesting boxes should be installed within the vegetated features and new/retained buildings on site, under the guidance of the ecologist. The swallow nesting cups should be installed within the new Bat and Barn Owl Building.

4.2.5 Great Crested Newts

4.2.5.1 Whilst the risk of great crested newts being impacted during the construction phase is considered to be low, given the information gap on the presence of great crested newts in the pond 146 m to the south it is recommended that works be completed with suitable mitigation input for amphibian species; such information should be detailed within a Construction Ecological Mitigation Plan (CEMP: Biodiversity). Such mitigation would include ecological supervision during vegetation clearance, staged clearance of vegetation and an ecological toolbox talk to the contractor.

4.2.6 Other Species

4.2.6.1 The habitats within the site were considered unsuitable for otter, water vole or reptile species; as such no specific mitigation input is deemed necessary for these species.

4.2.6.2 Standard measures (ecological supervision during vegetation clearance and ecological toolbox talks to the contractors) should be adopted to mitigate the risk to hedgehog during the development.

Appendix 1. Legislation and Conservation Context

Bats

Bats are fully protected through The Conservation of Habitats and Species Regulations 2010 as European Protected Species (EPS). They also receive some protection through inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

It is an offence to deliberately capture, injure or kill a bat. It is an offence to damage or destroy a breeding site or resting place of a bat. It is an offence to deliberately disturb a bat; in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or (b) to affect significantly the local distribution or abundance of the species to which they belong.

Under the Wildlife and Countryside Act 1981 (as amended), it is also an offence to intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; or obstruct access to any structure or place which any such animal uses for shelter or protection.

The 'appropriate authority' (Natural England in England) has powers to issue licences for various purposes including - (a) scientific or educational purposes… and (e) preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment. The appropriate authority shall not grant a licence under this regulation unless they are satisfied - (a) that there is no satisfactory alternative, and (b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range. It is an offence for any person authorised by virtue of a licence to which this paragraph applies to contravene or fail to comply with any condition which the licence requires him to comply with.

Nesting Birds

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Bird species listed in Schedule 1 of the 1981 Act, e.g. barn owl, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

Great Crested Newts

Great crested newts are fully protected through The Conservation of Habitats and Species Regulations 2010 as a European Protected Species (EPS). They also receive some protection through inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Under the legislation, it is an offence to deliberately capture, injure or kill a great crested newt. It is an offence to damage or destroy a breeding site or resting place of a great crested newt. It is also an offence to intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for shelter or protection; or obstruct access to any structure or place which it uses for that purpose.

Great crested newt is identified as UK Biodiversity Action Plan (BAP) Priority Species and is also listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as a Species of Principal Importance for the purpose of conserving biodiversity.

Appendix 2. Photographs

Photo 1. Building 3

Photo 2. Building 2

Photo 3. Building 10

Photo 4. Building 8

Photo 5. Building 9

Photo 6. Building 7

Appendix 3. NEYEDC Records, DNA Results and Design Plans

Our Ref:	E04258
Your Ref:	1270
Date:	07/06/2019
Search area:	2km radius from NZ496040

Site Data Search

Internationally designated sites:

The following sources were searched:

Special Areas of Conservation	*published March 2016 - revised August 2018*
Special Protection Areas	*published March 2016 - revised August 2018*
Ramsar sites	*published March 2016 - revised August 2018*

There are no internationally designated sites within the search area.

Nationally designated sites:

The following sources were searched:

Sites of Special Scientific Interest	*published 14/09/2017 - revised July 2018*
National Parks	*published 01/08/2016 - revised January 2018*
Areas of Outstanding Natural Beauty	*published 11/05/2015*
National Nature Reserves	*published March 2016 - revised July 2018*

The following nationally designated statutory sites are in or partly within the search area, and are shown on the accompanying map:

Designation	*Name or location of site*	*Grid Reference*
National Park	North York Moors	NZ501035

We do not hold full details of Statutory sites. For further information please contact Natural England. Their website is at:
https://www.gov.uk/topic/planning-development/protected-sites-species

The Protected Areas Designations Directory and further information on Statutory sites can be found at: http://jncc.defra.gov.uk/page-1527

Locally designated and non-Statutory sites

The following sources were searched:

Local Nature Reserves

published 01/032016 - revised July 2018

There are no LNR within the search area.

