



4 Upavon Avenue, Greasby, Wirral, CH49 3PL
TEL: 07725 488648 - Web: www.ebsols.co.uk – email: admin@ebsols.co.uk

Bat Roost & Breeding Bird Survey

**Northaw House, Coopers Lane, Northaw,
Herts, EN6 4NJ
(Grid Ref: TL 274 024)**

Client: LW Developments Ltd

ISSUE DATE: 1st July 2017

Executive Summary

This report has been prepared at the request of LW Developments Ltd in relation to the identification and location of protected bat and bird species **Northaw House, Coopers Lane, Northaw, Herts, EN6 4NJ (Grid Ref: TL 274 024)**, regarding proposed demolition and conversion of buildings on site and proposed new residential and commercial development.

An initial assessment of the site was taken on the 14th April 2016. Northaw House is a Grade 11 Listed building originally constructed in 1698. And after a variety of uses was converted into offices in the 1970's. The main house is 3 storeys high and in good condition and is currently vacant, with the adjoining ballroom wing occupied by office tenants. A number of outbuildings are present and in the main are in various states of repair (some in dangerous condition). Outbuildings include; a stable block, apple store and piggeries. All buildings were assessed as being of high suitability to support bat roosts.

Extensive physical searches of all buildings over a period of 14 full days (14th – 27th April 2016) showed no signs of bat activity or presence in any of the buildings, but did show areas of opportunity for future roosts. All walls and roofs are easily accessible with no constraints.

Despite the lack of physical evidence, due to the fact that all buildings have potential to support bat species, dawn / dusk activity surveys were carried out between May and August 2016 by Environmental Business Solutions (EBS). No signs of bat activity were noted within the buildings during physical searches or dawn / dusk surveys; however, Pipistrelle, Natterer's and Brown Long-eared bats were noted foraging close to woodland edges. Evidence of breeding birds was noted during the physical search in 3 of the outbuildings.

Physical searches were repeated during early April 2017. Again no signs of bat presence or activity was noted. Despite these findings the client agreed with EBS to duplicate the Presence / absence surveys. Emergence / re-entry surveys were conducted through May to July 2017. No signs of bat activity were noted within the buildings during physical searches or dawn / dusk surveys; however, Pipistrelle and Brown Long-eared bats were noted foraging close to woodland edges.

It is the opinion of EBS that at present it is unlikely that bats are roosting in the buildings ear-marked for development but due to their suitability a cautionary approach should be taken and that further surveys should be undertaken if the proposals are substantially delayed into the next activity season. As the buildings ear-marked for demolition / development have good suitability for bat habitation, compensation by way of bat boxes being positioned within the site and sensitive design of future buildings to attract bats is also recommended.

Overall it was concluded that if the above mitigation and compensation measures are followed then the proposed development will not have a negative impact on the local bat population within the surrounding environment as the buildings do not appear to contain roosts at present.

**Bill Gaudie,
BSc hons (Wildlife Conservation), MCIEEM
Natural England Licence No CLS001191
ECOLOGICAL CONSULTANT**

1. Introduction.

- 1.1 Purpose / Context of Report.** This report has been prepared by W Gaudie BSc hons, MCIEEM of Environmental Business Solutions (EBS) at the request of LW Developments Ltd in relation to the identification and location of protected bat and bird species within buildings at **Northaw House, Coopers Lane, Northaw, Herts, EN6 4NJ (Grid Ref: TL 274 024)**, regarding proposed demolition and conversion of buildings on site and proposed new residential development.
- 1.2 Proposed Development.** Proposed demolition of a number of out-buildings and conversion of main building on site for new residential development.
- 1.3 Site Overview.** The Site is located on the western side of the village of Northaw, approximately 2.6km north east of the centre of Potters Bar. It is bounded to the north by Judges Hill (B156) and to the east by Coopers Lane (B156). The immediate surrounding land consists of open countryside, wooded areas and agriculture land. The Site itself (circa 10 hectares) consists of large agricultural fields currently used for grazing, wooded areas and hedgerows. Northaw House is a Grade 11 Listed building originally constructed in 1698. And after a variety of uses was converted into officers in the 1970's. The main house is 3 storeys high and in good condition and is currently vacant, with the adjoining ballroom wing occupied by office tenants. A number of outbuildings are present and in the main are in various states of repair (some in dangerous condition). Outbuildings include; a stable block, apple store and piggeries. This mosaic of terrestrial vegetation and habitat types, together with influence of the surrounding countryside, has all been taken into consideration when assessing the Application Site in the context of its setting. See Section 3.1 below for full descriptions of each building and Appendix 1 for photographs.

