CAPITA

Pinehill Hospital, Hitchin

Ecological Impact Assessment
March 2018



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Quality Management

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Executive Summary

Capita was commissioned by GL Hearn in March 2018 to complete an Ecological Impact Assessment (EcIA) of Pinehill Hospital, Benslow Lane, Hitchin, SG24 9QZ, in order to inform proposals for the addition of parking spaces within the hospital car park.

The Site is predominantly man-made, largely consisting of hardstanding and four buildings with amenity grassland and scattered trees.

The main building is of low bat roost potential mostly associated with raised tiles observed on the south roof, however, this will not be impacted by the proposed development. There is a wooden shed on the western boundary of the Site which has low bat roost potential and is being retained in current proposals. There is a shed and another two storey building to the north of the Site which have no bat roost potential.

The amenity grassland on site is well maintained and of low ecological value for bird and common assemblages of invertebrates. Scattered trees around the Site and the introduced shrub to the south are of moderate ecological value for bat, bird and common assemblages of invertebrate.

The development proposal includes the creation of an additional 55 car parking spaces within the existing grounds of the hospital reconfiguring the car park layout and providing improved footway linkages. A total of 32 trees will be felled.

Outline avoidance / mitigation / compensation / enhancement measures, reflective of the current proposals, are detailed below:

- Protection of retained trees and features of ecological interest;
- Sympathetic external lighting scheme to ensure no light increase on site, particularly around features of ecological interest e.g. tree line / hedgerows / vegetation;
- Compensatory planting of native seed / nut / fruit / pollen bearing tree species;
- Creation of a green roof on the hospital building;
- Improvements to retained areas of grassland due to the currently proposed significant loss of amenity grassland within the Site;
- Installation of bird boxes on retained trees to provide compensatory nesting habitats;
- Creation of wood piles / invertebrate loggeries in suitable areas using arisings from tree removals; and
- Enhancement through installation of hedgehog homes and creation of holes in fences to increase Site access by hedgehog.

1. Introduction

1.1 Capita was commissioned by GL Hearn in March 2018 to complete an Ecological Impact Assessment (EcIA) of Pinehill Hospital, Benslow Lane, SG4 9QZ (central grid reference TL 194 293). From here on in this area of land will be referred to as 'the Site'.

1.2 A map showing the general location of the Site is shown in *Figure 1.1*.

Figure 1.1 – General Site Location



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THE SITE

1.3 The Site covers an area of approximately 1 ha and predominantly comprises of amenity grassland with scattered trees, hardstanding and buildings.

1.4 The Site is bordered by Benslow Lane to the north, approximately 0.2 ha woodland and footpath to the west, residential housing to the east and approximately 3 ha playing field to the south.

1.5 The wider landscape is predominantly suburban comprising of residential housing and associated roads. There is a rail line approximately 160 m north of the Site which runs north west to south east.

Proposals

1.6 The development proposal is to create an additional 55 car parking spaces within the existing grounds of the hospital reconfiguring the car park layout and providing improved footway linkages. A total of 32 trees will be felled.

Scope of Works

1.7 The primary objective of the EcIA is to identify, quantify and evaluate the potential impacts of the proposed development on local ecological receptors comprising both habitats and species and their interaction, this is achieved through:

- The review of available historical biological information for the Site and the surrounding area;
- The identification of ecological habitats of value at the Site, and assessment of their potential to support protected and notable species, through the completion of an Extended Phase 1 Habitat Survey;
- Confirmation, where possible, of the presence of protected / notable species through the completion of further detailed surveys, if necessary;
- The identification of significant features for retention and protection, where possible;
- The identification of features for enhancement, where possible; and
- Recommendations for avoidance, mitigation and / or compensation measures as necessary.

Legal Status

1.8 Certain species of wildlife are afforded various levels of protection under European and national legislation including the *Wildlife & Countryside Act 1981 (as amended)*, the *Conservation of Habitats and Species Regulations 2010 (as amended)* and the *Natural Environment and Rural Communities Act 2006* and the *Protection of Badgers Act 1992*. *Appendix A* provides information on the legal status of species surveyed for / potentially on Site.

2. Methodology

2.1 Ecological Impact Assessment methodology as developed by the Chartered Institute of Ecological and Environmental Management (CIEEM) has been used in order to assess the ecological impacts upon the Site by the proposed development and provide appropriate recommendations for necessary avoidance, mitigation, compensation and enhancement measures.

2.2 The assessment involves the evaluation of all ecological data available for the Site / scheme area in conjunction with the development proposals and in context to all relevant current local, national, regional and international legislation and policy.