North Yorkshire SINC [Sites of Importance for Nature Conservation]

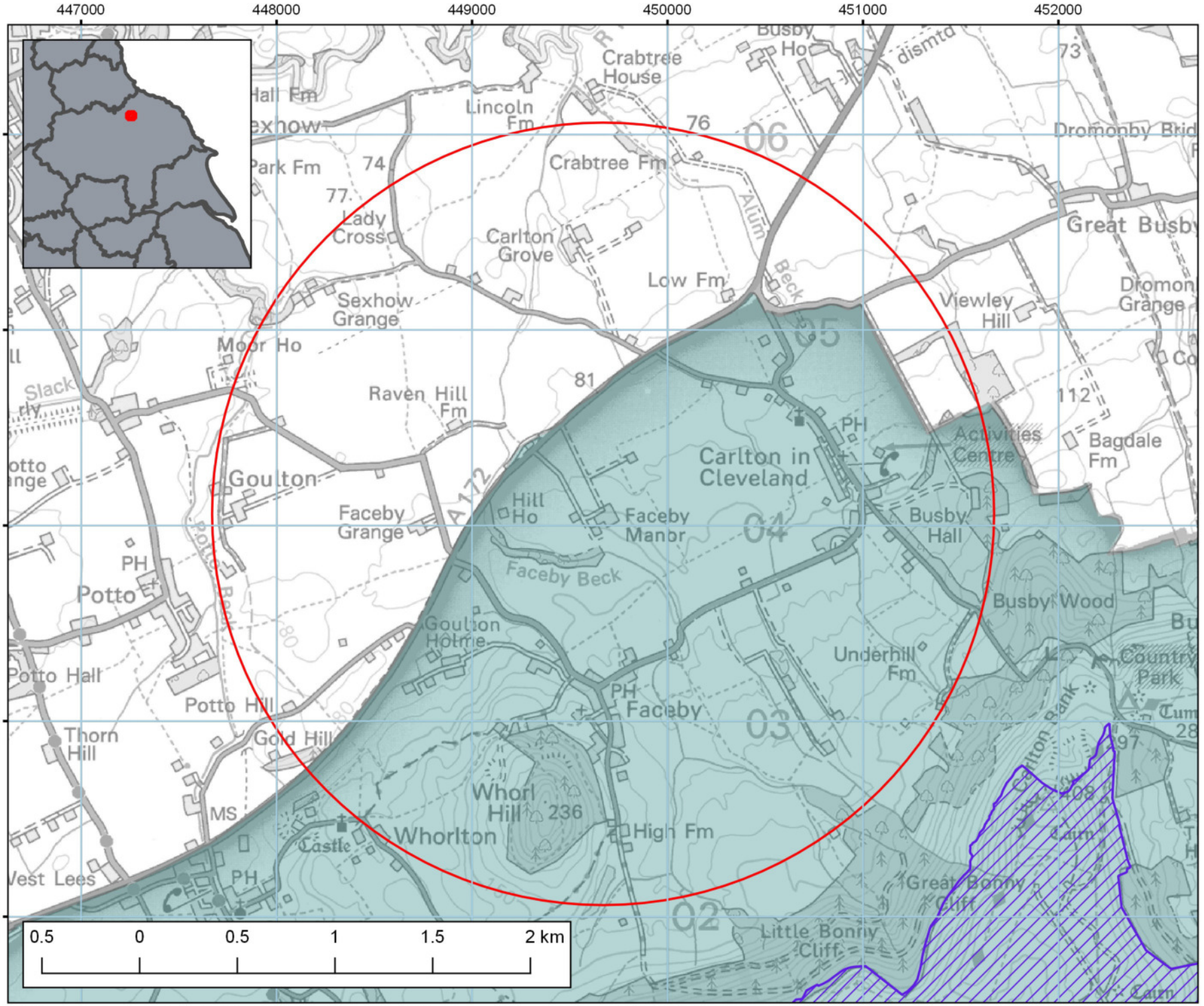
Version: *NY_SINCs V9.5* *November 2018*

There are no SINC within the search area.