Fig 1. Site location – Wider Area

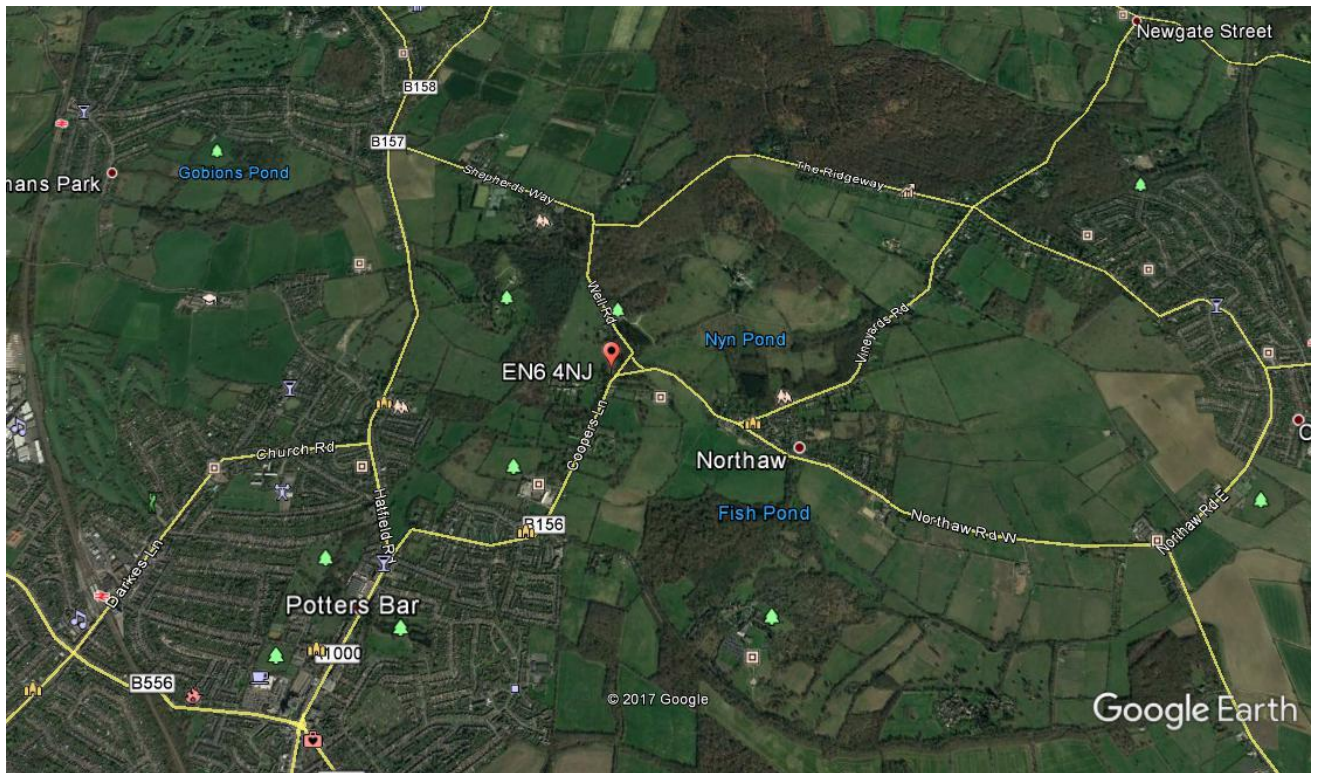


Fig 2. Site Location-immediate area

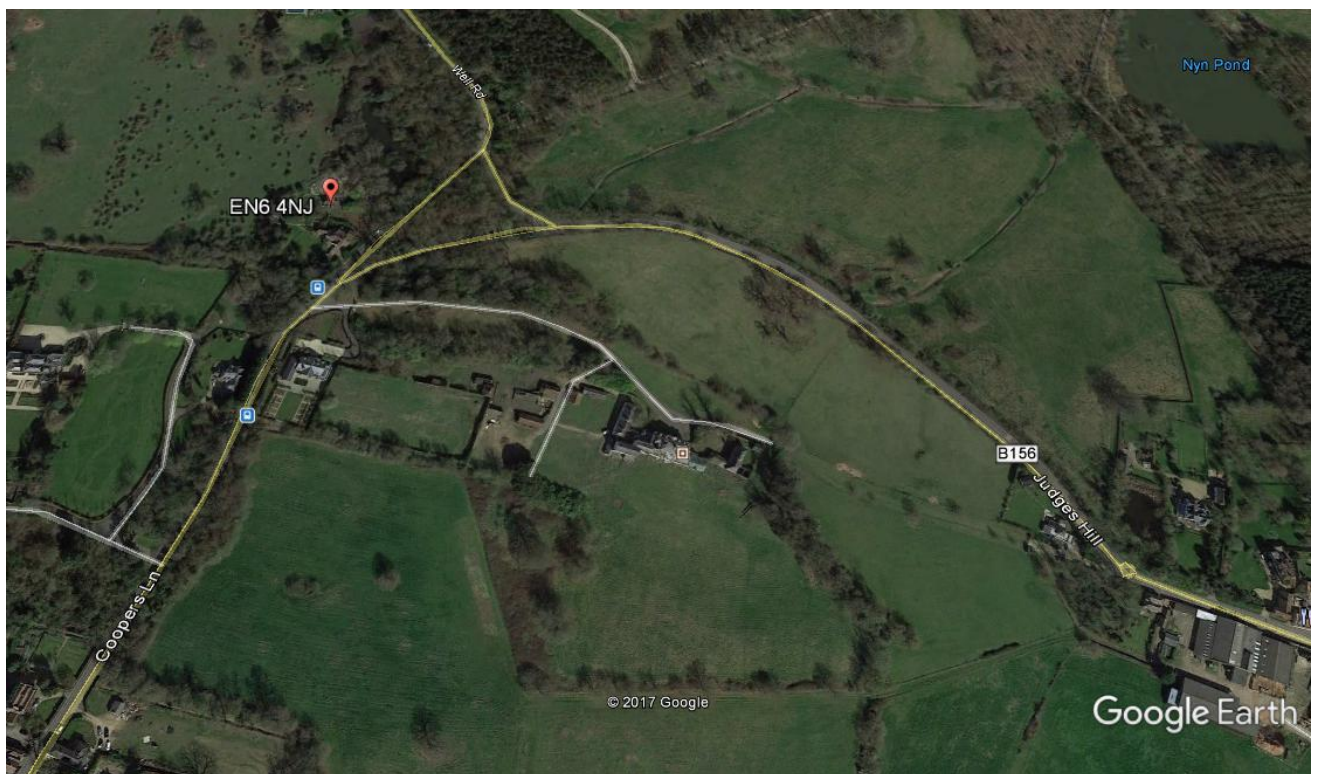
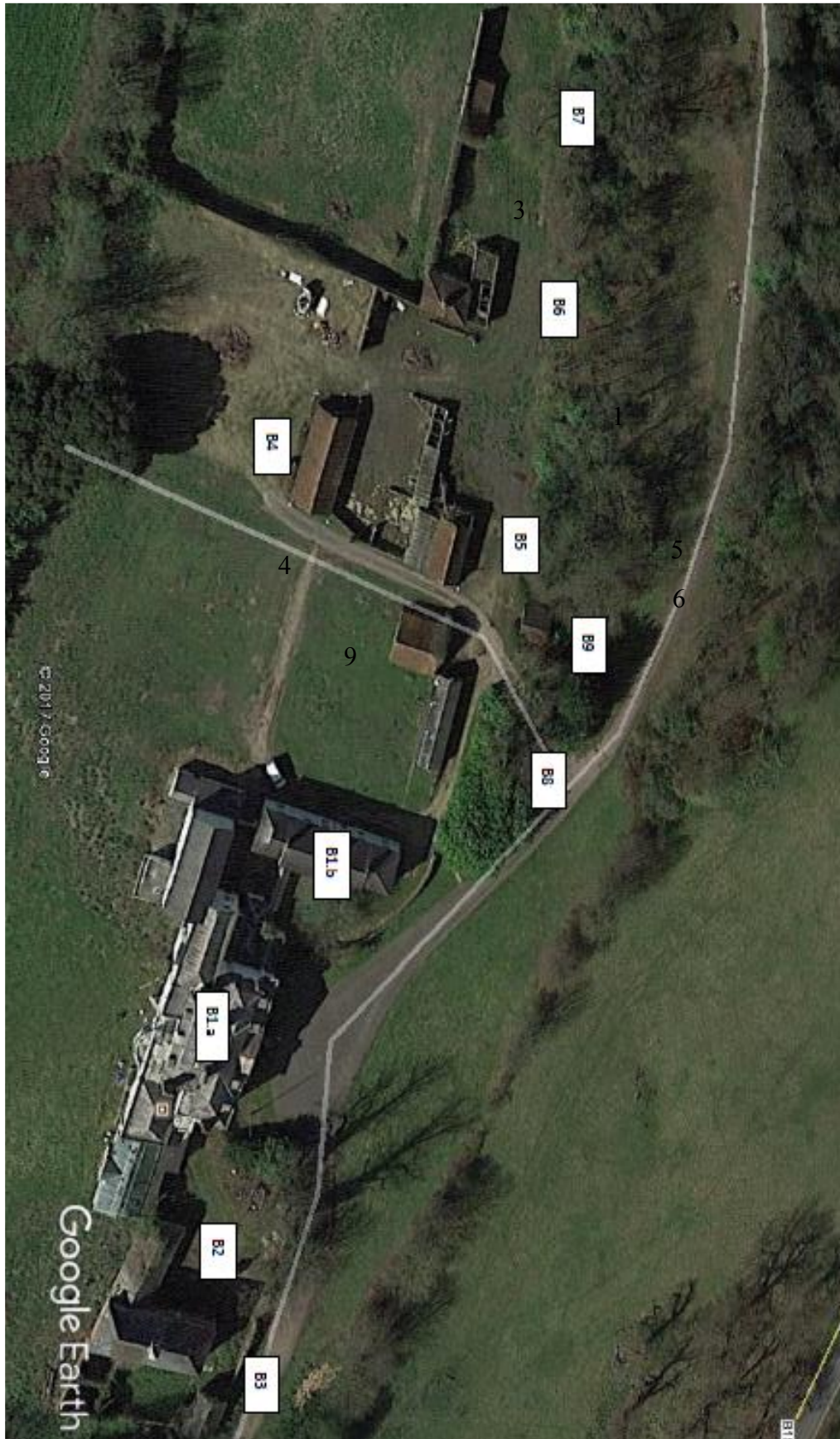


Fig 3. Building Layout



2. Methodology

2.1 Surveyor Information.

2.1.1 Mr W Gaudie, BSc hon (Wildlife Conservation), MCIEEM. Natural England Licence No CLS001191. Over 10years' experience in bat surveying.

2.1.2 Miss K Hamer BSc hon (Wildlife Conservation) Over 6 years' experience in bat surveying (currently applying for Natural England surveying licence).

