Northwood and Pinner Cottage Hospital, Pinner Road, HA6 1DE

UPDATE ECOLOGICAL APPRAISAL AND BAT SURVEY REPORT

784-B022083

NHS Property Services

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Prepared on Behalf of Tetra Tech Group Limited. Registered in England number: 6595608

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EXECUTIVE SUMMARY

Contents	Summary
Site Location	The site is located in Northwood and is centred at Ordnance Survey National Grid Reference TQ 10057 90675 and comprises Northwood Cottage Hospital and Northwood Health Centre.
Proposals	The proposals are for partial demolition, refurbishment and extension of the existing Cottage Hospital and the redevelopment of the remaining site to provide residential accommodation and ancillary works
Existing Site Information	Ecological Appraisals were previously carried out in 2015 (WYG, 2015) and 2017 (WYG, 2018a). The site was identified as being suitable for roosting bats, reptiles, and breeding birds. Internal inspections and emergence and return-to-roost surveys were undertaken in 2015 (WYG, 2016) and 2018 (WYG, 2018b) which confirmed B1 and B2 supported brown long-eared bat roosts.
Scope of this Survey(s)	Tetra Tech was commissioned to carry out an Update Ecological Appraisal of the site. The scope of the work comprised a desk-based study, an extended Phase 1 habitat survey and three bat surveys. The desk-based study used online resources and information sourced from GiGL.
Results	There were 16 designated sites within 2km of the site, the closest of which was Hogs Back Open Space SINC, located 0.1km north east of the site. Most of the habitats on site have not significantly changed since the previous Ecological Appraisal undertaken in 2018 (WYG, 2018b). Some areas of amenity grassland have matured to semi-improved grassland due to lack of maintenance. Broadleaved plantation woodland, broadleaved scattered trees, semi-improved grassland, amenity grassland, introduced shrubs, defunct species-rich hedgerow, buildings and hardstanding were present on site. The broadleaved plantation woodland and scattered trees were the most ecologically valuable. The site has suitability / potential to support roosting bats, foraging and commuting bats, reptiles, badger, breeding birds, hedgehog and invertebrates. B1 is a confirmed active day roost for common pipistrelle and soprano pipistrelle with 2 emergences seen. B2 is a historic brown long-eared day roost, with no roosting bats seen on this occasion. The site had negligible suitability / potential for great crested newt, hazel dormouse, otter and water vole.
Recommendations	An EPSL will be required after planning approval and before works can begin to allow disturbance of the roosts and any modifications to the roost or

	roost access points to be done lawfully. The EPSL could be via the bat 'low impact' licence (CL21) route. The following mitigation is recommended: a sensitive external lighting strategy for bats and other nocturnal wildlife, two stage vegetation clearance to mitigate against adverse impacts to reptiles and breeding birds, a pre-works inspection for badger, measures to reduce impacts on badger during construction and removal of invasive species from site. The following enhancements are recommended: Native species planting, new hedgerows to comprise of six or more native species, green roof or walls, bat and bird boxes, hedgehog boxes and use of hedgehog highways in fencing.

GLOSSARY

Badger Act	Protection of Badgers Act 1992
BCT	Bat Conservation Trust
BoCC	Bird(s) of Conservation Concern
BMCL	Bat Mitigation Class Licence
BTO	British Trust for Ornithology
CIEEM	Chartered Institute of Ecology & Environmental Management
CRoW Act	Countryside and Rights of Way Act 2000
DEFRA	Department for the Environment, Food and Rural Affairs
ECoW	Ecological Clerk of Works
EPS	European Protected Species
EPSL	European Protected Species Licence
GiGL	Greenspace Information for Greater London
Habitats Regulations	Conservation of Habitats and Species Regulations 2017 (as amended)
HAP	Habitat Action Plan
Hedgerow Regulations	The Hedgerow Regulations 1997
HPI	Habitat(s) of Principal Importance
JNCC	Joint Nature Conservation Committee
LBAP	Local Biodiversity Action Plan
LISI	London Invasive Species Initiative
LNR	Local Nature Reserve
LWS	Local Wildlife Site
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
Natura 2000 site	A European site designated for its nature conservation value
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SINC	Site of Interest for Nature Conservation
SAP	Species Action Plan
SPA	Special Protection Area
SPI	Species of Principal Importance
SSSI	Site(s) of Special Scientific Interest
W&CA	Wildlife & Countryside Act 1981 (as amended)

1.0 INTRODUCTION

1.1 BACKGROUND

WYG (re-branded to Tetra Tech in January 2021) was commissioned by NHS Property Services on 30th November 2020 to undertake an Update Ecological Appraisal including update bat surveys of the site known as Northwood and Pinner Hospital and Health Centre.

This report has been prepared by Assistant Ecologist Jo Sykes BSc (Hons) and the conditions pertinent to it are provided in Appendix A.

1.2 SITE LOCATION

The site is located in Northwood and is centred at Ordnance Survey National Grid Reference TQ 10057 90675 – see Figure 1. The site comprises Northwood Cottage Hospital and Northwood Health Centre, with associated parking and landscaping. The site is immediately surrounded to the north, east and west by residential housing, with Pinner Road to the south. In the wider landscape, to the north of the site lies residential housing and Oxhey Woods, to the east is residential housing, a railway line and open greenspace lies to the south, various golf courses and Ruislip Woods lie to the West.

1.3 DEVELOPMENT PROPOSALS

The proposals are for partial demolition, refurbishment and extension of the existing Cottage Hospital to provide a state of the art health centre and the comprehensive redevelopment of the remaining site to provide residential (Use Class C3) accommodation and ancillary works including car parking, cycle parking, landscaping and associated works (phased).

1.4 PREVIOUS ECOLOGY INFORMATION

Ecological Appraisals were carried out in 2015 (WYG, 2015) and 2017 (WYG, 2018a), identifying that the site was suitable for roosting bats, reptiles, and breeding birds.
Internal inspections of all buildings and bat surveys were undertaken in late September 2015 which identified B1 and B2 as a confirmed bat roosts (WYG, 2016) for brown long-eared bats *Plecotus auritus*. Brown long-eared droppings were found in the roof void of B1 and three brown long-eared bats were observed in the roof void of B2. However no bats had been seen emerging from B1 or B2 during prior nocturnal surveys in September 2015.
Update nocturnal bat surveys were undertaken in 2017 (WYG, 2018b) during which no bats were observed emerging or re-entering B1 or B2.

1.5 PURPOSE OF THE REPORT

The purpose of this report is to complete:

- A desk study to obtain existing information on statutory and non-statutory sites of nature conservation interest and relevant records of protected / notable species within the site and its zone of influence;
- An update extended Phase 1 Habitat Survey, involving a walkover of the site to record habitat types and dominant vegetation, including any invasive species, and a reconnaissance survey for evidence of protected fauna or habitats capable of supporting such species;
- Bat hibernation and emergence / re-entry surveys to confirm the presence or likely absence of roosting bats within the buildings; and

- An assessment of the potential ecological receptors present on site, identify any constraints they pose to future development and (if possible) any recommendations for any further surveys, avoidance, mitigation or enhancement measures that are needed (as appropriate).

Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

A summary of the key legislation is also provided in Appendix B.

2.0 METHODOLOGY

2.1 DESK STUDY

2.1.1 Local Ecological Records Centre

Information was requested from the GiGL in December 2020 for information on any nature conservation designations and protected or notable species records within 2km of the site.

The data search covered:

- Statutory designated sites for nature conservation, namely SACs, SPAs, Ramsar sites, SSSIs, NNRs and LNRs;
- Non-statutory designated sites for nature conservation, namely LWS and SINCs;
- Legally protected species, such as great crested newts *Triturus cristatus*, badger *Meles meles* and bats;
- Notable habitats and species, such as those listed as Habitats or Species of Principal Importance (HPIs or SPIs); and
- Priority habitats or species within the London BAP (London Biodiversity Partnership, 2007).

The data search did not cover:

- Tree Preservation Orders; or
- Conservation Areas designated for their special architectural and historic interest.

2.1.2 Online Resources

A search for relevant information was also made on MAGIC www.magic.gov.uk - DEFRA's interactive, web-based database for statutory designations and information on any EPSL applications that have been granted in the local area.

2.2 FIELD SURVEYS

The following methodologies have been used to identify the ecological receptors present on or near the site, which are relevant to the proposed development.

2.2.1 Habitats

An extended Phase 1 habitat survey was undertaken on the site on 10th February 2021 by Tetra Tech Project Ecologist Marc Anderton (NE Class 2 Bat Survey Licence 2019-43322-CLS-CLS) and Consultant Ecologist Harriet Baber. The weather conditions were cold with light snow showers.

The vegetation and broad habitat types within the site were noted during the survey in accordance with the categories specified for a Phase 1 Vegetation and Habitat Survey (JNCC, 2010). Dominant plant species were recorded for each habitat present using nomenclature according to Stace (2019). The site was also appraised for its suitability to support notable flora, with regard to the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017).

2.2.2 Protected & Notable Species

The site was inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Schedule 2 of the Habitat Regulations, Schedule 5 of the W&CA, the CRoW Act, those given extra protection under the NERC Act, and species included in the London LBAP.

Great Crested Newt

The site was appraised for its suitability to support GCN. The assessment was based on Guidance outlined in the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003) and the *Great Crested Newt Conservation Handbook* (Langton, Becket & Foster, 2001).

Bats

Roosting Bats – Buildings / Structures / Trees

Any suitable buildings, structures or trees on site were assessed from the ground for their suitability to support breeding, resting and hibernating bats using survey methods based on the BCT *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016) – hereafter referred to as the 'BCT Guidelines'. The categories used to classify the bat roost suitability of any features found, are explained in Table 1 below.

Table 1: Categories of Bat Roost Suitability (BCT Guidelines)

Suitability	Typical Roosting Features
Negligible	Negligible habitat feature on site likely to be used by roosting bats.
Low	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 (i.e. unlikely to be suitable for maternity or hibernation). 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.
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).
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 & potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Foraging / commuting Bats

The BCT Guidelines use the criteria in Table 2 below to categorise the potential value of habitats and features for use by foraging and commuting bats and these have been used to characterise the value of this site.

Table 2: Categories of Habitat Suitability (BCT Guidelines)

Suitability	Typical Foraging & Commuting Features
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	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. 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.
Moderate	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.

Suitability	Typical Foraging & Commuting Features
	Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	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. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Bat Internal Building Assessment

An internal assessment of the buildings (i.e. loft spaces) was also conducted. The assessment involved a search for evidence of roosting bats such as droppings, staining, live / dead bats and also features / crevices and internal conditions (i.e. dark/dry/non-draughty) which are considered suitable for roosting bats. The assessment was carried out by NE Class 2 bat licenced surveyor Marc Anderton (reference number: 2019-43322-CLS-CLS) assisted by experienced ecologist Harriet Baber.

Reptiles

The site was appraised for its suitability to support reptiles. The assessment was based on guidance outlined in the *Herpetofauna Workers' Manual* (Gent & Gibson, 2003).

Badger

The site was surveyed for evidence of badger setts or other badger activity such as paths, latrines or signs of foraging. Methodologies used and any setts recorded were classified according to published criteria (Harris, Cresswell & Jefferies, 1989).

Hazel Dormouse

The site was surveyed for its suitability to support hazel dormouse *Muscardinus avellanarius*. The assessment was based on guidance outlined in Bright, Morris and Mitchell-Jones (2006).

Other Species

The site was also appraised for its suitability to support other protected or notable fauna including mammals, amphibians, birds and invertebrates with regard to the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017) and *BS42020:2013 Biodiversity – Code of Practice for Planning and Development* (BSI, 2013). Evidence of any current or historical presence of such species was recorded.

Invasive Species

The site was searched for evidence of invasive plant species, such as Japanese *knotweed Reynoutria japonica* (formerly *Fallopia japonica*), Indian (Himalayan) balsam *Impatiens glandulifera*, giant hogweed *Heracleum mantegazzianum*, wall cotoneaster *Cotoneaster horizontalis* and rhododendron *Rhododendron ponticum* × *Rhododendron maximum*. A full list of all invasive plant species is provided in Appendix B.