2.3 In order to accurately assess the potential ecological impacts of the proposed development, sufficient information regarding the current ecological status of the Site is required. For this, information is obtained through the means of a background data review / desk study and targeted site specific ecological survey works. To inform this assessment an Extended Phase 1 Habitat Survey including a desk study have been conducted.

2.4 All surveys have been undertaken applying current best practice methodologies and industry standards. The following section details the personnel and methods undertaken during the surveys as well as any identified constraints and limitations.

Personnel

2.1 The survey and report have been undertaken and prepared by members of the Chartered Institute of Ecology and Environmental Management (CIEEM) with *Table 2.1* below detailing the relevant qualifications and professional membership of the ecologist/s conducting the site visits and compiling the report.

Table 2.1 – Personnel Qualifications

Name	Qualifications
Paul James	MCIEEM, MSc, BSc
Abbie Parke	Grad CIEEM, MSc, BSc

Source: Capita 2018

Baseline Information

2.2 The objective of the data search was to obtain a detailed ecological baseline of the Site and surrounding areas in order to:

- Determine the presence and distribution of important and protected habitats and / or species which could be negatively affected by any development proposals; and

- Identify ecological features that could be retained and / or enhanced in order to promote the conservation status, distribution and abundance of protected / notable species, on site and in the surrounding areas.

2.3 Baseline information for this ecological appraisal has been collected from the following sources:

- Herts Environmental Record Centre (HERC) – a data search was commissioned in January 2017 for protected and / or notable species records and designated sites within an approximate 1 km radius of the Site;
- MAGIC (www.magic.gov.uk) – was utilised as a further information source on designated sites (statutory) within a 1 km study area; and
- Google Maps / Earth (www.google.co.uk/maps) – for the use and analysis of aerial photographs and street view images.

EXTENDED PHASE 1 HABITAT SURVEY

2.4 An Extended Phase 1 Habitat Survey of the Site was conducted on 11 October 2017, in accordance with the methodology approved by Natural England (NE) and as outlined in the Phase 1 Handbook, Joint Nature Conservation Committee (JNCC) (2010), to determine the habitats present on Site and their potential to support protected and / or notable species.

2.5 The Phase 1 habitat survey specifically records information on:

- Habitat types present on the Site (see *Appendix B*: *Phase 1 Habitat Survey Plan – CS093891_01_ECO_01_REV_A*);
- The character of the habitats present and their assessed suitability to support protected / notable species;
- Features of ecological interest, e.g. signs of protected / notable species and locally rare plants, as target noted and photographed within *Appendix C: Target Notes*.

BAT ROOST ASSESSMENT

2.6 The buildings and trees on Site were assessed for their potential to support roosting bats, following the criteria developed by the Bat Conservation Trust (Collins 2016). The assessment was conducted by a suitably experienced surveyor and an assistant.

2.7 Trees were inspected externally from ground level as far as practicable and buildings were inspected both externally and internally where access allowed. Binoculars were used as necessary to observe all / any potential features considered to have potential to be used by roosting bats including holes, cracks, crevices, gaps behind soffit boarding, joins in internal woodwork, loose lead flashing and loose or missing tiles.

2.8 Observations of direct occupation by bats, such as droppings, urine stains and feeding remains e.g. moth remains, around possible access / egress points, were also made during the assessment.

2.9 The assessment criteria utilised for both buildings and trees is detailed in *Table 2.2* below.

Table 2.2 – Categories used to assess bat roosting potential in buildings and trees