2.2 Data search.

2.2.1 Herts Environmental Record Centre (HERC) were consulted for bat species recorded within 2km of the Site and designated sites within 2km of the site (see Appendix 2 for full details).

2.2.2 <http://magic.defra.gov.uk/> Was consulted for designated sites in the near area.

2.3 Preliminary Ecological Appraisal.

2.3.1 Dates. 14th April 2016.

2.3.2 Conditions. Dry with good visibility.

2.3.3 Surveyors. Mr W Gaudie, BSc hon (Wildlife Conservation), MCIEEM, Natural England Licence No CLS001191. Ms K Hamer BSc hon (Wildlife Conservation).

2.3.4 Methods. The buildings on site were assessed for their bat roost suitability. As per Section 4.3 of Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines 3rd Edition*. **Bat Conservation Trust, London**. ISBN 13 978-1-872745-96-1.

2.4 Day time building survey April 2016.

2.4.1 Dates. 14th – 27th April 2016.

2.4.2 Conditions. Dry and mostly clear with good visibility during external searches.

2.4.3 Surveyors. Mr W Gaudie, BSc hon (Wildlife Conservation), MCIEEM, Natural England Licence No CLS001191. Ms K Hamer BSc hon (Wildlife Conservation).

2.4.4 Bat roost survey. Internal and external physical search of the building. As per; Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines 3rd Edition*. **Bat Conservation Trust, London**. ISBN 13 978-1-872745-96-1.

2.4.5 All roof spacing, voids, cracks (internal and external) and over hanging tiles were searched for signs of bat habitation. See section 3.3 for further information.

2.4.6 Equipment. Visual OpticsVO18-10ww endoscope, Petzl Ticker LED head torch, Cluson Smartlite 1,000,000 candlepower torch were used by both surveyors during searches. Extending ladders and use of telescopic cherry picker available when required.

2.4.7 Breeding Bird: During searches signs of bird nesting were noted.

2.5 Day time building survey April 2017.

2.5.1 Dates. 1st – 9th April 2017.

2.5.2 Conditions. Dry and mostly clear with good visibility during external searches.

2.5.3 Surveyors. Mr W Gaudie, BSc hon (Wildlife Conservation), MCIEEM, Natural England Licence No CLS001191. Ms K Hamer BSc hon (Wildlife Conservation).

- 2.5.4 Bat roost survey. Internal and external physical search of the building. As per; Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines 3rd Edition*. **Bat Conservation Trust, London**. ISBN 13 978-1-872745-96-1.
- 2.5.5 All roof spacing, voids, cracks (internal and external) and over hanging tiles were searched for signs of bat habitation. See section 3.3 for further information.
- 2.5.6 White sheeting inspected for bat droppings and insect casings.
- 2.5.7 Equipment. Visual Optics VO18-10ww endoscope, Petzl Ticker LED head torch, Cluson Smartlite 1,000,000 candlepower torch were used by both surveyors during searches. Extending ladders and use of telescopic cherry picker available when required. Extending ladders and use of telescopic cherry picker available when required.
- 2.5.8 Breeding Bird: During searches signs of bird nesting were noted.

2.5 Bat dusk and dawn surveys 2016.

- 2.5.1 Dates. 33 x visits, see Table 1 below.
- 2.5.2 Conditions. See Table 1 below.
- 2.5.3 Timings. Dusk Surveys 15 mins before sunset – 2hrs after sunset, Dawn Surveys 2hrs before sunrise – 15 mins after sunrise
- 2.5.4 Surveyors. Mr W Gaudie, BSc hon's wildlife conservation, MCIEEM. Natural England Licence No CLS001191, Miss K Hamer BSc hon's (Wildlife Conservation).
- 2.5.5 Area surveyed. Outside of buildings, see Fig 4 for positions of surveyors
- 2.5.6 Method. As per; Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines 3rd Edition*. **Bat Conservation Trust, London**. ISBN 13 978-1-872745-96-1.
- 2.5.7 The buildings were assessed as being of moderate and low suitability for bat roosts, therefore 2 dawn dusk surveys were conducted on each building over a seven week period
- 2.5.7 Equipment. 2 x Ciel CDB 301 HD/FD bat detector, Garmin etrex GPS, Meteos Skywatch weather station, Yukon NVMT.2.3x42 night vision.

2.6 Bat dusk and dawn surveys 2016.

- 2.6.1 Dates. 33 x visits, see Table 1 below.
- 2.6.2 Conditions. See Table 1 below.
- 2.6.3 Timings. Dusk Surveys 15 mins before sunset – 2hrs after sunset, Dawn Surveys 2hrs before sunrise – 15 mins after sunrise
- 2.6.4 Surveyors. Mr W Gaudie, BSc hon's wildlife conservation, MCIEEM. Natural England Licence No CLS001191, Miss K Hamer BSc hon's (Wildlife Conservation).
- 2.6.5 Area surveyed. Outside of buildings, see Fig 4 for positions of surveyors
- 2.6.6 Method. As per; Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines 3rd Edition*. **Bat Conservation Trust, London**. ISBN 13 978-1-872745-96-1.
- 2.6.7 The buildings were assessed as being of moderate and low suitability for bat roosts, therefore 2 dawn dusk surveys were conducted on each building over a seven week period
- 2.6.7 Equipment. 2 x Ciel CDB 301 HD/FD bat detector, Garmin etrex GPS, Meteos Skywatch weather station, Yukon NVMT.2.3x42 night vision.