2.2.3 Bat Hibernation Surveys

Three static monitoring devices (Anabat Express) were placed in the loft void of B1 on 10th February 2021 (see Figure 2), with a battery change on 2nd March 2021. These were then collected on 18th

March 2021. The devices were set up to record any bat calls from within the loft voids. Internal checks of the loft voids were also carried out by bat licenced ecologists, Kevin Wood (NE Class 2 bat survey licence number 2017-31904-CLS-CLS) and Marc Anderton (NE Class 2 bat survey licence number 2019-43322-CLS-CLS), to look for bats themselves on 10th February 2021. The internal checks used a high-powered torch and endoscopes to search for bats. Close attention was made to areas of brickwork and any accessible gaps or crevices.

2.2.4 Emergence and Return-to-roost Surveys

B1 (roof void of the main two-storey section of the hospital building) and B2 (Northern Annex) were confirmed bat roosts for brown long-eared bats in past surveys (WYG, 2016 and WYG, 2018b). As such, survey effort for a confirmed roost to categorise roost type and species usage requires three separate surveys; two dusk emergence surveys and one dawn return-to-roost survey. Surveys were carried out between May and September. During the surveys, surveyors were stationed in strategic locations around the building (see Figure 2) so that all suitable roosting features for bats could be seen.

During the surveys, the areas identified as potential access and egress points were observed by the surveyors for any bats emerging from or returning to the roost. Incidental bat activity was also recorded.

Below is a list of the surveyors and their qualifications:

- Tetra Tech Project Ecologist Harriet Baber GradCIEEM (NE Class 1 bat survey licence number 2021-52830-CLS-CLS) on 19/05/2021, 09/06/2021 and 23/06/2021;
- Tetra Tech Assistant Ecologist Laura Grice PGDip, Qualifying CIEEM on 19/05/2021, 09/06/2021 and 23/06/2021;
- Tetra Tech Assistant Ecologist Hannah Goodenough Bsc on 09/06/2021 and 23/06/2021;
- Tetra Tech Assistant Ecologist Alex Blackburn on 19/05/2021;
- Tetra Tech Field Ecologist Georgia Holmes on 19/05/2021;
- Tetra Tech Field Ecologist Rob Schwar on 19/05/2021, 09/06/2021 and 23/06/2021;
- Tetra Tech Field Ecologist Marisa Costa on 19/05/2021, 09/06/2021;
- Tetra Tech Field Ecologist Carole Baber on 09/06/2021;
- Tetra Tech Field Ecologist Michael Cuff on 23/06/2021; and
- Tetra Tech Field Ecologist Sarah Alexandra on 23/06/2021.

The surveyors used Elekon Batlogger M detectors to record bats (a real time, full spectrum, heterodyne detector with automatic tuning). The Batlogger tunes into the ultrasonic frequencies which the bats are calling at. The Batlogger is able to record directly onto a SD card, this allows recordings to be stored for later analysis, using 'Bat Explorer' version 2.1.7.0 software.

All bat surveys were completed during the period when bats are active, within the optimum survey season and mostly (see limitations) within suitable weather conditions (above 10°C at start, dry and with calm winds). See Table 3 for details of surveyors, timings and weather conditions of each survey.

Table 3: Dates, Surveyor Locations, Timings and Weather Conditions for Dusk Emergence / Dawn Return-to-roost Surveys

Date of Survey	Start	Sunset/ Sunrise	Finish	Temp (°C)		Rainfall	Wind (Beaufort Scale)	Cloud (%)
				Max	Min			
19/05/2021	20:24	20:54	22:24	13	9	None	0	50

09/06/2021	03:15	04.45	05:00	13	12	None	1	0
23/06/2021	20:54	21:24	22:54	18	16	None	0	60

2.3 LIMITATIONS

The optimal period to undertake an extended Phase 1 habitat survey is April-September. The Phase 1 survey was completed in February which is outside the optimal survey window. However, the site was in a similar condition to the previous ecological surveys, which were undertaken in optimal months. As such this is not considered to be a significant limitation to the accurate assessment of the habitats and the dominant species of the respective vegetation types were visible and identifiable. All bat surveys were completed at appropriate times and during suitable weather conditions with reference to current best practice guidance (Collins, 2016).

It was not possible to inspect the full extent of the 50m buffer for badgers due to access restrictions on private property. This has been taken into consideration within this report.

Some areas around Northwood Cottage Hospital could not be fully assessed for bat roosting potential due to the presence of hoarding. Where possible, the roof and soffits were assessed from a distance with binoculars. As the majority of the roofline could be assessed, this is not considered as a significant limitation to the assessment.

The loft void of B2 and the loft void section of the western gables of B1 could not be accessed due to health and safety concerns. As such, the internal loft voids could not be assessed for their suitability for bats or presence of bats. This has been taken into consideration within this this report.

The hibernatio

The Anabat static monitoring device provides no indication as to the number of bats present as recorded bat calls could be from one bat making repeated calls or multiple bats making fewer calls.

The details of the ecological appraisal report will remain valid for a period of **12 months** from the date of the survey (June 2022) after which the validity of this assessment should be reviewed to determine whether further updates are necessary. Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on.

3.0 BASELINE CONDITIONS

3.1 DESIGNATED SITES

The following designated sites of ecological importance have been identified within 2km of the site as displayed in Table 4 and shown on Figure 3.

Table 4: Designated Sites Within 2km

Designation	Site Name	Distance & Direction	Summary of features
SINC	Hogs Back Open Space	0.1km NE	Habitats on site include acid and amenity grassland, scattered trees, scrub and woodland. The woodland is predominantly pedunculate oak *Quercus robur*, bramble *Rubus fruticosus* agg and common hawthorn *Crataegus monogyna*.
SINC	Haste Hill Golf Course, Northwood Golf Course and Northwood Park	0.45km SW	Two golf courses with small areas of valuable wildlife habitat. Habitats on site include acid and amenity grassland, woodland, running water, scattered trees, semi-improved natural grassland, wet grassland and wet woodland. Standing deadwood present.
SINC	Potter Street Hill	0.65km NE	Habitats on site include ponds, scattered trees, semi-improved neutral grassland, wet grassland and wet ditches.
SINC	Haydon Hall Meadows	0.70km SE	Habitats include amenity, semi-improved and unimproved neutral grassland, orchards, scattered trees and woodland. A river corridor is present to the north and west of the site.
SINC	St Vincent's Hospital Meadows	0.85km SW	The site comprises two fields with a rich assemblage of butterflies and grasshoppers. Habitats include scattered trees, amenity and semi-improved neutral grassland.
SINC	Potter Street Hill North Pasture	0.9km NE	A small field of unimproved neutral grassland known for the largest population of devil's-bit scabious *Succisa pratensis* in London.
SINC	Pinner Wood Park and Ponds	0.95km NE	A large private golf course with ancient woodland, acid grassland and several ponds.
SSSI, NNR	Ruislip Woods	0.95km SW	Comprising areas of semi-natural Ancient Woodland, making up one of the most extensive areas of broadleaved woodland remaining in the London area. The main habitats on site also include open water and lowland grassland. Known for supporting various breeding bird species, including tawny owl *Strix aluco*, willow tit *Parus montanus* and woodcock *Scolopax rusticola*, and supporting national rare / scarce moths and beetles.

Designation	Site Name	Distance & Direction	Summary of features
SINC	Northwood Railway Cutting	1.10km NW	Woodland banks on both sides of the railway lines at Northwood. Habitats include scattered trees, scrub and semi-improved neutral grassland.
LNR	Oxhey Woods	1.15km NE	The woodland contains wild service trees *Sorbus torminalis* and areas of Ancient Woodland. The range of habitats make it one of the most important woodland in the county.
SINC	Grim's Ditch and Pinner Green	1.15km E	Woodland associated with ancient earthworks. Habitats include woodland, semi-improved neutral grassland, veteran trees and wet ditches.
SINC	Fore Street Meadows	1.3km SE	The site comprises two fields to the east of Park Wood (part of Ruislip Woods NNR). Habitats include scattered trees, wet ditches and semi-improved neutral grassland.
SINC	River Pinn near Eastcote	1.5km SE	Habitats include amenity and semi-improved neutral grassland, running water, woodland and scattered trees.
SINC	Gravel Pit, Northwood	1.55km NW	Heavily wooded gravel diggings. Habitats include amenity and semi-improved neutral grassland and woodland.
SINC	The Grail Centre	1.55km E	Grassland areas and small parcels of woodland present. Other habitats include orchard, ponds and semi-improved neutral grassland.
SINC	Woodridings Brook	1.85km E	A tributary of the River Pinn with shallow and shingle banks. The site supports good populations of garden bird species. Habitats include running water and scattered trees.

In additional to the above designations, the nearest Natura 2000 site is Burnham Beeches SAC which is designated for its extensive area of beech woodland, 15km south west of the site.

3.2 ANCIENT WOODLAND AND HABITATS OF PRINCIPAL IMPORTANCE

There are several parcels of Ancient Woodland within 2km of the site. The closest of these is located in Ruislip Woods NNR, 0.95km south west of the site.

The desk study found the following HPI habitats, as based upon Natural England's Priority Habitats Inventory, (Natural England, 2019) within 2km of the site: Deciduous Woodland (120m NE), Traditional Orchards (300m SW), Wood pasture and Parkland (0.95km SW), Lowland Heathland (1.25km NE), Lowland Dry Acid Grassland (1.3km SW) and Good Quality Semi-Improved Grassland (1.5km S).

3.3 HABITATS

The following habitats have been identified through our assessment, with detailed Target Notes included in Appendix C, as appropriate and shown on Figure 4:

3.3.1 Broadleaved Plantation Woodland

Broadleaved plantation woodland was present along the south eastern boundary of the site (TN1). It was comprised of pedunculate oak *Quercus robur*, ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus* and common lime *Tilia* × *europaea*. The understory was dominated by bramble *Rubus fruticosus*.

3.3.2 Broadleaved scattered trees

Scattered trees were located across this site, primarily in the grassland or hardstanding areas (TN2). Species included ash, hawthorn *Crataegus monogyna* and ornamental cherry species *Prunus* sp.

3.3.3 Semi-Improved Grassland

Semi improved grassland was present to the north and east of Northwood Cottage Hospital (TN3), where amenity grassland recorded in previous surveys had been left unmanaged.

3.3.4 Amenity Grassland

Areas of amenity grassland were present across the site, with large areas present around the health centre (TN4). These areas were regularly mown, as evidenced by the uniform sward length, but has likely been left to grow over winter.

3.3.5 Introduced Shrubs

Several areas of introduced shrubs were present across the site, mostly associated with the amenity grassland areas (TN5). The species within these were predominantly non-native plants and included buddleja *Buddleja davidii*, variegated box *Buxus sempervirens 'Elegantissima'* (v) and native dog rose *Rosa canina.*

3.3.6 Species-rich Hedgerows

A species rich hedgerow was present along the southern boundary of the site, within the car park of Northwood cottage (TN6), approximately 15m long.

3.3.7 Buildings

There were six buildings on site (see Figure 4). The largest building was Northwood Cottage (B1), which is currently used by the ambulance team for Northwood and Pinner Hospital, with two extensions to the east, B2 and B3. Associated with Northwood Cottage was an outbuilding to the north (B4) and a small substation to the south (B5). The health centre (B6) dominated the east of the site.

3.3.8 Hardstanding

Hardstanding was present across the site, primarily in the form of car parks and footpaths (TN7).

3.4 PROTECTED & NOTABLE SPECIES

3.4.1 Great Crested Newt

The desk study returned two records for great crested newt within 2km of the site, the most recent of which was from 2011. A search of MAGIC returned one EPSL for great crested newts with 2km of the site. This was for the destruction of a resting place granted in 2013, 1.8km south west of the site.

No waterbodies were located on site. Two drains, located 250m south of the site, and a small stream, located 380m west of the site, were located using aerial imagery. However, they are separated from

site by a busy road and residential developments and surrounded by suitable habitat. As such, any great crested newts that may be present in those waterbodies would unlikely to disperse to the site. There is also limited suitable terrestrial habitat on site. Overall, the site has been assessed as having **negligible potential** for great crested newt.