Suitability	Description
Confirmed roost	Evidence of bat occupancy such as droppings and urine stains, witnessing the bats themselves entering / exiting, or a confirmed roost record from a source such as a local bat group.
High	A structure or tree with identified features suitable for use by larger numbers of bats e.g. maternity or hibernation sites, and potentially for longer periods of time due to the likelihood of stable environmental conditions, e.g. temperature and humidity. Suitable features include multiple gaps behind weatherboarding, hanging tiles, roof tiles and lead flashing on typically older buildings of pre (or early 20th century) including timber-framed and stone dwellings / barns, offering stable environmental conditions. Typically more mature trees with significant features e.g. woodpecker or rot holes, splits, cavities, loose bark etc. which are large enough to support larger numbers of bats. Buildings / trees located within high-quality foraging / commuting habitat and / or well connected to the semi natural habitats within wider landscape such as woodland, naturalised watercourse systems, hedgerows, unimproved grassland / meadows etc.
Moderate	Structure / tree with one or more potential roost site but that is unlikely to support a roost of high conservation status e.g. maternity, due to size / condition. Buildings (typically pre-1990) with features such as loose roof tiles, gaps behind soffits, access to cavity walls etc. Trees may have a low number of features not considered suitable for large numbers of roosting bats including dense ivy growth, smaller cavities, cracks, splits. Within habitats that could be used by foraging bats e.g. scrub, gardens etc with some connectivity to the wider landscape.
Low	Structure / tree with a few observed features only suitable for use by low numbers of bats opportunistically, however, is not considered with sufficient space, appropriate conditions or suitable surroundings to support larger numbers of bats. Typical buildings include modern (post 1990) and / or well-maintained buildings which limited access and / or suitable features, or dilapidated buildings which have become draughty / are subject to unstable environmental conditions. Trees with few and / or superficial features observed. Generally within habitats that could be used by small numbers of commuting / foraging bats but may be isolated / poorly connected e.g. lone trees, gappy hedgerows, urbanised areas.
Negligible	Buildings / trees with no observed features or of construction materials considered unsuitable to support bats, including predominantly prefabricated metal buildings / structures, and young immature or sound trees. Surrounding habitat poor or unsuitable for commuting / foraging, e.g. urbanised and well lit.

Source: Collins 2016 (adapted by Capita October 2017)

LIMITATIONS

2.10 Ecological surveys are limited by factors which influence the presence of plants and animals, such as the time of year, weather and seasonal variations. The Phase 1 habitat survey does not therefore produce an exhaustive list of plants and animals present on the site and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future. The prevailing habitats were, however, evident and have provided sufficient information for the purposes of this assessment.

2.11 Whilst the Phase 1 survey was not completed within the optimal survey period (April – September) given the prevailing habitats on Site are man-made and of low ecological value the survey timing is considered appropriate.

2.12 Whilst any invasive species recorded on Site were noted, an exhaustive search was not undertaken, and due to the survey being undertaken outside of the main botanical growing season, natural dieback could mean plants are not evident and therefore it should not be taken as conclusive proof of absence. In addition changes in management and / or habitats could mean species become present in the future.

2.13 The survey effort, timings and weather conditions are all considered to be appropriate to allow sufficient data collection for the purposes of this assessment. Overall it is not considered that there are any limitations which would affect the interpretation of the results presented or prevent the objectives of the surveys from being met.

3. Baseline Situation

3.1 Natural and semi-natural habitats generally support the greatest diversity of wildlife, particularly those protected by international or national legislation. A summary table of relevant wildlife legislation can be found in *Appendix A.*

DESK STUDY

DESIGNATED SITES

3.2 Information on statutory and non-statutory sites within 1 km of the Site was received from HERC and further clarified using the MAGIC website, as necessary.

3.3 Sites considered important for their wildlife can be designated by international and national legislation, granting them increased protection. These include Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI) and Local Nature Reserves (LNR).

3.4 One nationally designated site, Purwell Meadows LNR, is within the 1 km search area.

3.5 At a local level sites can receive non-statutory protection and be designated for example as Local Wildlife Sites (LWS), County Wildlife Sites (CWS) or District Wildlife Sites (DWS). These are protected through local planning policy.

3.6 Five LWS are located within the 1 km search area with the closet being approximately 130 m from the Site.

3.7 Details of the nationally and locally designated sites are shown in *Table 3.1* below.

Table 3.1 Details of designated sites within 1 km

Site Name & Reference	Designation	Approximate Distance from Site	Habitats / notable species
Nationally Designated Sites			
Purwell Meadows	LNR	630 m	A series of wet meadows within River Avon floodplain
Locally Designated Sites			
Hitching Railway Cutting	LWS	190 m	Chalk cutting with calcareous grassland, scrub and bare rocky ground. Also, railway station with old shunting yards and old water tank. Site with Great Crested Newt, Smooth Newt, Toad and Frog.
Windmill Hill	LWS	580 m	Public open space on a calcareous gravel hill supporting short grassland. A steep roadside bank supports an interesting grassland flora including Wild Clary (Salvia verbenaca), a species rare in Hertfordshire.
Purwell Meadows	LWS	610 m	Old pastures along the River Purwell and its associated streams, mostly of unimproved calcareous grassland with areas of marshy ground and associated springs, some scrub, a former cress bed and secondary neutral grassland. The site supports a diversity of lower and higher plant species including a number of species uncommon or rare in Hertfordshire. Species of interest recorded include Quaking