Fig 4. Position number of surveyors for Dawn / Dusk surveys



Table 1. Dawn / dusk weather conditions

Survey	Surveyor positions	Date	Sun Rise Sun Set	Humidity / Wind	Min Temp	Conditions
Dusk	1,2	200416	20.06	59%/ 13	8.0°C	Clear
Dawn	1,2	210416	05.51	98% / 9	5.0°C	Clear
Dusk	3,4	210416	20.08	52% / 12	10.0°C	Clear
Dawn	3,4	220416	05.49	78% / 7	7.5°C	Clear
Dusk	5,6	220416	20.10	90%/ 7.5	7°C	Overcast
Dawn	5,6	230416	05.47	95%/7.5	3°C	Clear
Dusk	7,8	230416	20.11	60% / 3	7°C	Clear
Dawn	7,8	240416	05.45	90% / 6	3°C	Overcast
Dusk	9,10	240416	20.13	75% / 4	7°C	Overcast
Dawn	9,10	250416	05.43	85% / 9	6°C	Clear
Dusk	11,12	250416	20.15	85% / 7	3.5°C	Overcast
Dawn	11,12	260416	05.41	78% / 11	2°C	Clear
Dusk	13,14	260416	20.16	75% / 12	4.5°C	Clear
Dawn	13,14	270416	05.39	80% / 9	1.5°C	Clear
Dusk	15,16	270416	20.18	65% / 4	5°C	Clear
Dawn	15,16	280416	05.37	95% / 4	0°C	Clear
Dusk	17,18	280416	20.20	70% / 16	8°C	Partly cloudy
Dawn	17,18	290416	05.35	80% / 11	4°C	Clear
Dusk	19,20	290416	20.22	60% / 8	8°C	Clear
Dawn	19,20	300416	05.33	85% / 5	2°C	Clear
Dusk	21,22	300416	20.23	70% / 5	9°C	Clear
Dawn	21,22	010516	05.31	90%/ 2.5	2°C	Clear
Dusk	1,2	200516	20.55	75% / 8	14°C	Overcast
Dawn	1,2	210516	04.59	90% / 11	13°C	Clear
Dusk	3,4	210516	20.56	86% / 7	14°C	Overcast
Dawn	3,4	220516	04.58	90% / 4	11°C	Clear
Dusk	5,6	220516	20.58	80% / 5	13°C	Partly cloudy
Dawn	5,6	230516	04.57	80% / 9	9°C	Clear
Dusk	7,8	230516	20.59	78% / 6	12°C	Clear
Dawn	7,8	240516	04.56	98% / 5	7°C	Clear
Dusk	9,10	240516	21.01	70% / 10	10.5°C	Clear
Dawn	9,10	250516	04.55	78% / 8	8°C	Overcast
Dusk	11,12	250516	21.02	85% / 4	10°C	Overcast
Dawn	11,12	260516	04.54	96% / 2	8°C	Clear
Dusk	13,14	260516	21.03	76% / 7	14°C	Clear
Dawn	13,14	270516	04.53	90% / 5	9°C	Clear
Dusk	15,16	270516	21.04	80% / 8	13.5°C	Clear
Dawn	15,16	28056	04.52	90% / 6	9°C	Clear
Dusk	17,18	280516	21.06	77% / 7	14.5°C	Clear
Dawn	17,18	290516	04.51	90% / 8	9°C	Partly cloudy
Dusk	19,20	290516	21.07	80% / 10	14°C	Clear
Dawn	19,20	300516	04.50	90% / 12	11°C	Overcast
Dusk	21,22	300516	21.08	75% / 15	14°C	Clear
Dawn	21,22	310516	04.49	85% / 17	11°C	Overcast