3.4.2 Bats

The desk study returned 42 records for bats within 2km of the site. These records were for common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, Daubenton's bat *Myotis daubentonii*, and noctule *Nyctalus noctula*. All species were last recorded in 2017. A search of MAGIC returned five EPSLs granted for bats within 2km of the site, summarised in Table 5.

Table 5: EPSLs Granted within 2km

Species	Reason for Licence	Distance & Direction	Year Granted
Common pipistrelle	Destruction of a resting place	1km NW	2017
Common pipistrelle, soprano pipistrelle, brown long-eared	Damage and destruction of a resting place	1.3km N	2015
Common pipistrelle	Destruction of a resting place	1.5km W	2017
Common pipistrelle	Destruction of a resting place	1.6km W	2016
Soprano pipistrelle	Destruction of a breeding and resting place	1.9km W	2013

Roosting bats

No trees on site had suitability for roosting bats.

Table 6 summaries the findings from the external bat roost assessment of the buildings present on site. Since the previous survey was undertaken in 2018, security hoarding had been installed around much of the east of the site, allowing limited views of the buildings.

Table 6: Building Description and Bat Roosting Suitability

Building number	Description and suitability	Picture
B1	A two-story brick built structure, mostly covered with a ceramic tiled, pitched roof. There are sections of flat roof on the north, west and east elevation covered with roofing felt, with the exception of the west elevation. This had a parapet wall running around the edges. Along parts of the western and eastern elevations there were ceramic hanging tiles. The building was in a similar condition to that seen during the previous Ecological Appraisal, undertaken in 2018. There were several slipped or broken roof tiles across the building. As bats were identified as being present within the building during the previous bat surveys undertaken in 2015, this is was a **confirmed bat roost**.	
B2	A double height brick structure, with a ceramic-tiled roof. It had wooden framed windows, and on the roof there was a door in a dormer structure leading to the roof void. Several slipped or missing tiles were visible. The building was in a similar condition to that seen during the previous Ecological Appraisal, undertaken in 2018. As bats were identified as being present within the building during the previous bat surveys undertaken in 2015, this is was a **confirmed bat roost**.	

Building number	Description and suitability	Picture
B3	The building could not be fully assessed due to the presence of the security hoarding. It was constructed of a plastic-walled section with a metal roof, and a brick section which had a felt roof and wood cladding around the eaves. It appeared to still be in a good condition with no gaps or crevices suitable for roosting bats. Overall, the building was assessed as having **negligible** suitability for roosting bats.	
B4	A single-story brick outhouse with a concrete roof covered with roofing felt. The structure was in a similar condition to that seen during the previous Ecological Appraisal, undertaken in 2018. The structure was in good condition with no gaps or crevices suitable to support or allow access for roosting bats. Overall, the building was assessed as having **negligible** suitability for roosting bats.	
B5	A single-story brick built structure with a flat felt roof and wooden louvered door. Likely housing a substation. The substation had deteriorated slightly since the previous survey in 2018, with some gaps visible between the bricks and the felt roofing. However, this did not lead to any suitable roosting features. Overall, the building was assessed as having **negligible** suitability for roosting bats.	

Building number	Description and suitability	Picture
B6	The building was in a similar condition to that seen during the previous Ecological Appraisal, undertaken in 2018. The building was still in a good condition with no lifted tiles or missing mortar to allow bats access for roosting. Overall, the building was assessed as having **negligible** suitability for roosting bats.	

Internal Inspection

B1

The loft comprised an open void above the full length of the building with exposed beams, ridge board, collar beams and wooden sarking, see Photograph 1. The gables to the west of the building were not accessible due to lack of an entrance, however there were small openings present which allowed access between the loft spaces. As such, bats would be able to easily access all species. A small pile of old brown long-eared droppings was recorded near a brick support in the middle of the void, suggesting that the building had been recently used by bats. The endoscopic survey, undertaken at the same time, found no bats roosting in the building.

Photograph 1: Loft void of B1

Foraging and Commuting Bats

The woodland to the south east and east of Northwood Cottage would offer a dark corridor for bats commuting between residential gardens. The amenity and semi-improved grassland on site would also likely support invertebrates, which would offer foraging opportunities for bats. As the site is well connected to neighbouring residential gardens, it is likely bats would use the site to commute to the open green space to the north east of the site. Overall, the site has been assessed as having **moderate** suitability for foraging and commuting bats.

3.4.3 Reptiles

The desk study returned records for adder *Vipera berus*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and slow worm *Anguis fragilis* within 2km of the site. All species were most recently recorded in 2010. A search of MAGIC returned no EPSLs for reptiles within 2km of the site.

The amenity and semi-improved grassland on site offers some foraging potential, while the woodland and introduced shrub offer limited basking opportunities. However, the site is situated in dense urban area and is not well connected to the wider landscape with more suitable habitat for reptiles as it is isolated by busy main roads and residential developments. Overall, the site has been assessed as **having potential** for reptiles.

3.4.4 Badger

The desk study returned seven records of badger *Meles meles* within 2km of the site. The most recent record was in 2019.

No evidence of badger or badger setts or badger activity were recorded on site or within 50m of the site boundary that was accessible. The grassland and woodland present on site are primary foraging (Natural England, 2014) and sett-making habitat. The site has good connectivity to neighbouring private gardens, which also provide suitable habitats for badger. The site has been assessed as **having potential** for badger.

3.4.5 Hazel Dormouse

The desk study returned no records for hazel dormouse within 2km of the site.

Much of the habitat on site is unsuitable to support dormouse as it provides no nesting or foraging habitat. The parcel of woodland and hedgerows that were present did not have an understory or the dense structure required for dormouse. The woodland is also not well connected to the wider landscape for use by dormouse. Overall, the site has been assessed as having **negligible potential** for dormouse.

3.4.6 Otter & Water Vole

The desk study returned no records for otter *Lutra lutra* or water vole *Arvicola amphibius* within 2km of the site.

The site and its immediate surrounding areas contain no waterbodies which may be used by otter or water vole. The nearby stream is not suitable to support either otter or water vole. Whilst the woodland on site may provide holt making opportunities, the site is not connected to any suitable rivers. For these reasons the site has **negligible potential** for both otter and water vole.

3.4.7 Birds

The desk study returned multiple records for notable bird species within 2km of the site. These are 31 BoCC amber list species, including bullfinch *Pyrrhula pyrrhula*, house martin *Delichon urbicum* and swift *Apus apus*, 20 BoCC red list species, including house sparrow *Passer domesticus*, song thrush *Turdus philomelos*, and starling *Sturnus vulgaris*, seven NERC species, including skylark *Alauda arvensis*, and 19 W&CA species, including barn owl *Tyto alba* and red kite *Milvus milvus*.

The site contains habitats suitable to support a range of nesting bird species, such as robin *Erithacus rubecula*, swallow *Hirundo rustica* (W&CA) and song thrush (NERC species). Habitats such as buildings, hedgerows, woodland, scattered trees and introduced shrub are most likely to be used for nesting, as well as providing some foraging opportunities. For this reason, the site has been assessed as **having potential** to provide nesting and foraging opportunities for a variety of bird species.

3.4.8 Invertebrates

The desk study returned 21 records for notable invertebrate species within 2km of the site. These were 20 NERC species, including small heath butterfly *Coenonympha pamphilus* and white admiral butterfly *Limenitis camilla*, and three W&CA species, purple emperor *Apatura iris*, white-letter hairstreak butterfly *Satyrium w-album* and stag beetle *Lucanus cervus*. The most recent record was in 2019 for stag beetle.

There were some areas of habitat suitable for invertebrates, including brash piles and dead wood in the woodland parcel. Dead wood is particularly suitable for stag beetle, recently recorded in the local area. The site has connectivity to neighbouring gardens. As such, it has been assessed as **having potential** to support notable and common invertebrate species.

3.4.9 Hedgehog

The desk study returned 21 records for hedgehog *Erinaceus europaeus* within 2km of the site. The most recent of these was in 2019.

The grassland, introduced shrubs and woodland edges provide suitable habitat for hedgehog. The site is also well connected to the wider environment where there is further suitable habitat. Overall, the site **has potential** to support hedgehog.

3.4.10 Invasive Species

Buddleja was identified on site within introduced shrub areas, which is an invasive species in London as determined by LISI.

4.0 BAT SURVEY RESULTS

4.1 HIBERNATION

No bat calls were recorded on the static devices during any of the monitoring periods. No bats or evidence of bats was found during the internal inspection on 10th February 2021.

4.2 EMERGENCE / RETURN-TO-ROOST SURVEYS

4.2.1 Dusk Emergence Survey, 19th May 2021

Two emergences were seen from B1 and no emergences from B2. A common pipistrelle emerged from below the chimney breast on the southern elevation at 21.35 (41 minutes after sunset). A soprano pipistrelle was seen emerging from tiles in the same area at 21.44 (50 minutes after sunset). Incidental activity included 5 passes of common pipistrelle and 3 passes of soprano pipistrelle.

Photograph 2: Emergence Point from tiles under chimney breast (B1).

4.2.2 Dawn Return-to-Roost Survey, 9th June 2021

No bats were seen returning-to-roost from B1 or B2 during the survey. Incidental activity included 65 passes of common pipistrelle, 10 passes of soprano pipistrelle and a single noctule pass. The first pass was a common pipistrelle heard at 03:17 (88 minutes before sunrise), and the last pass was a soprano pipistrelle at 4:14 (37 minutes before sunrise). Some foraging was noted in the neighbouring garden west of the site.

4.2.3 Dusk Emergence Survey, 23rd June 2021

No bats were seen emerging from B1 and B2 during the survey. Incidental activity included 71 passes of common pipistrelle,17 passes of soprano pipistrelle and 1 pass of a noctule and 1 pass of a serotine *Eptesicus serotinus*. The first and last pass were from soprano pipistrelles heard at 21:58 (34 minutes after sunset) and 22:33 (69 minutes after sunset). Some foraging was noted in the neighbouring garden west of the site.

4.3 IMPORTANCE OF ECOLOGICAL FEATURES

In line with the CIEEM PEA Guidelines, and based on the above baseline information, the importance of each ecological feature recorded within the study area is given in Table 7 below. The categories used are those which are defined in Section 4 of the CIEEM EcIA Guidelines (2018 v1.1):

Table 7: Importance of Ecological Features

Feature	Importance	Rationale
Burnham Beeches	International	Natura 2000 site designated at International level
Ruislip Woods SSSI and NNR	National	Statutory sites designated at the national level
All SINCs	County	Non-statutory sites designated at county level
Broadleaved plantation woodland	Negligible	This habitat has some ecological value in relation to the site. However, it is common and widespread and does not qualify as HPI or LBAP habitat
Semi-improved grassland, amenity grassland and defunct species-rich hedgerow	Negligible	Of limited ecological value as the habitat covers a small area and does not support a large diversity of species.
Introduced shrubs, buildings and hardstanding	Negligible	Of little or no ecological value.
Roosting bats	Local	Confirmed active and historic day roosts on site for common bat species.
Foraging and commuting bats	Local	Some suitable dark corridors and foraging habitat on site but limited in comparison to the wider landscape.
Reptiles	Local	Potential to be onsite however site has isolated habitats.
Great crested newt and dormouse	Negligible	Considered likely to be absent from site.
Badger	Local	No evidence of badger was found but there is potential for a population to be present.
Otter and water vole	Negligible	No suitable waterbodies or habitat on site or close to site.
Breeding birds	Local	Limited amounts of suitable nesting and foraging habitat for common bird species present.
Invertebrates	Local	Site has potential to support common invertebrates and small numbers of notable invertebrates. Larger

Feature	Importance	Rationale
		areas of suitable habitat in the surrounding landscape.
Hedgehog	Local	Habitats on site provide suitable habitat with connectivity to wider environment.
Either: International (incl. European) / National / Regional / County / Local / Negligible **Or:** Unknown (i.e. further surveys/information needed)		

The potential for the proposals to have adverse or beneficial impacts on these features, along with the need for any mitigation or enhancement measures are discussed in detail below.