Site Name & Reference	Designation	Approximate Distance from Site	Habitats / notable species
			Grass (*Briza media*), Spiny Rest-harrow (*Ononis spinosa*), Greater Bird's-foot Trefoil (*Lotus pedunculatus*), Common Fleabane (*Pulicaria dysenterica*), Water Horsetail (Equisetum fluviatile), Blunt-flowering Rush (*Juncus subnodulosus*), Brown Sedge (*Carex disticha*), Bottle Sedge (*C. rostrata*), Adder's-tongue (*Ophioglossum vulgatum*) and Southern Marsh-orchid (*Dactylorhiza praetermissa*). The meadows are of local importance to birds especially for passage and feeding.
Purwell Railway	LWS	830	Railway embankment supporting species-rich neutral/calcareous grassland and scrub on the south-west facing side. A variety of grasses and herbs have been recorded including species such as Agrimony (*Agrimonia eupatoria*), Common Knapweed (*Centaurea nigra*), Greater Knapweed (*Centaurea scabiosa*), Oxeye Daisy (Leucanthemum vulgare), Wild Marjoram (*Origanum vulgare*), Meadowsweet (*Filipendula ulmaria*), Field Scabious (*Knautia arvensis*), Meadow Vetchling (*Lathyrus pratensis*), Knapweed Broomrape (*Orobanche elatior*), Burnet Saxifrage (*Pimpinella saxifraga*) and Salad Burnet (*Sanguisorba minor*). A diversity of butterfly species has also been recorded.
River Purwell, Walsworth Common	LWS	950 m	River Purwell and banks with some botanical interest and record of Water Vole (Arvicola amphibius).

Source: HERC January 2017

PROTECTED / NOTABLE SPECIES

3.8 A summary of the data records for protected / notable species within 1 km of the Site (5 km for bats), as received from HERC, is provided in *Table 3.2*. Records of species from 2007 onwards and considered likely to be found within the habitats on Site are included only.

Table 3.2 – Summary of Protected / Notable Species Records within 1 km (5 km for bats)

Common Name	Scientific Name	Distance	Date	Legislation
Mammals				
Brown-long eared bat	*Plecotus auritus*	4.5 km S	2014	ConsReg S2, NERC 41, WACA S5, BAP
Barbastelle	*Barbastella barbastellus*	4.6 km SW	2014	
Soprano pipistrelle	*Pipistrellus pygmaeus*	4.7 km NW	2009	
Noctule	*Nyctalus noctula*	4.8 km SW	2015	
Bat species	*Chiroptera*	5 km NW	2013	
Natterer's bat	*Myotis nattereri*	2.6 km SW	2014	ConsReg S2, WACA S5, LBAP
Long eared species	*Plecotus* spp.	5 km NW	2013	ConsReg S2, WACA S5
Serotine	*Eptesicus serotinus*		2007	
West European Hedgehog	*Erinaceus europaeus*	0.7 km E	2012	NERC 41, BAP

Common Name	Scientific Name	Distance	Date	Legislation
Eurasian badger	*Meles meles*	0.5 km W	2015	PBA
Birds				
House sparrow	*Passer domesticus*	0.8 km N	2015	NERC 41, BoCC Red, BAP
Song thrush	*Turdus philomelos*			BoCC Red, LBAP
Mistle thrush	*Turdus viscivorus*			BoCC Red
Starling	*Sturnus vulgaris*			
Swift	*Apus apus*			BoCC Amber
Dunnock	*Prunella modularis*			
Plants				
Bluebell	*Hyacinthoides non-scripta*	0.6 km	2012	WACA S8

Key: **WACA** – Wildlife and Countryside Act 1981 (as amended), Schedule as listed * denotes partial protection; **ConRegs S2** – Conservation of Habitats and Species Regulations 2010, Schedule 2; **Bern** - Bern Directive; **Bonn** - Bon Convention; **NERC41** – Natural Environment and Rural Communities Act 2006 Section 41; **BAP** – National Priority species; **BCC** – Birds of Conservation Concern (Eaton et al 2009). **BAP** – Biodiversity Action Plan; **LBAP –** Local BAP; **BoCC –** Birds of Conservation Concern, conservation status as red or amber listed (Eaton *et al.* 2015); **PBA** – Protection of Badgers Act 1992

Source: HERC January 2017

4. Survey Information

4.1 An Extended Phase 1 Habitat Survey was conducted on 11 October 2017 with habitats present shown in *Appendix B – Phase 1 Habitat Plan (CS093891_01_ECO_01_REV_A)*, with accompanying target notes (T1) detailed in *Appendix C.*

Habitat Types Present & Potential For Protected / Notable Species

4.2 Habitats are listed broadly in their order of extent.

4.3 Plant species nomenclature follows that of the 3rd edition of Stace (2010).

Amenity Grassland

4.4 Amenity grassland comprises approximately 40% of the Site and is located predominantly to the south east. Species present include fescue (*Festuca sp*.), daisy (*Bellis perennis*), white clover (*Trifolium repens*), ribwort plantain (*Plantago lancelota*), creeping buttercup (*Ranunculus repens*), creeping cinquefoil (*Potentilla repens*), cat's ear (*Hypochaeris radicata*) and speedwell (*Veronica* sp.).