Survey	Surveyor positions	Date	Sun Rise Sun Set	Humidity / Wind	Min Temp	Conditions
Dusk	1,2	170616	21.23	85% / 3	15°C	Clear
Dawn	1,2	180616	04.42	90% / 7	12°C	Clear
Dusk	3,4	180616	21.23	85% / 1	14°C	Clear
Dawn	3,4	190616	04.42	90% / 5	12°C	Clear
Dusk	5,6	190616	21.23	90% / 11	15°C	Overcast
Dawn	5,6	200616	04.42	95% / 13	15°C	Overcast
Dusk	7,8	200616	21.24	80% / 6	18°C	Partly cloudy
Dawn	7,8	210616	04.42	90% / 5	14°C	Clear
Dusk	9,10	210616	21.24	78% / 6	16.5°C	Partly cloudy
Dawn	9,10	220616	04.42	92% / 5	14.5°C	Clear
Dusk	11,12	220616	21.24	85% / 3	19.5°C	Clear
Dawn	11,12	230616	04.43	100% / 4	18°C	Overcast
Dusk	13,14	230616	21.24	98% / 5	18.5°C	Partly cloudy
Dawn	13,14	240616	04.43	98% / 6	12.5°C	Clear
Dusk	15,16	240616	21.24	80% / 7	15°C	Clear
Dawn	15,16	250616	04.43	95% / 5	11°C	Clear
Dusk	17,18	250616	21.24	85% / 4	14°C	Partly cloudy
Dawn	17,18	260616	04.44	95% / 8	13°C	Clear
Dusk	19,20	260616	21.24	92% / 7	14°C	Partly cloudy
Dawn	19,20	270616	04.44	100% / 8	15°C	Overcast
Dusk	21,22	270616	21.24	65% / 5	16°C	Clear
Dawn	21,22	280616	04.45	85% / 2	10.5°C	Partly cloudy
Dusk	1,2	200417	20.06	80% / 5	13°C	Partly cloudy
Dawn	1,2	210417	05.52	88% / 6	9.5°C	Overcast
Dusk	3,4	210417	20.08	70% / 7	13°C	Partly cloudy
Dawn	3,4	220417	05.50	85% / 8	9°C	Clear
Dusk	5,6	220417	20.09	65% / 8	11°C	Clear
Dawn	5,6	230417	05.48	70% / 5	8°C	Overcast
Dusk	7,8	230417	20.11	70% / 6	10°C	Clear
Dawn	7,8	240417	05.45	90% / 5	6°C	Clear
Dusk	9,10	240417	20.13	70% / 10	9°C	Partly cloudy
Dawn	9,10	250417	05.43	75% / 9	2°C	Clear
Dusk	11,12	250417	20.14	75% / 7	4.5°C	Clear
Dawn	11,12	260417	05.41	86% / 9	3°C	Overcast
Dusk	13,14	260417	20.16	80% / 5	4°C	Clear
Dawn	13,14	270417	05.39	90% / 5	1°C	Clear
Dusk	15,16	270417	20.18	80% / 7	8°C	Partly cloudy
Dawn	15,16	280417	05.37	90% / 5	7°C	Clear
Dusk	17,18	280417	20.19	65% / 1	11°C	Partly cloudy
Dawn	17,18	290417	05.36	90% / 4	5°C	Clear
Dusk	19,20	290417	20.21	60% / 11	12°C	Clear
Dawn	19,20	300417	05.34	70% / 11	9°C	Clear
Dusk	21,22	300417	20.23	60% / 11	13°C	Clear
Dawn	21,22	010517	05.32	98% / 7	9°C	Overcast
Dusk	1,2	050517	20.29	80% / 12	9°C	Overcast
Dawn	1,2	060517	05.23	88% / 12	9°C	Clear



Survey	Surveyor positions	Date	Sun Rise Sun Set	Humidity / Wind	Min Temp	Conditions
Dusk	3,4	060517	20.33	80% / 7	11°C	Partly cloudy
Dawn	3,4	070517	05.21	85% / 7	9°C	Overcast
Dusk	5,6	070517	20.34	75% / 9	12°C	Clear
Dawn	5,6	080517	05.19	75% / 11	8°C	Overcast
Dusk	7,8	080517	20.36	80% / 8	9°C	Partly cloudy
Dawn	7,8	090517	05.17	75% / 6	7°C	Overcast
Dusk	9,10	090517	20.38	70% / 6	9.5°C	Clear
Dawn	9,10	100517	05.16	90% / 1	5°C	Clear
Dusk	11,12	100517	20.39	70% / 9	10°C	Clear
Dawn	11,12	110517	05.14	90% / 7	6°C	Clear
Dusk	13,14	110517	20.41	70% / 9	15°C	Clear
Dawn	13,14	120517	05.13	100% / 5	12°C	Overcast
Dusk	15,16	120517	20.42	75% / 11	14.5°C	Clear
Dawn	15,16	130517	05.11	90% / 7	12°C	Overcast
Dusk	17,18	130517	20.44	60% / 8	14°C	Clear
Dawn	17,18	140517	05.09	88% / 8	12°C	Overcast
Dusk	19,20	140517	20.46	70% / 5	13°C	Clear
Dawn	19,20	150517	05.08	87% / 7	10°C	Clear
Dusk	21,22	150517	20.47	85% / 10	16°C	Overcast
Dawn	21,22	160517	05.07	90% / 8	15.5°C	Clear
Dusk	1,2	160617	21.22	75% / 7	19°C	Clear
Dawn	1,2	170617	04.42	90% / 5	15°C	Clear
Dusk	3,4	170617	21.22	70% / 4	23°C	Clear
Dawn	3,4	180617	04.42	85% / 2	17°C	Clear
Dusk	5,6	180617	21.23	65% / 5	24°C	Clear
Dawn	5,6	190617	04.42	90% / 3	17°C	Clear
Dusk	7,8	190617	21023	70% / 6	23°C	Clear
Dawn	7,8	200617	04.42	88% / 2	17°C	Clear
Dusk	9,10	200617	21.23	80% / 10	20°C	Clear
Dawn	9,10	210617	04.42	95% / 8	15°C	Clear
Dusk	11,12	210617	21.24	70% / 6	24°C	Clear
Dawn	11,12	220617	04.42	85% / 7	19°C	Clear
Dusk	13,14	220617	21.24	75% / 8	19°C	Partly cloudy
Dawn	13,14	230617	04.43	88% / 10	13°C	Clear
Dusk	15,16	230617	21.24	70% / 12	19°C	Partly cloudy
Dawn	15,16	240617	04.43	80% / 12	17°C	Overcast
Dusk	17,18	240617	21.24	80% / 11	18.5°C	Partly cloudy
Dawn	17,18	250617	04.43	80% / 11	14.5°C	Clear
Dusk	19,20	250617	21.24	75% / 10	17°C	Clear
Dawn	19,20	260617	04.44	78% / 4	12°C	Clear
Dusk	21,22	260617	21.24	60% / 10	17°C	Clear
Dawn	21,22	270617	04.44	72% / 9	15°C	Clear