5.0 RELEVANT PLANNING POLICY & LEGISLATION

5.1 REVISED NATIONAL PLANNING POLICY FRAMEWORK

A revised NPPF was issued on 20th July 2021 (Ministry of Housing Communities and Local Government, 2021) and currently supplements government Circular *06/2005, Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 174 of the NPPF also states that:

"*Planning policies and decisions should contribute to and enhance the natural environment by:*

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate."

The conservation and enhancement of wildlife is also specifically reference re: development within the National Parks or the Broads.

Paragraph 180 then goes on to confirm that:

"When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*

d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."*

Regarding EcIA's and HRA's – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000/habitats site should also be given the same level as protection as the pSPA's and cSAC's themselves. In addition, when an application is being determined, Paragraph 182 clarifies that:

"*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*"

Paragraph 185 is also relevant as;

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:…

c) *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."*

5.2 BIODIVERSITY 2020: A STRATEGY FOR ENGLAND'S WILDLIFE & ECOSYSTEM SERVICES

Biodiversity 2020 (DEFRA, 2011) replaces the previous UK Biodiversity Action Plan and sets national targets to be achieved. The intent of Biodiversity 2020, however, is much broader than the protection and enhancement of less common species, and is meant to embrace the wider countryside as a whole.

The priority species and habitats considered under Biodiversity 2020 are the SPI & HPI detailed under NERC Act (see Appendix B for further details).

5.3 LOCAL BIODIVERSITY ACTION PLAN

Local Biodiversity Action Plans (LBAPs) identify habitat and species conservation priorities at a local level (typically County by County) and are usually drawn up by a consortium of local Government organisations and conservation charities. Although they are no-longer managed at a national level many are still reviewed and updated at a local level.

The London BAP is the relevant document for this site, and it contains the following relevant Habitat & Species Action Plans:

Table 8: LBAP SAPs

Species Action Plans	
All UK bat species	Black poplar *Populus nigra*
House sparrow *Passer domesticus*	Mistletoe *Viscum album*

Species Action Plans	
All UK reptile species	Stag beetle *Lucanus cervus*

Table 9: LBAP HAPs

Habitats Action Plans	
Acid grassland	Chalk grassland
Parks and urban green spaces	Woodland

It should be noted that the existence of a SAP or HAP does not always infer an elevated level importance for those features. These plans may be designed to encourage an increase in these habitats/species, rather than to protect a county-scarce feature (for example).

5.4 LOCAL PLAN

The site falls within the London Borough of Hillingdon, whose Local Plan 2012 (Hillingdon Borough Council, 2012) lays out the policies for the district. Below are the policies which relate both to the site and ecology.

Policy EM1: Climate Change Adaptation and Mitigation

The Council will ensure that climate change mitigation is addressed at every stage of the development process by:

1. *Prioritising higher density development in urban and town centres that are well served by sustainable forms of transport…*
7. *Encouraging the installation of renewable energy for all new development in meeting the carbon reduction targets savings set out in the London Plan. Identify opportunities for new sources of electricity generation including anaerobic digestion, hydroelectricity and a greater use of waste as a resource…*

The Borough will ensure that climate change adaptation is addressed at every stage of the development process by:

12. *Giving preference to development of previously developed land to avoid the loss of further green areas.*
13. *Promoting the use of living walls and roofs, alongside sustainable forms of drainage to manage surface water run-off and increase the amount of carbon sinks…*

Policy EM7: Biodiversity and Geological Conservation

Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:…

3. *The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.*
4. *Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/ assist in the delivery of actions within the Biodiversity Action Plan.*
5. *The provision of biodiversity improvements from all development, where feasible.*
6. *The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.*
7. *The use of sustainable drainage systems that promote ecological connectivity and natural habitats.*

The site is also subject to the London Plan (Greater London Authority, 2021). The following policies from the London Plan are relevant to this site:

Policy G5 Urban greening

A. *Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.*
B. *Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2, but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development (excluding B2 and B8 uses).*
C. *Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.*

Policy G6 Biodiversity and access to nature

A. *Sites of Importance for Nature Conservation (SINCs) should be protected.*
B. *Boroughs, in developing Development Plans, should:*
    1) *use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks*
    2) *identify areas of deficiency in access to nature (i.e. areas that are more than 1km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them*
    3) *support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans*
    4) *seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context*
    5) *ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.*
C. *Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:*
    1) *avoid damaging the significant ecological features of the site*
    2) *minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site*
    3) *deliver off-site compensation of better biodiversity value.*
D. *Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.*
E. *Proposals which reduce deficiencies in access to nature should be considered positively.*

Policy G7 Trees and woodland

A. *London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.*
B. *In their Development Plans, boroughs should:*

1) *protect 'veteran' trees and ancient woodland where these are not already part of a protected site.*
2) *identify opportunities for tree planting in strategic locations.*

C. *Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.*

5.5 LEGISLATION

Full details of the UK legislation and offences which are relevant to the ecological receptors identified are included in Appendix B. However, based on the findings of our assessment, it is considered that the proposals will need to consider the following legal provisions:

- Disturbance or killing of an EPS (bats) – Habitats Regulations / WC&A;
- Disturbance of nesting wild birds – WC&A;
- Killing or injury of reptiles and hedgehogs – WC&A and;
- Disturbance or killing of badger – Badger Act.

6.0 DISCUSSION

6.1 DESIGNATED SITES

Natura 2000 Site

Burnham Beeches SAC is located 15km south west of the site. This site is considered to be a significant distance from the site and the proposals are unlikely to have significant impact on the site. Therefore, no further assessment is required in relation to this project.

Sites of Species Scientific Interest

The nearest SSSI is Ruislip Woods, located 0.95km south west of the site. The current plans do not specify the number of residential units due to be created. However, if the development results in more than 100 residential units, Natural England should be consulted.

The SSSI is considered to be a significant distance from the site, therefore direct and indirect habitat loss or disturbance is not anticipated as a result of this project.

In addition, there are no hydrological links between the sites. Therefore, the risk of pollution events occurring which could have the potential to adversely affect notifiable features of this designated site or habitats which support them is unlikely.

Local Wildlife Sites

There are 15 non-statutory wildlife sites within 2km of the site. The nearest designated site is Hog's Back Open Space, located 0.1km north east of the site boundary. The proposed development will likely result in increased foot traffic on the nearby wildlife sites. However, as the area is already heavily populated it is unlikely that the development of new residential housing will cause a significant impact on this or any other local wildlife sites. There is also Northwood recreational ground to the south of the site, so it is likely that new residents will visit the recreational grounds, which are regularly maintained. The Landscape Plan (Camlins, 2020) shows several areas of public space for residents' use, which could relieve pressure on the nearby LWS, including Northwood recreational ground located 150m south of the site. It is therefore considered that no significant impacts upon SINCs would be anticipated as a result of this project and no further assessment is required.

As a matter of best practice and to comply with policy of the local plans as highlighted in section 4.4, it is recommended that the pollution prevention measures listed below are adopted:

- Measures to minimise dust arising, when necessary, including the use of dust control machinery and wet machinery;
- Measures to prevent pollution / contamination events through surface run-off; and
- Measures to minimise other pollution events such as noise, vibration and wind-blown litter.

6.2 HABITATS

The habitats on site have not significantly changed since the previous Ecological Appraisal was undertaken in 2018 (WYG, 2018a). The habitats of most value on site are the broadleaved plantation woodland and scattered trees.

The development proposals include the removal of most of the habitats present across the site. To comply with national planning policies and policies EM1 and EM7 of the Hillingdon Local Plan 2012 (Hillingdon Borough Council, 2012), it is recommended that any removed trees are mitigated by planting of UK native trees within the site. For retained trees, it is recommended that they are protected during demolition and construction using root protection fencing around the root zones in

accordance with *British Standards BS 5837 2012: Trees in Relation to Construction Recommendations*.

All other habitats recorded onsite are of negligible biodiversity value and their loss does not pose a constraint to the development of the site

6.3 PROTECTED & NOTABLE SPECIES

Only those species that could be adversely impacted by the proposals are discussed in this section.

6.3.1 Bats

Roosting Bats

B1 and B2 were confirmed as roosts in the previous bat surveys (WYG, 2016 and WYG, 2018b), with old brown long eared bat droppings identified during the internal inspection of B1 during the survey in September 2015 (see Figure 5). However, no emerging or returning bats were seen in 2015 or 2017 or during hibernation surveys in 2021.

The first dusk emergence survey confirmed that there is an **active day roosts of single common and soprano pipistrelle in B1** with 2 emergences observed. Subsequent surveys of this building did not record any emerging or re-entering bats.

No bats were observed emerging or re-entering from B2 in 2015, 2017 and 2021**.** However, three brown long-eared bats were found during an internal inspection to be roosting within this building in September 2015, and since then no internal access has been possible to search for recent activity. It is therefore considered B2 supports a **historic (or infrequently used) brown long-eared day roost and should still be protected.**

As active bat roosts are present in B1 and bats were recorded within B2 in the recent past, a licence is required from Natural England prior to work commencing, to allow the disturbance of the roosts and modifications to the roosts or roost access points to be done lawfully.

As the roosts in B1 and B2 comprise common species using three low conservation value roosts (day roosts) an application to register the site under the CL21 Bat Mitigation Class Licence (BMCL, formerly known as a 'low impact' licence) is possible. This type of licence is available to BMCL registered consultants in the following scenarios (Natural England, 2019):

- To disturb and capture up to 3 'common or widespread' bat species (which are those listed in each annex) [includes common pipistrelle, soprano pipistrelle and brown long-eared];
- To damage or destroy up to 3 'low conservation status roosts' (these are: feeding, day, night and transitional roosts);
- If the action has a low or temporary impact on bats or their roosts;
- If licencsable works will take less than 6 months; and
- If sites are registered 3-12 weeks before you start work.

The 'three tests' (favourable conservation status, no satisfactory alternative and purpose) must still be met in the same way they would for a standard EPSL. The CL21 licence has a significantly faster turnaround time from Natural England but requires a BMCL registered consultant with specific qualifications to visit the site and make the application. A mitigation strategy is not required as part of the licence, however the registered consultant will likely stipulate that alternative roost locations (e.g. bat boxes) are provided during the demolition, construction and operating phases. Tetra Tech have registered consultants who are able to provide this service. Works which would damage or destroy roosts such as roof removal would require supervised soft-strip demolition as per a standard EPSL.

Foraging and Commuting Bats

The site is considered to be of **moderate** potential for commuting and foraging bats. The habitats of most note for bats are the woodland and grassland. As the site supports bats roosts, these habitats will be used for bats to commute to the wider landscape.

Artificial Lighting

Artificial lighting has been proven to disturb bats and to have a negative impact on their ability to forage and commute to and from their roosts (Emery, 2008; BCT, 2009; ILP, 2018). To minimise the risk of disturbance to bats, the following mitigation is recommended:

During Construction

- It is advised that **no** night time working is undertaken between the months of March to October, inclusive (during the bat active season); and
- If security lighting is necessary, lights triggered by motion sensors should be used and their coverage should be kept to a minimum.

Operational Phase

For new lighting the external lighting should be carefully designed to minimise disturbance to foraging and commuting bats in the nearby areas. A sensitive lighting strategy is recommended including steps such as:

- There should be no direct lighting onto any new bat roosting features created;
- Consideration of the available lighting technology to minimise impacts on bats, i.e. use of LED lighting (as opposed to high pressure sodium, mercury, and white SON). These have been shown to have the least impact on bats (as well as invertebrates) as they emit little UV light (which attracts invertebrates). These lamps can be programmed to switch off, or dim at certain times;
- Directional lighting where light spillage is avoided. Hoods / cowls can be used to direct light below the horizontal plane (ideally at an angle less than 70 degrees);
- Lights should be designed to be as low to the ground as possible (specifically not above 8 m), and;
- Lights switched off at night (particularly during the months of March to October, inclusive when bats are active), or at least motion sensored.

6.3.2 Reptiles

Grassland and woodland edges provide resting opportunities for common reptile species. As all habitats on site will be removed to facilitate the scheme, this will have an impact on any reptiles that may be present.