4.5 Due to the maintenance as a short mown lawn, this habitat is of low ecological value likely to support low numbers of common assemblages of invertebrate and ground feeding birds.

Hardstanding and Buildings

4.6 Hardstanding comprises approximately 34% of the Site and is predominantly car parking and footpaths. Due to the manmade nature it is of negligible ecological value.

4.7 There are two buildings and two wooden sheds comprising approximately 21% of the Site.

4.8 The main building, built in 1908, is brick with rendering and a pitched tiled roof. Raised tiles were observed on the roof to the south of the building which provide features with low suitability for roosting bats (TN1).

4.9 There are multiple extensions off the main building including a prefabricated building to the south west and a large, predominantly flat roofed, brick and tile extension to the east.

4.10 There is a second floor tiled building with a flat roof supported by brick pillars towards the south east of the main building (TN2). There is a gap where the plywood on the underside of the extension (TN3) has started to fall down, this is of limited suitability for roosting bats. The gap is approximately 20 cm wide and situated on the underside of the extension which gets no sunlight, this means internally it is likely to be exposed to the elements and unlikely to reach sufficient temperatures required for roosting. The rest of the extension is in a good state of repair and as such it is considered to be of negligible potential for roosting bats.

4.11 The wooden shed towards the south west of the Site comprises of timber slats with a bitumen pitched roof (TN4). There are gaps under the wooden slats leading into the shed. Within the shed plywood lines the walls, there is a gap, approximately 3 cm, between the external wooden slats and internal plywood which provides crevices for roosting bats. As such the shed is of low potential for roosting bat.

4.12 The wooden shed and lodge (a two storey brick building with rendering and a pitched, tiled roof) to the north west of the Site are of negligible potential for roosting bat. An old robin's nest was recorded in the south east corner of the shed (TN5).

BARE GROUND

4.13 Adjacent to the boundary fence and hedgerows to the west and south are areas of bare ground (approximately 5%) where top soil, leaf litter and sparse vegetation including ivy (*Hedera helix*), bramble (*Rubus fruticosus agg.*), garlic mustard (*Alliaria petiolate*), holly (*Ilex aquifolium*) and herb-Robert (*Geranium robertainum*) are present. These areas are of negligible ecological value because of the sparsity of vegetation.

SCATTERED TREES

4.14 Broadleaved and coniferous trees are widespread across the Site. Species present include beech (*Fagus sylvatica*), cedar (*Cedrus* sp.), cherry (*Prunus* sp.), crab apple (*Malus* sp.), cypress (*Cupressus* sp.), false acacia (*Robinia sp*.), horse chestnut (*Aesulus hippocastunum*), pedunculate oak (*Quercus robur*), pine (*Pinus* sp.), lime (*Tila x europeas*), London plane (*Platanus x hispanica*), Norway maple (*Acer platanoides*), silver birch (*Betula pendula*) and sycamore (*Acer pseudoplatanus*).

4.15 With the exception of the horse chestnut, all trees are in sound condition and are of negligible value for roosting bats. They are of moderate value for foraging / nesting bird and common assemblages of invertebrate. The trees, particularly those to the south of the Site, provide connectivity with the wider landscape and are of moderate value for commuting / foraging bat.

4.16 In the south east corner of the Site is a mature horse chestnut in poor condition. It has a split and loose bark and holds low potential to support crevice dwelling bat species (TN6).

INTRODUCED SHRUB

4.17 A footpath leading south from the main building to the car park and amenity grassland is bordered by introduced shrub interspersed with crab apple (TN7). The shrub is of moderate value for commuting / foraging bat, foraging / nesting bird and common assemblages of invertebrate.

SPECIES-POOR HEDGE

4.18 Along the eastern and western boundaries of the Site are cherry laurel (*Prunus laurocerasus*) hedges (TN8). They are of low value for commuting / foraging bat, foraging / nesting bird and common assemblages of invertebrate.