Yorkshire Wildlife Trust Reserves

Version: *YWT Reserves* *May 2017*

There are no YWT reserves within the search area.



Nationally Designated Sites

Client: Quants Environmental Ltd

Client ref: 1270

Our ref: E04258

Search area: 2Km from 449670,504060

Map created on: 2019-06-07

Legend

- Search area
- National Park

NEYEDC

WARWICK
THE UNIVERSITY OF WARWICK

EcoWarwicker
Ecological Forensics

18 July 19

Re: Identification Results for Thomas McQuillan, Quants Environmental Limited

Job number 14103, received 09 July 2019
Sample labelled: Faceby Lodge Farm sample 1
PCR amplification successful. DNA sequence:
ATGACCAACATTCGAAAGTCCCACCCTCTCATAAAAATTATCAATGACTCATTCATTG
ACTTACCTGCTCCCTCAAATATTTCATCATGATGAAACTTTGGATCTCTTCTAGGCATT
GCCTAGC

Phylogenetic analysis identification: *Plecotus auritus*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby

School of Life Sciences,
Gibbet Hill Campus,
University of Warwick,

PLANNING

N504100

N504050

Storage Shed
6
Open Storage Barns
5
4
Storage Shed
Faceby Lodge Farm Buildings
1
Stables
2
Granary
3
Piggery
13
The Cottage
7
Outbuildings
Oil tank
8
9
Agricultural Shed
Agricultural Shed
11
10
12
Agricultural Shed
Faceby Lodge Farm House

N 0 20

REVISIONS :

SPA ARCHITECTS
incorporating DKS Architects

Client :
SJ & J Monk

Project :
Faceby Lodge Farm

Drawing :
Building Identification Plan

Status :	Date :
PLANNING	29 November 2018

Drawn by :	Checked by :	Scale :
DM	MD	1:500 @A3

Project No :	Originator :	Volume / System :	Level / location :	Type :	Role :	Dwg No :
18030	SPA	00	00	DR	A	P113

Suitability :	Suitability Description :	Rev :
-	PLANNING	

PLANNING

0 20

Existing boundary fence retained

Existing fence removed

vehicular passing points along drive

Existing trees

Access from Whorlton Lane

Vehicle / pedestrian access to units 3 and 7

Existing fence removed

Bin Store

10.no parking spaces under pergola

Covered Cycle store

Parking Area

Existing gated access

Private Dwelling

S1

S2

S3

shed

Existing Gate

Proposed Opening

Existing Opening

Existing boundary fence retained

Existing fence removed

New Boundary Wall / gated access

Unit 7

Unit 3

Existing trees

Existing building demolished

outbuildings demolished

REVISIONS :

SPA ARCHITECTS
incorporating DKS Architects
1 Burdon Wav. Stokesley Business Park. Stokesley. Middlesbrough. TS9 5PY

Client : S J & J Monk

Project : Faceby Lodge Farm

Drawing : Proposed Site Plan

Status :	Date :
PLANNING	29 November , 2018

Drawn by :	Checked by :	Scale :
HH	MD	1/200 @A1

Project No :	Originator :	Volume / System :	Level / location :	Type :	Role :	Dwg No :
12.061	SPA	00	00	XX	A	P104

Suitability :	Suitability Description :	Rev :
XX	PLANNING	

Appendix 4: Bat Mitigation and Compensation Strategy

Summary of Bat Mitigation Strategy

The Conservation of Habitats and Species Regulations 2010 implement Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive). The Regulations make it an offence to do any of the following to any wild animal listed under Schedule 2 of the Regulations (which includes all species of British bat):

- Deliberately capture, injure or kill;
- Deliberately disturb;
- Damage or destroy a breeding site or resting place.

As the proposed works will directly impact the soprano pipistrelle, common pipistrelle and brown long-eared roosting points within the buildings a European Protected Species Mitigation (EPSM) licence will be required to allow an activity to occur that would otherwise be classed as unlawful i.e. damage/destruction and/or disturbance of a roost. Natural England can issue bat EPSM licences for this purpose on application and presentation of evidence-based mitigation.