It is recommended that precautionary measures to protect reptiles are adopted during habitat clearance. The measures to protect reptiles during works should comprise:

- Clearance works should be carried out under the supervision of an ECoW;
- Hibernacula and refugia is removed by hand outside of hibernation season (piles to be removed between March and October), under supervision of an ecologist. If any reptiles found during the clearance they will be moved to a receptor site;
- To minimise impact of breeding birds, the vegetation clearance, such as introduced shrubs, should be done in two stages. First, the vegetation should be cut down to 300mm between the months of (October to February). Second, the below 300mm vegetation should be cut to ground between the months of March to September; and

- Vegetation should be cleared using directional clearance towards the closest grassland boundaries (to encourage reptiles to move off-site).

6.3.3 Badger

As no evidence of badger or badger setts were found within the site, no further survey for badgers is required to support the planning application. However, as badgers are highly mobile creatures and there are habitats on site suitable for sett-making, it is advised that a pre-commencement check immediately prior to clearance / construction works on site is made to look for new badger activity. It is advised that the sensitive lighting strategy (as detailed in Section 5.3.1) is implemented to prevent disturbance to any potential foraging badgers.

It is also advised that the following measures are used to reduce any potential impacts on badgers:

- Backfilling or providing a ramp in excavations before dusk to avoid badgers becoming trapped in them;
- Maintaining access across the construction site for badgers by not blocking or storing equipment along possible commuting routes;
- Avoid construction lights illuminating commuting routes (e.g. hedges) during construction;
- Site contractors are made aware, during site inductions, of the potential presence of badgers onsite, what action is to be taken if a badger or a new badger sett is found during construction works; and
- Any chemicals or potentially harmful compounds to be stored within badger proof containers.

6.3.4 Breeding Birds

The buildings, woodland, introduced shrub, hedgerows and scattered trees provide nesting opportunities, for common nesting bird species.

Removal of vegetation, such as hedges, introduced shrubs, trees and woodland should be undertaken within the timings below:

- Vegetation down to 30cm should be removed outside the breeding season, i.e. October to February.

If this timing is not possible, then a suitably experienced ecologist should check for active bird nests immediately prior to clearance works (within 48 hours). If an active nest is discovered, then work in that area must cease and an appropriate buffer zone installed around the nest site where no works are undertaken until such a time that the young have fledged and the nest is no longer in use. The extent of the buffer zone will depend on the nature of the works to be undertaken and the species of bird nesting, but this would be advised by an ecologist (as a minimum this would be 5m).

Likewise, immediately prior to works on buildings between March and September inclusive a suitably experienced ecologist should check for active bird nests. If an active nest is discovered, then work in that area must cease and an appropriate buffer zone installed around the nest site where no works are undertaken until such a time that the young have fledged and the nest is no longer in use. The extent of the buffer zone will depend on the nature of the works to be undertaken and the species of bird nesting, but this would be advised by an ecologist (as a minimum this would be 5m).

6.3.5 Invertebrates

The log piles (TN8) within the grassland areas should be retained on site within suitable grassland habitat. Should this not be possible, they will need to be removed by hand as this is a suitable habitat for stag beetles which are a SPI and LBAP species. If stag beetles are found, the logs and beetles should be moved to a suitable grassland habitat away from the development.

6.3.6 Hedgehog

The site has potential to support hedgehog, which is an LBAP, NERC and SPI species and should therefore be considered during the planning process. Hedgehog may use the woodland or grassland so care must be taken during vegetation clearance.

Removal of any potential hibernation features, such as log piles, is recommended to be undertaken outside of hibernation season (removal between March and October). If any hedgehogs are found during works, they should be moved to hedgerows or woodland off site so to not be further impacted by ongoing works.

6.3.7 Invasive Species

Buddleia was identified on site. Although this does not have any legal restrictions, it is listed as a London invasive species by LISI. It is recommended that it be removed from site and chipped to avoid further spread by an appropriately qualified contractor.

6.4 ENHANCEMENTS

In line with NPPF and London Borough of Hillingdon Local Plan 2012, the site should be enhanced for biodiversity. These could include:

- Native species / wildflower planting within green spaces;
- UK native tree planting;
- Any new hedgerows should comprise six or more native species;
- Green roof or walls, mentioned within Policy EM7 of the London Borough of Hillingdon Local Plan;
- The inclusion of bat and bird boxes either within the new buildings or on the retained building;
- The inclusion of hedgehog boxes / homes and insect boxes within communal garden area, i.e. the north east corner of the site; and
- Allow connectivity between the site and the surrounding residential housing and nearby Hogs Back Open Space by installation of hedgehog highways in residential fencing.

7.0 SUMMARY

7.1 DESIGNATED SITES

The development is unlikely to have any significant effects upon designated sites identified during the desk study.

7.2 HABITATS

The habitats on site have not significantly changed since the previous Ecological Appraisal was undertaken in 2018 (WYG, 2018a). The habitats of most value on site are the broadleaved plantation woodland and scattered trees; all other habitats recorded onsite are of negligible biodiversity value.

7.3 PROTECTED & NOTABLE SPECIES

The site has suitability / potential to support the following other protected species:

- Roosting bats;
- Foraging and commuting bats;
- Reptiles;
- Badger;
- Breeding birds;
- Hedgehog; and
- Invertebrates.

The site has negligible suitability / potential for all other protected species.

The following survey work and mitigation is recommended:

- B1 supports active day roost for two species and B2 is a historic day roost. An EPSL will be required to allow the works to proceed. It is recommended the site is registered under the BMCL by a BMCL registered consultant after planning approval and before works can begin.
- A sensitive external lighting strategy should be implemented to avoid adverse impacts on foraging and commuting bats;
- Pre-works inspection for badger setts;
- ECoW and two stage vegetation clearance to mitigate against adverse impacts to reptiles, hedgehog, invertebrates and breeding birds;
- Measures to reduce impacts on badger during construction; and
- Invasive species should be removed from site.

7.4 ENHANCEMENTS

The site should be enhanced for biodiversity, enhancements could include native species planting, new hedgerows comprising six or more native species, green roof or walls, inclusion of bat, bird and hedgehog boxes and maintaining connectivity between the site and the wider landscape.

8.0 REFERENCES

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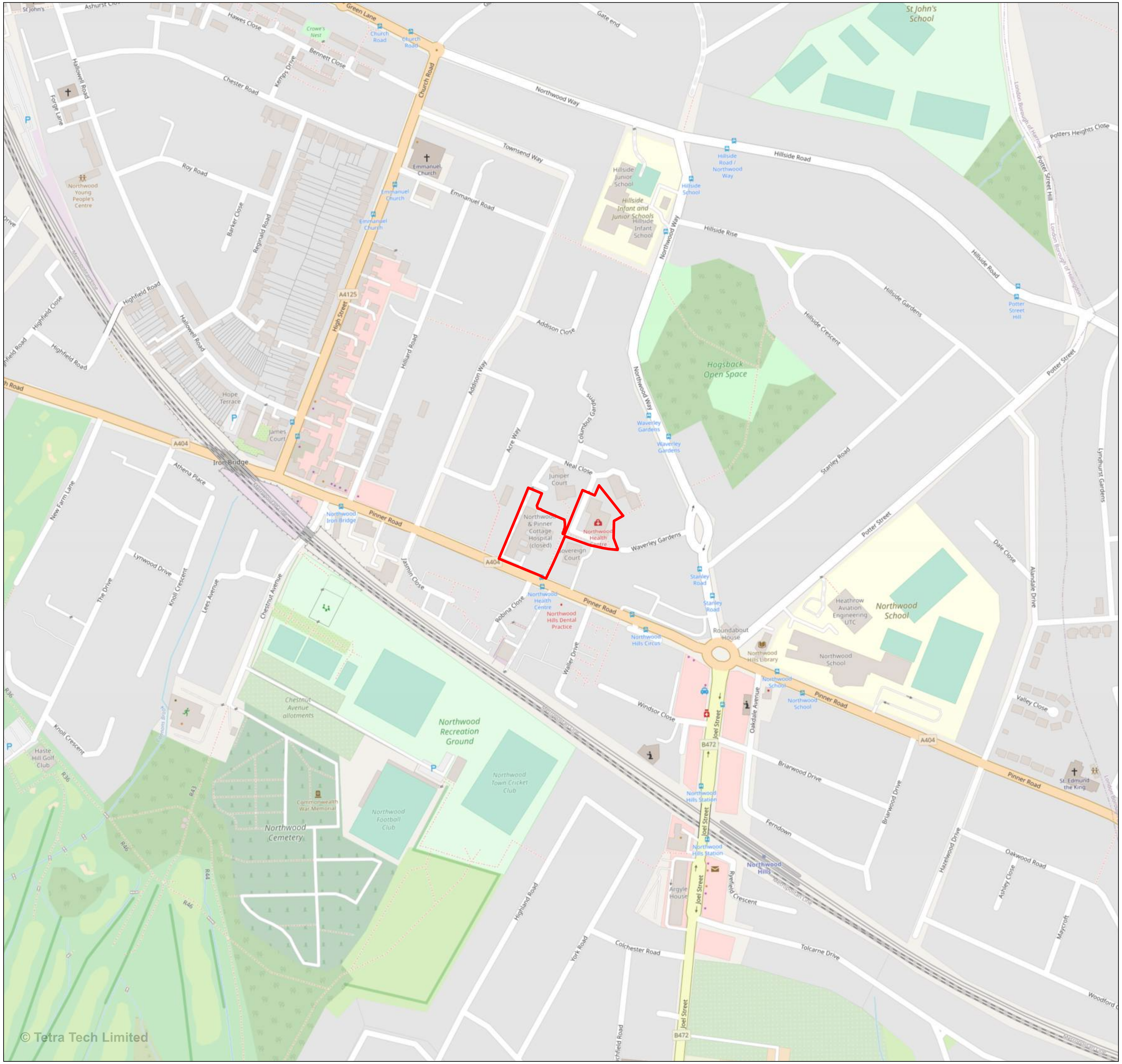
Please note that the legislation which is relevant to this report is not included in the list above, but details are included in Appendix B below.

FIGURES



Site Location Plan

Northwood and Pinner Cottage Hospital, Pinner Road, HA6 1DE

NHS Property Services

Legend

Site boundary

Notes:

Drawn by: ME

Checked by: JS

Office: Southampton

Figure No. 1

Revision No. A

0 70 140 210 Meters

Scale 1:5,000 @A3

08 March 2021

NGR: 510053E 190670N

TETRA TECH

The Pavilion, 1st Floor
Botleigh Grange
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Southampton
Hampshire, SO30 2AF

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Bat Surveyor Locations

Northwood and Pinner Hospital and Health Centre

NHS Property Services

Legend

- Buildings
- Surveyor locations
- Static location

Notes:

Drawn by: SB
Checked by: HG
Office: Southampton

Drawing No. 2
Revision No. A

0 6 12 18 Meters

Scale 1:400 @A3

23 August 2021

NGR: 510001E 190673N

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Nature Conservation Designated Sites (within 5km)

Northwood and Pinner Cottage Hospital,
Pinner Road, HA6 1DE

NHS Property Services

Legend

- Site boundary
- Site boundary 2km buffer
- Site boundary 5km buffer
- Sites of Special Scientific Interest (SSSI)
- National Nature Reserves (NNR)
- Local Nature Reserves (LNR)
- Site of Importance for Nature Conservation (SINC)

Croxley Common Moor SSSI
Croxley Common Moor LNR
Lairage Land LNR
The Withey Beds LNR
Oxhey Woods LNR
Harrow Weald SSSI
Batchworth Heath LNR
Northwood Railway Cutting SINC
Prestwick Road Meadows LNR
Potter Street Hill North Pasture SINC
Gravel Pit, Northwood SINC
Pinner Wood SINC
Hog's Back Open Space (formerly Borough Hill) SINC
Ruislip Woods SSSI
Woodridings Brook SINC
Haste Hill Golf Course, Northwood Golf Course and Northwood Park SINC
Potter Street Hill SINC
Ruislip Woods NNR
St Vincent's Hospital Meadows SINC
Grim's Ditch and Pinner Green SINC
Harefield Pit SSSI
Fore Street Meadows SINC
The Grail Centre SINC
River Pinn at West Harrow SINC
Haydon Hall Meadows SINC
River Pinn near Eastcote SINC
Ruislip LNR
Ruislip Woods NNR
Ruislip Woods SSSI