INCIDENTAL SPECIES RECORDS

4.19 Three bird species were recorded on site during the visit as detailed in *Table 4.1*.

Table 4.2 – Bird Species recorded on site during survey visit

Common Name	Latin Name	Conservation Status
Magpie	***Pica pica***	GREEN
Woodpigeon	***Columba palumbus***	GREEN
Wren	***Troglodytes troglodytes***	GREEN

Source: Eaton *et* al (2015), Capita October 2017

5. Nature Conservation Evaluation

5.1 The following section provides an assessment and evaluation of valued nature conservation resources at the Site.

Amenity Grassland

5.2 Due to the maintenance as a short mown lawn and low species diversity, this habitat is of low conservation value likely to support low numbers of common assemblages of invertebrate and ground feeding birds.

Hardstanding and Buildings

5.3 Due to the presence of suitable roosting features, the main building and the shed to the south west of the Site are of low conservation value. The remaining building and shed on site are of negligible conservation value.

5.4 The hardstanding on site is of negligible conservation value.

Bare Ground

5.5 Due to the sparsity of vegetation, the bare ground is of negligible conservation value.

Scattered Trees

5.6 The horse chestnut (TN6) towards the south east corner of the Site has low bat roost potential. The remaining of the trees on site have no bat roost potential.

5.7 The trees are of moderate conservation value for foraging / commuting bat, foraging / nesting bird and common assemblages of invertebrate.

Introduced Shrub

5.8 The shrub is of moderate value for commuting / foraging bat, foraging / nesting bird and common assemblages of invertebrate.

Species-Poor Hedge

5.9 The hedges are of low potential for commuting / foraging bat, foraging / nesting bird and common assemblages of invertebrate.

6. Potential Impacts

6.1 The following section sets out predicted impacts on features of nature conservation interest identified within *Sections 4* and *5* of this report. Impacts are set out in the absence of mitigation measures which are dealt with in *Section 7*.

6.2 The development will result in the significant loss of amenity grassland and the felling of 32 trees.

6.3 *Table 6.1* details impacts the development is likely to have on protected / notable species that are known / likely to use the Site.

Table 6.1: Likely Impacts as a Result of the Development

Species / Habitats	Direct Impact	Indirect Impact
Bat	Fragmentation and isolation of foraging / commuting resources.	Increased lighting will reduce prey availability and sever commuting routes on site.
Bird	Disturbance, killing and injury of wild birds, their nests and dependant young. Loss of nesting / foraging habitat.	Increase in lighting during construction and operation may result in disturbance of suitable habitats.
Invertebrate	Loss of suitable habitat.	-

Source: Capita 2018

7. Avoidance, Mitigation, Compensation and Enhancement

7.1 Mitigation and compensation measures provided below are based on the most recent design proposal (Site Plan Proposals, drawing number 6529/PCP2).

7.2 Wildlife legislation and planning policy strongly advocates the mitigation hierarchy approach in the design of development proposals setting out, in order of priority avoidance, mitigation and compensatory measures when addressing potential ecological impacts. Further to this, in accordance with the North Hertfordshire District Local Plan No.2 with Alterations (1996) (Policy 14 Nature Conservation), '…the council will expect development proposals to… show improvement to the nature conservation value of the site and its surroundings...'.

AVOIDANCE

7.3 The trees should be retained and protected, where possible, as a priority. Current proposals include the loss of 32 tress which should be fully compensated for as detailed under the *Compensation* section below.

7.4 The main building and shed with low bat roost potential are set to be retained under current proposals and as such no further surveys of these buildings are required.

MITIGATION

Bats

7.5 Bat roosts are protected from disturbance and destruction by national and European legislation (see *Appendix A*). The bats themselves are also protected and the roost is protected whether or not the bats are present.

7.6 The current proposals include the removal of the horse chestnut tree with low bat roost potential. Removal of the tree should follow these precautionary measures:

- A thorough inspection of the identified features of the tree should be undertaken by the tree surgeon immediately prior to felling; and
- As necessary, notably where dense ivy-cladding is present, the careful cutting and lowering of limbs should be undertaken with limbs left in situ on the ground for 24 hours.

7.7 External lighting will need to be carefully considered in order to avoid and / or mitigate lighting impacts on ecological features of interest, e.g. the shed and main building with low bat roost potential and hedges / tree lines around the periphery of the Site. The use of low level directional lighting is generally recommended. Further recommendations and advice are available in the BCT publication: Artificial Lighting and Wildlife: Interim Guidance (2014).

Birds

7.8 Habitats on site, comprising hedgerows, shrub and trees, have the potential to support breeding birds. Active bird nests are protected from disturbance and / or destruction under the Wildlife and Countryside Act 1981.