3. Results



3.1 Preliminary Ecological Appraisal



- 3.1.1 The Site is located on the western side of the village of Northaw, approximately 2.6km north east of the centre of Potters Bar. It is bounded to the north by Judges Hill (B156) and to the east by Coopers Lane (B156). The immediate surrounding land consists of open countryside, wooded areas and agriculture land. The Site itself (circa 10 hectares) consists of large agricultural fields currently used for grazing, wooded areas and hedgerows. Northaw House is a Grade 11 Listed building originally constructed in 1698. And after a variety of uses was converted into officers in the 1970's. The main house is 3 storeys high and in good condition and is currently vacant, with the adjoining ballroom wing occupied by office tenants. A number of outbuildings are present and in the main are in various states of repair (some in dangerous condition). Outbuildings include; a stable block, apple store and piggeries. For images of the buildings on Site see Appendix 1.
- 3.1.2 There are potential roost sites within all of the buildings (eg cracks in walls and under tiles), and are suitable to support a roost of high conservation status.
- 3.1.3 No large trees will be directly affected by the development.

Table 2. Assessment of buildings on site – Suitability to support bat roosts.

Building No	Building Description	Photo	Suitability for Bat Roosts
1a	<p>Northaw House is a Grade 11 Listed building originally constructed in 1698. 3 storey, slate roof, attics and basement. In the whole in good condition with well maintained brickwork and roof. Some missing slates and damage in parts to brickwork are evident. Also some damage to window sills and boardings. Currently vacant.</p>		High
1b	<p>Extension of above building (1a) – The Ballroom Wing. 2 storey slate roof, with attics. In the whole in good condition with well maintained brickwork and roof. Some missing slates and damage in parts to brickwork are evident. Currently used for office space.</p>		High

2	<p>Small barn currently used for lambing. Damaged brick / stone work. Slate roof partially missing. Open front.</p>		High
3	<p>2 storey stable block with bell tower. In dangerous state of disrepair. Damage to brick work and missing tiles.</p>		High

4	Wooden storage building / barn with tiled apex roof. Loose tiles, broken boards.		High
5	Brick piggery with corrugated asbestos roof. Damaged brickwork, multi crevices.		High

6	<p>2 storey detached house built in 1970's. Brick built with sloping tiled roof. Damaged brick work and roof spacings. Open windows damaged boarding</p>		High
7	<p>Single storey brick/stone built storage building. Damaged brick, open access, damaged roof.</p>		High

8	<p>Single storey office / storage building. Brick built, sloping apex tiled roof. Generally in good condition but with gaps in brick work and roof.</p>		High
9	<p>Wooden storage building / barn with tiled apex roof. Loose tiles, broken boards.</p>		High

3.2 Pre-Survey Data.

- 3.2.1 HERC note a number of records of bats recorded within 2km of the Site.
- 3.2.2 A number of species are also recorded within the or adjacent to the 1km tetrad of the site.
- 3.2.3 No records are noted within the site.
- 3.2.4 See Table 3 for list of bats recorded within 2km of the site.
- 3.2.4 There is 1 Statutory Site within 500m of the site,
 - Hook Wood LWS circa 490m north of the siteDue to the localisation of the proposed development, the application is not thought to be affected by the proposals.

Table 3. List of bat species recorded within 1km of the site (HERC)

Species	Common Name
<i>Myotis daubentonii</i>	Daubenton's Bat
(<i>Myotis nattereri</i>)	Natterer's Bat
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
<i>Plecotus auritus</i>	Brown Long-eared Bat

3.3 Day time buildings survey 2016 and April 2017

The following features of all structures on site were assessed

- Type / age of building
- Aspect of building
- Wall construction, focussing what brick type was used and presence of cavity or rubble filled walls.
- Roof form and structure
- Nature of eaves
- Presence and condition of lead flashing
- Gaps under eaves, around windows, lead flashing etc
- Presence of roof insulation
- Roof structure.

Particular attention was paid to:

- Beams for hanging bats
- Droppings beneath beams
- Droppings and urine stains on walls
- Droppings or urine stains on any materials left stored
- Corpses
- Bat fly (*Nycteribiid*) cases
- Inspection of white sheets in April 2017

- 3.3.1 No signs of bat presence found during physical search of buildings
- 3.3.2 No signs of droppings, insect cases or scratch-marks.
- 3.3.3 No sign of any bat activity was noted within the Site
- 3.3.4 Nesting birds were noted in buildings B2, B3 and B6 during 2016 searches and in buildings B2 and B3 during 2017 searches. Remnant nests were noted in all buildings except B1, B4 and B9.