Notes:

Drawn by: CL
Checked by: HG
Office: Southampton

Figure No. 3
Revision No. A

0 590 1,180 1,770 Meters
Scale 1:40,000 @A3

08 July 2021
NGR: 510053E 190670N

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Phase 1 Habitat Plan

Northwood and Pinner Cottage Hospital,
Pinner Road, HA6 1DE

NHS Property Services

Legend

- Site boundary
- Broadleaved woodland - semi-natural
- SI — Neutral grassland - semi-improved
- A — Amenity grassland
- Introduced shrub
- Buildings
- Hardstanding
- Intact hedge - native species-rich
- Scattered tree
- Target note

Notes:

Drawn by: CL
Checked by: HG
Office: Southampton

Figure No. 4
Revision No. A

0 9 18 27 Meters
Scale 1:600 @A3

08 July 2021
NGR: 510053E 190670N

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Maxar, Microsoft

Bat Roost Location Plan

Northwood and Pinner Hospital and Health Centre

NHS Property Services

Legend

- Buildings
- Common pipistrelle & soprano pipistrelle roost. Active day roosts entrance/exit
- Historic brown long eared roost

Notes:

Drawn by: SB
Checked by: HG
Office: Southampton

Drawing No. 5
Revision No. A

0 6 12 18 Meters
Scale 1:400 @A3

23 August 2021
NGR: 510001E 190673N

TETRA TECH

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APPENDIX A – REPORT CONDITIONS

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The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

APPENDIX B – KEY LEGISLATION

Bern Convention
The *Convention on the Conservation of European Wildlife and Natural Habitats* (the *Bern Convention*) was adopted in Bern, Switzerland in 1979, and was ratified in 1982. Its aims are to protect wild plants and animals and their habitats listed in Appendices 1 and 2 of the Convention, and regulate the exploitation of species listed in Appendix 3. The regulation imposes legal obligations on participating countries to protect over 500 plant species and more than 1000 animals. To meet its obligations imposed by the Convention, the European Community adopted the *EC Birds Directive* (1979) and the *EC Habitats Directive* (1992 – see below). Since the Lisbon Treaty, in force since 1st December 2009, European legislation has been adopted by the European Union.
Bonn Convention
The Convention on the Conservation of Migratory Species of Wild Animals or 'Bonn Convention' was adopted in Bonn, Germany in 1979 and came into force in 1985. Participating states agree to work together to preserve migratory species and their habitats by providing strict protection to species listed in Appendix I of the Convention. It also establishes agreements for the conservation and management of migratory species listed in Appendix II. In the UK, the requirements of the convention are implemented via the Wildlife & Countryside Act 1981 (as amended), Wildlife (Northern Ireland) Order 1985 (as amended), Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 and the Countryside and Rights of Way Act 2000 (CRoW).
Habitats Directive
The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, or the 'Habitats Directive', is a European Union directive adopted in 1992 in response to the Bern Convention. Its aims are to protect approximately 220 habitats and 1,000 species listed in its several Annexes. In the UK, the Habitats Directive is transposed into national law via the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, and via the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended) in Northern Ireland.
Birds Directive
The EC Directive on the Conservation of Wild Birds (791409/EEC) or 'Birds Directive' was introduced to achieve favourable conservation status of all wild bird species across their distribution range. In this context, the most important provision is the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex 1 of the Directive, as well as for all regularly occurring migratory species, paying particular attention to the protection of wetlands of international importance.
Conservation of Habitats and Species Regulations 2017 (as amended)
Regulations place a duty on the Secretary of State to propose a list of sites which are important for either habitats or species (listed in Annexes I or II of the Habitats Directive respectively) to the European Commission. These sites, if ratified by Ministers, are then designated as Special Protection Areas (SPAs) within six years. Public bodies must also help preserve, maintain and re-establish habitats for wild birds. The 2018 amendments mainly related to the impact of the *People Over Wind* decision and some implications arising for neighbourhood plan development and a range of other planning tools including Local Development Orders and Permission in Principle – see here for full details: https://www.legislation.gov.uk/uksi/2018/1307/note/made The Regulations make it an offence to deliberately capture, kill, disturb or trade in the animals listed in Schedule 2, or pick, uproot, destroy, or trade in the plants listed in Schedule 5 - see below:

Schedule 2 – European Protected Species of Animals	Schedule 5 – European Protected Species of Plants
Horseshoe bats *Rhinolophidae* - all species	Shore dock *Rumex rupestris*
Common bats *Vespertilionidae* - all species	Killarney fern *Trichomanes speciosum*
Large Blue Butterfly *Maculinea arion*	Early gentian *Gentianella anglica*
Wild cat *Felis sylvestris*	Lady's-slipper *Cypripedium calceolus*
Dolphins, porpoises and whales *Cetacea* – all sp.	Creeping marsh-wort *Apium repens*
Dormouse *Muscardinus avellanarius*	Slender naiad *Najas flexilis*
Pool frog *Rana lessonae*	Fen orchid *Liparis loeselii*
Sand lizard *Lacerta agilis*	Floating-leaved water plantain *Luronium natans*
Fisher's estuarine moth *Gortyna borelii lunata*	Yellow marsh saxifrage *Saxifraga hirculus*
Great crested newt *Triturus cristatus*	
Otter *Lutra lutra*	
Lesser whirlpool ram's-horn snail *Anisus vorticulus*	
Smooth snake *Coronella austriaca*	
Sturgeon *Acipenser sturio*	
Natterjack toad *Epidalea calamita*	
Marine turtles *Caretta caretta, Chelonia mydas, Lepidochelys kempii, Eretmochelys imbricata, Dermochelys coriacea*	

Wildlife & Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. This legislation is the chief means by which the 'Bern Convention' and the Birds Directive are implemented in the UK. Since it was first introduced, the Act has been amended several times.

The Act makes it an offence to (with exception to species listed in Schedule 2) intentionally:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use; or
- take or destroy an egg of any wild bird.

Or to intentionally do the following to a wild bird listed in Schedule 1:

- disturbs any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird.

In addition, the Act makes it an offence (subject to exceptions) to:

- intentionally or recklessly kill, injure or take any wild animal listed on Schedule 5;
- interfere with places used for shelter or protection, or intentionally disturbing animals occupying such places; and
- The Act also prohibits certain methods of killing, injuring, or taking wild animals.

Finally, the Act also makes it an offence (subject to exceptions) to: intentionally pick, uproot or destroy any wild plant listed in Schedule 8, or any seed or spore attached to any such wild plant; unless an authorised person, intentionally uproot any wild plant not included in Schedule 8; or sell, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Following all amendments to the Act, Schedule 5 'Animals which are Protected' contains a total of 154 species of animal, including several mammals, reptiles, amphibians, fish and invertebrates. Schedule 8 'Plants which are Protected' of the Act, contains 185 species, including higher plants, bryophytes and fungi and lichens. A comprehensive and up-to-date list of these species can be obtained from the JNCC website.

Part 14 of the Act makes unlawful to plant or otherwise cause to grow in the wild any plant which is listed in Part II of Schedule 9.

It is recommended that plant material of these species is disposed of as bio-hazardous waste, and these plants should not be used in planting schemes.

Schedule 1 - Birds which are protected by special penalties			
Avocet	*Recurvirostra avosetta*	Osprey	*Pandion haliaetus*
Bee-eater	*Merops apiaster*	Owl, Barn	*Tyto alba*
Bittern	*Botaurus stellaris*	Owl, Snowy	*Nyctea scandiaca*
Bittern, Little	*Ixobrychus minutus*	Peregrine	*Falco peregrinus*
Bluethroat	*Luscinia svecica*	Petrel, Leach's	*Oceanodroma leucorhoa*
Brambling	*Fringilla montifringilla*	Phalarope, Red-necked	*Phalaropus lobatus*
Bunting, Cirl	*Emberiza cirlus*	Plover, Kentish	*Charadrius alexandrinus*
Bunting, Lapland	*Calcarius lapponicus*	Plover, Little Ringed	*Charadrius dubius*
Bunting, Snow	*Plectrophenax nivalis*	Quail, Common	*Coturnix coturnix*
Buzzard, Honey	*Pernis apivorus*	Redstart, Black	*Phoenicurus ochruros*
Capercaillie	*Tetrao urogallus*	Redwing	*Turdus iliacus*
Chough	*Pyrrhocorax pyrrhocorax*	Rosefinch, Scarlet	*Carpodacus erythrinus*
Corncrake	*Crex crex*	Ruff	*Philomachus pugnax*
Crake, Spotted	*Porzana porzana*	Sandpiper, Green	*Tringa ochropus*
Crossbills (all species)	*Loxia*	Sandpiper, Purple	*Calidris maritima*
Curlew, Stone	*Burhinus oedicnemus*	Sandpiper, Wood	*Tringa glareola*
Divers (all species)	*Gavia*	Scaup	*Aythya marila*
Dotterel	*Charadrius morinellus*	Scoter, Common	*Melanitta nigra*
Duck, Long-tailed	*Clangula hyemalis*	Scoter, Velvet	*Melanitta fusca*
Eagle, Golden	*Aquila chrysaetos*	Serin	*Serinus serinus*
Eagle, White-tailed	*Haliaetus albicilla*	Shorelark	*Eremophila alpestris*
Falcon, Gyr	*Falco rusticolus*	Shrike, Red-backed	*Lanius collurio*
Fieldfare	*Turdus pilaris*	Spoonbill	*Platalea leucorodia*
Firecrest	*Regulus ignicapillus*	Stilt, Black-winged	*Himantopus himantopus*
Garganey	*Anas querquedula*	Stint, Temminck's	*Calidris temminckii*
Godwit, Black-tailed	*Limosa limosa*	Swan, Bewick's	*Cygnus bewickii*
Goshawk	*Accipiter gentilis*	Swan, Whooper	*Cygnus cygnus*
Grebe, Black-necked	*Podiceps nigricollis*	Tern, Black	*Chlidonias niger*
Grebe, Slavonian	*Podiceps auritus*	Tern, Little	*Sterna albifrons*
Greenshank	*Tringa nebularia*	Tern, Roseate	*Sterna dougallii*
Gull, Little	*Larus minutus*	Tit, Bearded	*Panurus biarmicus*
Gull, Mediterranean	*Larus melanocephalus*	Tit, Crested	*Parus cristatus*
Harriers (all species)	*Circus*	Tree-creeper, Short-toed	*Certhia brachydactyla*
Heron, Purple	*Ardea purpurea*	Warbler, Cetti's	*Cettia cetti*
Hobby	*Falco subbuteo*	Warbler, Dartford	*Sylvia undata*
Hoopoe	*Upupa epops*	Warbler, Marsh	*Acrocephalus palustris*
Kingfisher	*Alcedo atthis*	Warbler, Savi's	*Locustella luscinioides*
Kite, Red	*Milvus milvus*	Whimbrel	*Numenius phaeopus*
Merlin	*Falco columbarius*	Woodlark	*Lullula arborea*
Oriole, Golden	*Oriolus oriolus*	Wryneck	*Jynx torquilla*
Animal (Vertebrate) Species Listed in Schedule 5 (full legal protection at all times)			
Horseshoe Bats (all species)	*Rhinolophidae*	Newt – Great Crested	*Triturus cristatus*
Typical Bats (all species)	*Vespertilionidae*	Snake – Smooth	*Coronella austriaca*
Dolphin – Bottle-nosed	*Tursiops truncatus (tursio)*	Toad, Natterjack	*Epidalea calamita*
Dolphin – Common	*Delphinus delphis*	Turtles – All Species	*Cheloniidae & Dermochelyidae*
Dormouse – Hazel	*Muscardinus avellanarius*	Basking Shark	*Cetorhinus maximus*
Pine Marten	*Martes martes*	Burbot	*Lota lota*
Porpoise – Harbour	*Phocaena phocaena*	Goby – Giant	*Gobius cobitis*
Otter – Eurasian	*Lutra lutra*	Goby – Couch's	*Gobius couchii*
Squirrel – Red	*Sciurus vulgaris*	Seahorse – Short-snouted[1]	*Hippocampus hippocampus*
Walrus	*Odobenus rosmarus*	Seahorse – Spiny	*Hippocampus guttulatus*
Water Vole	*Arvicola amphibius*	Sturgeon	*Acipenser sturio*
Whales – All Species	*Cetacea*	Vendace	*Coregonus albula*

[1] Both sea horse species are protected in England only.