7.9 Any vegetation clearance required is to be undertaken outside of the breeding bird season (typically taken to be from March to August inclusive). If clearance is required within the main breeding season, vegetation must be checked for active nests by a suitably experienced ecologist no more than 48 hours prior to removal. If a nest is found then works are to cease and advice from a suitably qualified ecologist is to be sought.

COMPENSATION

7.10 The loss of shrub habitats / trees is to be fully compensated for through the planting of native seed / nut / fruit / pollen bearing scrub / tree species of local provenance. To maximise the ecological value planting is recommended to be prioritised around the periphery of the site to bolster existing vegetation and enhance the scrub / tree line for foraging / commuting / nesting bats and birds. The cherry laurel hedges around the western and eastern boundaries should also be removed and replaced with native scrub species of local provenance to create species-rich hedgerows.

7.11 To compensate for the significant loss of amenity grassland a green biodiverse roof / wall should be created on the main building, where possible.

7.12 A proportion of the retained grassland should be improved through the creation of rough / wildflower grassland through a reduced mowing regime and the sowing of native wildflower species, including nectar rich and night-scented species, to increase the ecological value / foraging opportunities for bat, bird and invertebrate.

7.13 To compensate for the loss of the horse chestnut with low bat roost potential, a suitable bat box should be installed on a retained tree.

7.14 Five to ten species specific bird boxes, including house sparrow and starling (red listed species recorded around the Site), should be installed on the remaining trees to replace lost nesting habitat.

7.15 To compensate for the loss of suitable invertebrate habitat, wood piles / invertebrate loggeries should be created within the retained grassland using arisings from tree removal. This will increase invertebrate numbers and the foraging resource for bat and bird.

ENHANCEMENT

7.16 Hedgehogs, a Species of Principal Importance, have been recorded within 1 km of the Site, thus, in addition to the mitigation and compensation measures as detailed above hedgehog homes should be installed within retained / enhanced grassland and holes, approximately CD-ROM diameter size, should be created in fences to increase perimeter permeability to increase hedgehog accessibility of the Site.

8. Conclusion

8.1 The Site consists predominantly of man-made habitats, including the car park, buildings and wooden sheds and amenity grassland, which are of negligible to low ecological value. The scattered trees and introduced shrub are of moderate ecological value for commuting / foraging bat, nesting / foraging bird and common assemblages of invertebrate.

8.2 The development will result in the loss of foraging / commuting habitat for bats, a tree with low bat roost potential, nesting / foraging habitat for bird and suitable habitat for common assemblages of invertebrate.

8.3 Assuming the adoption of mitigation measures set out in *Section 7,* predicted impacts on protected species and habitats will be low to negligible.

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Appendix A – Relevant Legislation

Species	Legislation	Offences	Licensing procedures
Bats *European protected species*	Conservation of Habitats and Species (Amendment) Regulations 2010 Reg 41	Deliberately[1] capture, injure or kill a bat; deliberate disturbance[2] of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	A Natural England (NE) development licence is required in England to permit any works that could potentially commit an offence. The licence application involves a detailed submission to NE of baseline survey information, reasoned statements, method statements, mitigation and monitoring. The licence, including collection of the survey data and writing of all the supporting information can take from three to six months to complete. Upon submission, NE allow 30 working days to review the application and make a decision. Please be aware that not all applications are granted and delays can be likely. Please note surveys for the species are seasonally constrained to the period when the species are active. Mitigation can also be seasonally constrained.
	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.	A licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.
Birds	Wildlife and Countryside Act 1981 (as amended) S.1	Intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; intentionally take or destroy the nest or eggs of any wild bird. [Special penalties are liable for these offences involving birds on Schedule 1 (e.g. most birds of prey, kingfisher, barn owl, black redstart, little ringed plover).] Intentionally or recklessly disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species.	No licences are available to disturb any birds in regard to development. Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development. General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety.
Invertebrates	Conservation of Habitats and Species (Amendment) Regulations 2010	Specific invertebrate species receive different levels of protection including intentional	Large blue butterfly, Fisher's estuarine moth and little ramshorn whirlpool snail are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of The Conservation of Habitats and Species Regulations 2010 (as amended) making them European Protected Species.