Before issuing a licence, Natural England will need to be satisfied that following '3 tests' (a, b & c) are met. Please note, Natural England will only process EPSM licence applications on receipt of planning consent.

Works should be completed in accordance with the following mitigation measures (such measures will form the basis of the EPSM licence application):

- Immediately before the commencement of works, the licensed bat ecologist will provide a toolbox talk to the contractors explaining the presence of bats, their legal protection, roles and responsibilities, the proposed method of working and procedures should bats or evidence of bats be found. Depending on the timings of the works a pre-start dawn survey may be required to confirm roosting locations immediately prior to the supervised removal of the roosting points. Exclusion measures may be required for the roosts in the external walls.
- The roof and ridge tiles, lintels, roof timbers and wooden features (features of potential value to roosting bats and locations where roosting bats were recorded; ecologist to confirm all features that require supervision prior to works commencing) should be removed in a controlled manner by hand / hand tools under the supervision of an experienced ecologist (holding a Natural England bat survey licence). Any bats found during the supervised works will be placed in a bat box already in-situ on the site.
- Supervised works on confirmed/potential bat roost features should be, where possible, timed to avoid the bat maternity period (June to August inclusive) and core hibernation period (December – February inclusive).
- In the unlikely event that a bat is discovered during unsupervised development all works would cease until Quants Environmental have liaised with Natural England on the subsequent development procedures and licencing requirements.
- Ensure all personnel are aware of the findings and working practices within this report.
- Further mitigation input to be confirmed once a detailed development timeframe is known.

Summary of Bat Compensation Strategy

To compensate for the loss of confirmed bat roosting points within the building the following measures as proposed:

Bat boxes: constructed of Woodcrete bat boxes provide an artificial roosting point for bats. Woodcrete is breathable and maintains a stable temperature inside the box. The bats boxes should be placed at a height of between 3-6 m in mature trees in the south-east corner of the site. An experienced ecologist should install the bat boxes prior to works commencing. In total 6no. bat boxes should be installed on site. No artificial light should be directed on the bat boxes. The bat boxes should be installed prior to works commencing on the buildings. Any bats found during works would be placed within the bat boxes on site.

Bat bricks: are of concrete construction with a single access point. Dimensions: height 47.5cm, width 20cm and depth 12.5cm. Access entrance width 15cm and height 2cm. Weight ca.9.8kg. Bat bricks will be incorporated at a height of >4m. No artificial light should be directed on the bat bricks. The bat bricks are self-maintaining. Bat bricks are suitable for soprano pipistrelle, common pipistrelle and brown long-eared bats. Confirmation on bat bricks would be provided in the Natural England Licence Application. In total 8 bat bricks will be included in the new and renovated buildings. The roosting provision will include permanent features that will be incorporated within the buildings on site.

Bat & Barn Owl Building; a building should be included in the south-east corner of the site to provide compensation for bat and bird species. This building should include compensation input for bats, swallows and barn owls. The ecologist should provide guidance on the design, dimensions and materials for this building. The roof structure should have a bitumen non-breathable membrane. The Bat and Barn Owl Building should be constructed as part of the initial stage of the works; this is to ensure that the bats and barn owl have access to suitable roost/nesting features.

Artificial lighting: A wildlife sensitive lighting strategy should be applied to the development scheme. Measures should include:

- No lighting should be focussed on the compensation roost points.
- The use of covers/hoods on external lights to reduce light spill.
- The use of low-pressure sodium lamps or high pressure sodium lamps instead of mercury or metal halide lamps; see the following document for further information; *Bats and Lighting in the UK; Bat Conservation Trust*.
- The height of the lighting column should be as short as possible to reduce light spill and ecological impact.

Additional Reading and Guidance

In addition to contacting Quants Environmental for guidance the following publications can advise:

- English Nature; Bat mitigation guidelines; Jan 2014-10-14
- Bat Conservation Trust; Good practice guidelines
- JNCC; Habitat management for bats; 2001