Wildcat	*Felis sylvestris*	Whitefish	*Coregonus lavaretus*
Lizard – Sand	*Lacerta agilis*		
Animal (Vertebrate) Species Protected under Section 9 (1) part: Killing and Injuring & Section 9 (5) Sale			
Adder	*Vipera berus*	Slow-worm	*Anguis fragilis*
Lizard – Viviparous	*Zootoca vivipara*	Snake – Grass	*Natrix helvetica (natrix)*
Animals (Vertebrate) Species Protected under Section 9 (5) Sale only			
Frog – common	*Rana temporaria*	Newt – Smooth	*Lissotriton vulgaris*
Newt – Palmate	*Lissotriton helvetica*	Toad – Common	*Bufo bufo*
Animals (Vertebrate) Species Protected under Section 9 (1) (4)(a): Killing, Injuring & Taking and Damage / Destruction of place of shelter / protection only			
Allis Shad	*Alosa alosa*	Shark – Angel	*Squatina squatina*
Twaite Shad	*Alosa fallax*		
Butterflies & Moths – Full Protection under Schedule 5[2] at all times			
High brown fritillary	*Argynnis adippe*	Fisher's Estuarine Moth	*Gortyna borelii*
Large Blue	*Maculinea arion*	Barberry Carpet	*Pareulype berberata*
Heath Fritillary	*Mellicta athalea*	Black-veined Moth	*Siona lineata*
Marsh Fritillary	*Eurodryas aurinia*	Sussex Emerald	*Thalera fimbrialis*
Swallowtail	*Papilio machaon britannicus*	Essex Emerald	*Thetidia smaragdaris*
Large Copper	*Lycaena dispar*	Fiery Clearwing	*Bembecia chrysidiformis*
Reddish-buff Moth	*Acosmetia caliginosa*	New-Forest Burnet	*Zygaena viciae*
Butterflies – Protected under Section 9 (5) Sale Only			
Purple Emperor	*Apatura iris*	Adonis Blue	*Lysandra bellargus*
Northern Brown Argus	*Aricia artaxerxes*	Chalkhill Blue	*Lysandra coridon*
Pearl-bordered Fritillary	*Boloria euphrosyne*	Glanville Fritillary	*Melitaea cinxia*
Chequered Skipper	*Carterocephalus palaemon*	Large Tortoiseshell	*Nymphalis polychloros*
Large Heath	*Coenonympha tullia*	Silver-studded Blue	*Plebejus argus*
Small Blue	*Cupido minimus*	Black Hairstreak	*Strymonidia pruni*
Mountain Ringlet	*Erebia epiphron*	White-letter Hairstreak	*Strymonidia w-album*
Duke of Burgundy	*Hamearis lucina*	Brown Hairstreak	*Thecla betulae*
Silver-spotted Skipper	*Hesperia comma*	Lulworth Skipper	*Thymelicus acteon*
Wood White	*Leptidea sinapis*		
Other Invertebrates – Full Protection under Schedule 5 at all times			
Rainbow Leaf-beetle	*Chrysolina cerealis*	Tadpole Shrimp	*Triops cancriformis*
Spangled Diving-beetle	*Graphopterus zonatus*	Trembling Sea-mat	*Victorella pavida*
Lesser Silver Water-beetle	*Hydrochara caraboides*	De Folin's Lagoon Snail	*Caecum armoricum*
Moccas Beetle	*Hypebaeus flavipes*	Sandbowl Snail	*Catinella arenaria*
Violet Click-beetle	*Limoniscus violaceus*	Freshwater Pearl Mussel	*Margaritifera margaritifera*
Bembridge Beetle	*Parcymus aeneus*	Glutinous Snail	*Myxas glutinosa*
New Forest Cicada	*Cicadetta montana*	Lagoon Snail	*Paludinella littorina*
Wart-Biter	*Decticus verrucivorus*	Lagoon Sea Slug	*Tenellia adspersa*
Mole-Cricket	*Gryllotalpa gryllotalpa*	Northern Hatchet-shell	*Thyasira gouldi*
Field-Cricket	*Gryllus campestris*	Tentacled Lagoon-worm	*Alkmaria romijni*
Norfolk Hawker Dragonfly	*Aeshna isosceles*	Lagoon Sand-worm	*Armandia cirrhosa*
Southern Damselfly	*Coenagrion mercuriale*	Medicinal Leech	*Hirudo medicinalis*
Fen Raft Spider	*Dolomedes fimbriatus*	Marine Hydroid	*Clavopsella navis*
Ladybird Spider	*Eresus niger (cinaberinus)*	Ivell's Sea Anemone	*Edwardsia ivelli*
Fairy Shrimp	*Chirocephalus diaphanus*	Starlet Sea Anemone	*Nematosella vectensis*
Lagoon Sand Shrimp	*Gammarus insensibilis*	Atlantic Stream (White-clawed) Crayfish	*Austropotamobius pallipes*
Other Invertebrates Protected under Section 9 (1) Possession & 9 (2) (5) Sale only			
Stag Beetle	*Lucanus cervus*	Roman Snail[3]	*Helix pomatia*

[2] Viper's Bugloss Moth *Hadena irregularis* was removed from Schedule 5 in 1996 as it is believed to be extinct.

[3] England only

Fan Mussel	*Atrina fragilis*	Pink Sea-fan	*Eunicella verrucosa*
Other Invertebrates Protected under Section 9 (4) (a) Damage / Destruction of Place of Shelter / Protection only			
Mire Pill Beetle	*Curimopsis nigrita*		
Vascular Plant Species - Full Protection under Schedule 8 at all times (previous Scientific name in brackets)			
Adder's-tongue Least	*Ophioglossum lusitanicum*	Lily – Snowdon	*Gagea serotina (Lloydia serotina)*
Alison- Small	*Alyssum alyssoides*	Marsh-mallow – Rough	*Malva setigera (Althaea hirsuta)*
Broomrape – Bedstraw	*Orobanche caryophyllacea*	Milk-parsley – Cambridge	*Selinum carvifolia*
Broomrape – Oxtongue	*Orobanche picridis*	Mudwort – Welsh	*Limosella aquatica*
Broomrape – Thistle	*Orobanche reticulata*[4]	Naiad – Holly-leaved	*Najas marina*
Cabbage – Lundy	*Coincya wrightii (Rhynchosinapis wrightii)*	Orache – Stalked	*Atriplex pedunculata (Halimione pedunculata)*
Calamint – Wood	*Clinopodium menthifolium (Calamintha sylvatica)*	Orchid – Early Spider	*Ophrys sphegodes*
Catchfly – Alpine	*Silene suecica (Lychnis alpina)*	Orchid – Ghost	*Epipogium aphyllum*
Centaury – Slender	*Centaurium tenuiflorum*	Orchid – Lapland Marsh	*Dactylorhiza lapponica*
Cinquefoil – Rock	*Potentilla rupestris*	Orchid – Late Spider	*Ophrys fuciflora*
Clary – Meadow	*Salvia pratensis*	Orchid – Lizard	*Himantoglossum hircinum*
Club-rush – Triangular	*Schoenoplectus triqueter (Scirpus triqueter)*	Orchid – Military	*Orchis militaris*
Colt's-foot – Purple	*Homogyne alpina*	Orchid – Monkey	*Orchis simia*
Cotoneaster – Wild	*Cotoneaster cambricus (C. integerrimus)*	Pear – Plymouth	*Pyrus cordata*
Cotton-grass – Slender	*Eriophorum gracile*	Pennycress – Perfoliate	*Microthlaspi perfoliatum (Thlaspi perfoliatum)*
Cow-wheat – Field	*Melampyrum arvense*	Pennyroyal	*Mentha pulegium*
Crocus – Sand	*Romulus columnae*	Pigmyweed	*Crassula aquatica*
Cudweed – Broad-leaved	*Filago pyramidata*	Pine - Ground	*Ajuga chamaepitys*
Cudweed – Jersey	*Gnaphalium luteoalbum*	Pink – Cheddar	*Dianthus gratianopolitanus*
Cudweed – Red-tipped	*Filago lutescens*	Pink – Childing	*Petrorhagia nanteuilii*
Cut-grass	*Leersia oryzoides*	Ragwort – Fen	*Jacobaea paludosa (Senecio paludosa)*
Deptford Pink	*Dianthus armeria*	Ramping-fumitory – Martin's	*Fumaria reuteri (F. martinii)*
Diapensia	*Diapensia lapponica*	Rampion – Spiked	*Phyteuma spicata*
Eryngo – Field	*Eryngium campestre*	Restharrow – Small	*Ononis reclinata*
Fern – Dickie's-bladder	*Cystopteris dickieana*	Rock-cress – Alpine	*Arabis alpina*
Fleabane – Alpine	*Erigeron borealis*	Rock-cress – Bristol	*Arabis scabra*
Fleabane – Small	*Pulicaria vulgaris*	Sandwort – Norwegian	*Arenaria norvegica*[5]
Galingale – Brown	*Cyperus fuscus*	Sandwort – Teesdale	*Minuartia stricta*
Gentian – Alpine	*Gentiana nivalis*	Saxifrage – Drooping	*Saxifraga cernua*
Gentian - Dune	*Gentianella amarella subsp. occidentalis (Gentianella uliginosa)*	Saxifrage – Tufted	*Saxifraga cespitosa*
Gentian – Fringed	*Gentianopsis ciliata (Gentianella ciliata)*	Solomon's-seal – Whorled	*Polygonatum verticillatum*
Gentian - Spring	*Gentiana verna*	Sow-thistle – Alpine	*Cicerbita alpina*
Germander – Cut-leaved	*Teucrium botrys*	Spearwort – Adder's-tongue	*Ranunculus ophioglossifolius*
Germander – Water	*Teucrium scordium*	Speedwell – Fingered	*Veronica triphyllos*

[4] The Weeds Act 1959 does not apply to thistles *Cirsium* & *Carduus* species supporting this broomrape.