3.4 33 x Bat dusk and dawn surveys 2016 and 2017

- 3.4.1 No bats were recorded entering or leaving the buildings at dawn or dusk.
- 3.4.2 No bats were noted foraging within the site.

3.4.3 Pipistrelle bats were noted foraging immediately north of the main house and Pipistrelle bats, Natterer's and Brown Long-eared bats were noted transecting the southern fields.

Fig 5. Area of bat activity.

Pipistrelle bat foraging



Natterer's and Brown Long-eared bats transects



4. Evaluation

4.1 Analysis of Results.

4.1.1 All buildings on Site were classified as having high potential for bat roosts.

4.1.2 Bats have been recorded within 2000m of the Site per data supplied by HERC.

4.1.3 No bats were recorded entering or leaving the buildings during 33x dawn / dusk surveys. Repeated 2 years in succession.

4.1.4 Pipistrelle bats were noted foraging close to the site to the north.

4.1.5 Natterer's and Long Brown Long-eared were noted transecting the southern fields.

4.1.6 No signs of bat activity or presence noted during thorough physical searches

4.1.8 All species of bat are fully protected under the Wildlife and Countryside Act 1981, the European Conservation (Natural Habitats etc.) Regulations 1994, and the Countryside and Rights of Way Act 2000. This legislation makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection, or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose. Due to these results, it is the opinion of

EBS that bats are unlikely to be roosting in any part of the buildings **at the present time** and that no offence will occur under the above Regulations.

4.2 Limitations.

4.2.1 The buildings on site have been assessed as being of high roost suitability. The latest guidelines state that the minimum recommended numbers of survey visits to give confidence in a negative result for structures of moderate suitability is 3 separate survey visits. Two dusk emergence and a separate dawn re-entry survey. Although a dawn visit immediately after a dusk one is considered only one visit, 33 different visits were conducted and emergence / re-entry surveys carried out on each occasion (3 for each survey point) giving more visits per survey point than recommended. N.B. 33 visits in 2016 and 33 visits in 2017. All areas of the buildings assessed for bat roosts were easily accessible and ledges and crevices fully searched over a total period of 14 full days in April 2016 and a further 9 full days in April 2017, again with negative results giving weight to the above statement that it is unlikely that bats are roosting in the building at present.

4.3 Potential Impacts of Development.

4.3.1 Designated Sites. Due to the size of the proposed development it is thought that no designated site will be impacted upon.

4.3.2 Roosts. It is not thought that bats are roosting in any parts of the building at present.

4.3.3 Breeding Birds. Nesting birds and old remnants of nests were noted. If renovation / demolition of buildings is conducted during the breeding bird survey (March – September) then a full breeding bird survey must be completed by a suitably qualified ecologist prior to work beginning.

4.3.4 Foraging and Community Habitat. The proposed development is not thought to have any detrimental ecological effects to the area. Any disturbance will be minimal and temporary.

5. Recommendations.

5.1 Further Surveys

5.1.1 Bat. As bats can inhabit a building at any time and the buildings on site are suitable for bat roosts, it is recommended that physical searches are repeated immediate prior to the commencement of the project. If development of buildings is substantially delayed, then full surveys should be repeated.

5.1.2 Bird. If development of building is substantially delayed, then surveys should be repeated.

5.2 Mitigation Measures.

5.2.1 Roost Sites. With reference to Natural England Bat Mitigation Guidelines (2004), no further mitigation is required at this point. No roosts are thought to be affected by the proposed development.

5.2.2 Foraging and Commuting Sites. With reference to Natural England Bat Mitigation Guidelines (2004), no further mitigation is required at this point. Not thought to be affected by proposed development.

5.3 Compensation.

5.3.1 Natural England Bat Mitigation Guidelines (2004) states “Where roosts of low conservation significance are to be lost to development, bat boxes may provide an

appropriate form of mitigation, either alone or, preferably, in combination with the provision of new roosts in buildings. In such cases, the type of bat box provided should be appropriate to the species.” As the current buildings, do not hold any roosts no compensation is deemed necessary. However, as all buildings have some suitability for bat roosts, EBS recommend it appropriate for new bat boxes to be erected around the site and buildings post development.

6. **Summary.** Full physical searches along with dusk/dawn surveys provided no evidence of bat habitation in any parts of the buildings. Due to the findings of these surveys, it is thought that the proposed development is unlikely to have any negative effect on any bat or bird populations at the present time. It is the opinion of EBS that if the above recommendations regarding mitigation and compensation are followed then the development will result in a nett gain to biodiversity in the immediate area.

**Bill Gaudie,
BSc hons (Wildlife Conservation), MCIEEM
Natural England Licence No CLS001191
ECOLOGICAL CONSULTANT**

7 References

Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines* 3rd Edition. Bat Conservation Trust, London. ISBN 13 97998-1-872745-96-1

RSPB (2002) *The Population Status of Birds in the UK 2002-2007*

The Conservation (Natural Habitats, etc.) Regulations 1994. HMSO

Wildlife and Countryside Act (1981)

Countryside Rights of Way Act (2000)

English Nature. (2004) *Bat Mitigation Guidelines*. English Nature

APPENDIX 1

DATA RECORDS

Herts Ecological Records Centre – April 2016

(Due to sensitivity of some data this information is not for public distribution but is available to the local authority upon request).