[5] All subspecies occurring in the UK

Gladiolus – Wild	*Gladiolus illyricus*	Speedwell – Spiked	*Veronica spicata*[6]
Goosefoot – Stinking	*Chenopodium vulvaria*	Spike-rush – Dwarf	*Eleocharis parvula*
Grass-poly	*Lythrum hyssopifolia*	South-stack Fleawort	*Tephroseris integrifolia ssp. maritima*
Hare's-ear – Sickle-leaved	*Bupleurum falcatum*	Star-of-Bethlehem – Early	*Gagea bohemica*
Hare's-ear – Small	*Bupleurum baldense*	Starfruit	*Damasonium alisma*
Hawk's-beard – Stinking	*Crepis foetida*	Strapwort	*Corrigiola littoralis*
Hawkweed – Northroe	*Hieracium northroense*	Violet – Fen	*Viola persicifolia*
Hawkweed – Shetland	*Hieracium zetlandicum*	Viper's-grass	*Scorzonera humilis*
Hawkweed – Weak-leaved	*Hieracium attenuatifolium*	Water-plantain – Ribbon-leaved	*Alisma gramineum*
Heath – Blue	*Phyllodoce caerulea*	Wood-sedge – Starved	*Carex depauperata*
Helleborine – Red	*Cephalanthera rubra*	Woodsia – Alpine	*Woodsia alpina*
Horsetail – Branched	*Equisetum ramosissimum*	Woodsia – Oblong	*Woodsia ilvensis*
Hound's-tongue – Green	*Cynoglossum germanicum*	Wormwood – Field	*Artemisia campestris*
Knawel – Perennial	*Scleranthus perennis*[7]	Woundwort - Downy	*Stachys germanica*
Knot-grass – Sea	*Polygonum maritimum*	Woundwort – Limestone	*Stachys alpina*
Leek – Round-headed	*Allium sphaerocephalon*	Yellow-rattle – Greater	*Rhinanthus angustifolius*
Lettuce – Least	*Lactuca saligna*		
Vascular Plant Species – Partial Protection under Section 13 (2) Protection from commercial exploitation and sale			
Bluebell	*Hyacinthoides non-scripta*		
Bryophytes – Full Protection under Schedule 8 at all times			
Anamodon – Long-leaved	*Anomodon langifolius*	Flamingo Moss	*Desmatodon cernuus*
Blackwort	*Southbya nigrella*	Frostwort	*Gymnomitrion apiculatum*
Crystalwort – Lizard	*Riccia bifurca*	Glaucous Beard Moss	*Barbula glauca*
Earwort – Marsh	*Jamesoniella undulifolia*	Green Shield Moss	*Buxbaumia viridis*
Feathermoss – Polar	*Hygrohypnum polare*	Hair Silk Moss	*Plagiothecium piliferum*
Flapwort – Norfolk	*Leiocolea rutheana*	Knothole Moss	*Zygodon forsteri*
Grimmia – Blunt-leaved	*Grimmia unicolor*	Large Yellow Feather Moss	*Scorpidium turgescens*
Petalwort	*Petalophyllum ralfsii*	Millimetre Moss	*Micromitrium tenerum*
Lindenberg's Leafy-Liverwort	*Adelanthus lindenbergianus*	Multi-fruited River Moss	*Cryphaea lamyana*
Feather-moss Slender Green	*Drepanocladus vernicosus*	Nowell's Limestone Moss	*Zygodon gracilis*
Alpine Copper-Moss	*Mielichoferia meilicoferia*	Rigid Apple Moss	*Bartramia stricta*
Baltic Bog-Moss	*Sphagnum balticum*	Round-leaved feather Moss	*Rhynchostegium rotundifolium*
Blue Dew-Moss	*Saelania glaucescens*	Schleicher's Thread Moss	*Bryum schleicheri*
Blunt-leaved bristle-Moss	*Orthotrichum obtusifolium*	Triangular Pygmy Moss	*Acaulon triquetrum*
Bright-Green Cave-Moss	*Cyclodictyon laetevirens*	Turpswort	*Geocalyx graveolens*
Cordate Beard Moss	*Barbula cordata*	Vaucher's Feather Moss	*Hypnum vaucheri*
Cornish Path Moss	*Ditrichum cornubicum*	Western Rustwort	*Marsupella profunda*
Derbyshire Feather Moss	*Thamnobryum angustifolium*		
Stoneworts – Full Protection under Schedule 8 at all times			
Bearded Stonewort	*Chara canescens*	Foxtail Stonewort	*Lamprothamnium papullosum*

[6] Both subspecies: *spicata* & *hybrida*

[7] Includes both subspecies: *perennis* & *prostratus*

Lichens – Full Protection under Schedule 8 at all times			
New Forest Beech Lichen	*Enterographa elaborata*	Forked Hair Lichen	*Bryoria furcellata*
Snow Caloplaca	*Caloplaca nivalis*	Golden Hair Lichen	*Teloschistes flavicans*
Tree Catapyrenium	*Catapyrenium psoromoides*	Orange-fruited Elm Lichen	*Caloplaca luteoalba*
Laurer's Catillaria	*Catillaria laurei*	River Jelly Lichen	*Collema dichotomum*
Convoluted Cladonia	*Cladonia convoluta*	Starry Breck Lichen	*Buellia asterella*
Upright Mountain Cladonia	*Cladonia stricta*	Caledonia Pannaria	*Pannaria ignobilis*
Goblin Lights	*Catolechia wahlenbergii*	New Forest Parmelia	*Parmelia minarum*
Elm Gyalecta	*Gyalecta ulmi*	Oil Stain Parmentaria	*Parmentaria chilensis*
Tarn Lecanora	*Lecanora archariana*	Southern Grey Physcia	*Physcia tribacioides*
Copper Lecidea	*Lecidea inops*	Ragged Pseudo-cyphellaria	*Pseudocyphellaria lacerata*
Arctic Kidney Lichen	*Nephroma arcticum*	Rusty Alpine Psora	*Psora rubiformis*
Ciliate Strap Lichen	*Heterodermia leucomelos*	Rock Nail	*Calicium corynellum*
Coralloid Rosette Lichen	*Heterodermia propagulifera*	Serpentine Selanopsora	*Selanopsora liparina*
Ear-lobed Dog Lichen	*Peltigera lepidophora*	Sulphur Tresses	*Alectoria ochroleuca*
Lichens – Partial Protection under Section 13 (2) Commercial Exploitation and Sale Only			
Tree Lungwort	*Lobaria pulmonaria*		
Fungi – Full Protection under Schedule 8 at all times			
Royal Bolete	*Boletus regius*	Oak Polypore	*Buglossosporus pulvinus*
Hedgehog Fungus	*Hericium erinaceum*	Sandy Stilt Ball	*Battaria phalloides*
Invasive plant species listed in Schedule 9			
Australian swamp stonecrop or New Zealand pygmyweed	*Crassula helmsii*	Japanese rose	*Rosa rugosa*
Californian red seaweed	*Pikea californica*	Japanese seaweed	*Sargassum muticum*
Curly waterweed	*Lagarosiphon major*	Laver seaweeds (except native species)	*Porphyra* spp
Duck potato	*Sagittaria latifolia*	Parrot's-feather	*Myriophyllum aquaticum*
Entire-leaved cotoneaster	*Cotoneaster integrifolius*	Perfoliate alexanders	*Smyrnium perfoliatum*
False Virginia creeper	*Parthenocissus inserta*	Pontic rhododendron	*Rhododendron ponticum*
Fanwort or Carolina water-shield	*Cabomba caroliniana*	Purple dewplant	*Disphyma crassifolium*
Few-flowered garlic	*Allium paradoxum*	Red algae	*Grateloupia luxurians*
Floating pennywort	*Hydrocotyle ranunculoides*	Rhododendron	*Rhododendron ponticum* × *Rhododendron maximum*
Floating water primrose	*Ludwigia peploides*	Small-leaved cotoneaster	*Cotoneaster microphyllus*
Giant hogweed	*Heracleum mantegazzianum*	Three-cornered garlic	*Allium triquetrum*
Giant kelp	*Macrocystis* spp.	Variegated yellow archangel	*Lamiastrum galeobdolon* subsp. *argentatum*
Giant knotweed	*Fallopia sachalinensis*	Virginia creeper	*Parthenocissus quinquefolia*
Giant rhubarb	*Gunnera tinctoria*	Wakame	*Undaria pinnatifida*
Giant salvinia	*Salvinia molesta*	Wall cotoneaster	*Cotoneaster horizontalis*
Green seafingers	*Codium fragile*	Water fern	*Azolla filiculoides*
Himalayan cotoneaster	*Cotoneaster simonsii*	Water hyacinth	*Eichhornia crassipes*
Hollyberry cotoneaster	*Cotoneaster bullatus*	Water lettuce	*Pistia stratiotes*
Hooked asparagus seaweed	*Asparagopsis armata*	Water primrose	*Ludwigia grandiflora*
Hottentot fig	*Carpobrotus edulis*	Water primrose	*Ludwigia uruguayensis*
Hybrid knotweed	*Fallopia japonica* × *Fallopia sachalinensis*	Waterweeds	*Elodea* spp.
Indian (Himalayan) balsam	*Impatiens glandulifera*	Yellow azalea	*Rhododendron luteum*
Japanese knotweed	*Reynoutria japonica*		

Protection of Badgers Act 1992
The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to: wilfully kill, injure, take or attempt to kill, injure or take a badger; dig for a badger; interfere with a badger sett by, damaging a sett or any part thereof, destroying a sett, obstructing access to a sett, causing a dog to enter a sett or disturbing a badger while occupying a sett. The 1992 Act defines a badger sett as: “any structure or place which displays signs indicating current use by a badger”
Natural Environment and Rural Communities Act 2006
Section 41 (S41) of this Act requires the Secretary of State to publish a list (in consultation with Natural England) of Habitats and Species which are of Principal Importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal (e.g. planning) functions. The S41 list includes 65 Habitats of Principal Importance and 1,150 Species of Principal Importance.
Hedgerow Regulations 1997
The Hedgerow Regulations were made under Section 97 of the Environment Act 1995 and came into force in 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.
Birds of Conservation Concern
This is a review of the status of all birds occurring regularly in the United Kingdom. It is regularly updated and is prepared by leading bird conservation organisations, including the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB). The latest report was produced in 2015 (Eaton *et al*, 2015) and identified 67 red list species, 96 amber species, and 81 green species. The criteria are complex, but generally: • **Red list** species are those that have shown a decline of the breeding population, non-breeding population or breeding range of more than 50% in the last 25 years. • **Amber list** species are those that have shown a decline of the breeding population, non-breeding population or breeding range of between 25% and 50% in the last 25 years. Species that have a UK breeding population of less than 300 or a non-breeding population of less than 900 individuals are also included, together with those whose 50% of the population is localised in 10 sites or fewer and those whose 20% of the European population is found in the UK. • **Green list** species are all regularly occurring species that do not qualify under any of the red or amber criteria are green listed
Global IUCN Red List
The International Union for Conservation of Nature (IUCN) Threatened Species was devised to provide a list of those species that are most at risk of becoming extinct globally. It provides taxonomic, conservation status and distribution information about threatened taxa around the globe. The system catalogues threatened species into groups of varying levels of threat, which are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CE), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), Not Evaluated (NE). Criteria for designation into each of the categories is complex, and consider several principles.

Local Biodiversity Action Plan (LBAP)
Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level), and are usually drawn up by a consortium of local Government organisations and conservation charities. Some LBAP's may also include Habitat Action Plans (HAP) and/or Species Action Plans (SAP), which are used to guide and inform the local decision making process.
Wild Mammals (Protection) Act 1996
This Act offers protects a form of protection to all wild species of mammals, irrespective of other legislation, and focussed on animal welfare, rather than conservation. Unless covered by one of the exceptions, a person is guilty of an offence if he mutilates, kicks, beats, nails or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates any wild mammal with intent to inflict unnecessary suffering. It's application is typically restricted to preventing deliberate harm to wildlife (in general) during construction works etc.

APPENDIX C – TARGET NOTES

Target Note	Description	Photograph
TN1	Broadleaved plantation woodland Semi-mature and mature trees present, ranging up to 10m in height, with diameters up to 50cm. Species include: • Pedunculate oak *Quercus robur* • Ash *Fraxinus excelsior* • Sycamore *Acer pseudoplatanus* • Common lime *Tilia × europaea* There was no understory present. Ground cover included the following species: • Bramble *Rubus fruticosus* • Common ivy *Hedera helix*	
TN2	Broadleaved scattered trees Species included: • Ash • Hawthorn *Crataegus monogyna* • Ornamental cherry *Prunus* sp.	

TN3	Semi-improved grassland Sward height was approximately 10cm across the whole area, with 100% ground cover. Species included: • Perennial rye grass *Lolium perenne* • Yorkshire-fog *Holcus lanatus* • Creeping bent *Agrostis stolonifera* • Red fescue *Festuca rubra* • Yarrow *Achillea millefolium* • Oxeye daisy *Leucanthemum vulgare* • Lesser celandine *Ficaria verna* • Bird's-foot trefoil *Lotus corniculatus*	
TN4	Amenity grassland Grassland had short sward, consistent sward height, of approximately 3cm, with 100% ground cover. Species included: • Perennial rye grass • Yorkshire-fog • Creeping bent • Red fescue • Yarrow • Oxeye daisy • Lesser celandine • Bird's-foot trefoil	

TN5	Introduced shrub Species include: • Variegated box *Buxus sempervirens 'Variegata'* • Dog rose *Rosa canina* • Firethorn *Pyracantha sp.*	
TN6	Species-rich hedgerow Approximately 15m in length and 1m wide. Species include: • Ash • Hawthorn • Sycamore • Honeysuckle *Lonicera periclymenum* • Copper beech *Fagus sylvatica* • Fig *Ficus carica*	
TN7	Hardstanding	

TN8	Log piles