Species	Legislation	Offences	Licensing procedures
	Wildlife and Countryside Act 1981 (as amended)	killing, injuring, taking, possession or control (live or dead animal, part or derivative), disturbance, damage, destruction or obstruction to a place used by the species for shelter or protection, and against sale, and / or transporting for the purpose of sale.	The remaining protected invertebrates are listed in Schedule 5 of Wildlife and Countryside Act 1981 (as amended).
Rabbits, foxes and other wild mammals	Wild Mammals (Protection) Act 1996	Intentionally inflict unnecessary suffering to any wild mammal.	Natural England provides guidance in relation to rabbits (TIN003, Rabbits- management options for preventing damage, July 2007) and foxes (which are also protected under the Wildlife and Countryside Act 1981 from live baits and decoys, see TAN43 April 2005 and TAN08 April 2005) as well as other wild mammals; see Natural England's website for the list of 'Regulatory Guidance, Best Practice and Information'. Lawful and humane pest control of these species is permitted.

Designation	Legislation	Protection	Guidance
Special Area of Conservation (SAC) **Special Protection Area (SPA)** **Wetland of International Importance (Ramsar site)**	Conservation of Habitats and Species (Amendment) Regulations 2010 EC Directive on the conservation of natural habitats and of wild fauna and flora (92/42/EEC). EC Directive on the conservation of wild birds (2009/147/EC or 79/409/EEC as amended). Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 (the Ramsar Convention).	Planning controls are effected through Part 2 of the Conservation of Habitats and Species regulations 2010 (Reg 21) and Part 6 (Regs 61- 67). The legislation for the Site of Special Scientific Interest which will underpin each designation also applies. These sites are given protection through policies in the Local Development Plan.	Formal Appropriate Assessment is required before undertaking, or giving consent, permission or other authorisation for a plan or project which is likely to have a significant effect on such a site.

Species	Legislation	Offences	Licensing procedures
Site of Special Scientific Interest (SSSI)	Wildlife and Countryside Act 1981 (as amended). Countryside and Rights of Way Act 2000 (CROW) Natural Environment & Rural Communities (NERC) Act 2006 S.40 (which superseded S.74 of the Countryside & Rights of Way Act 2000).	It is an offence to carry out or permit to be carried out any potentially damaging operation. SSSIs are given protection through policies in the Local Development Plan.	Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate consent under S.28 before undertaking operations likely to damage a SSSI. S.28G places a duty on all public bodies to further the conservation and enhancement of SSSIs. The National Planning Policy Framework (NPPF) reinforces this by stating (para 118) that the local planning authority can refuse planning permission for a proposed development that is likely to cause an adverse impact upon a SSSI that cannot be mitigated (through locating the development on an alternative site with less harmful impacts, adequately mitigate the impact(s), or, as a last resort, compensation for the impact(s) / loss of habitat). The CROW Act increases protection for Sites of Special Scientific Interest (SSSI) and strengthens wildlife enforcement legislation. It also brings about the duty on government departments to have regard for the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity (Section 73 list). The NERC Act, 2006, paragraph 55 amends the legislation with regards to offences on SSSIs.
Local Nature Reserve (LNR)	National Parks and Access to the Countryside Act 1949 S.21	LNRs are given protection through policies in the Local Development Plan.	LNRs are generally owned and managed by local authorities. Development proposals that would potentially affect a LNR would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged.
Local Wildlife Site (LWS)	There is no statutory designation for LWS.	LWS are given protection through policies in the Local Development Plan.	Development proposals that would potentially affect a LWS would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged.

Habitats & Species	Legislation	Guidance
Species and Habitats of Principal Importance for the Conservation of Biodiversity	Natural Environment & Rural Communities (NERC) Act 2006 S.40 (which superseded S.74 of the Countryside & Rights of Way Act 2000).	S.40 of the NERC Act 2006 sets out the duty for public authorities to conserve biodiversity in England and Wales. Habitats and species of principal importance for the conservation of biodiversity are identified by the Secretaries of State for England, in consultation with NE and are referred to in S.41 of the NERC Act. The list of habitats and species was updated in 2008: England: http://www.ukbap-reporting.org.uk/news/details.asp?x=45 The habitats and species listed are not necessarily of higher biodiversity value, but they may be in decline. Habitat Action Plans and Species Action Plans are written for them or are in preparation, to guide their conservation. Ecological impact assessments should include an assessment of the likely impacts to these habitats and species.
UK 2012 Biodiversity Framework (UKBF) Habitats & Species	No specific legislation, unless it is also a species or habitat of principal importance as described above.	*The UKBF is the UK's initiative to maintain and enhance biodiversity in response to the challenges the Nagoya Agreement brought forward during the Convention on Biological Diversity signed in 2010.* *The UKBF is divided into individual definitive strategy reports for each component country within the UK.* *England's strategy 'Biodiversity 2020' sets out a key mission: "to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people1".* *This strategy looks into conserving and enhancing both wildlife distribution and habitat connectivity across the country, reaching high level targets by 2020.* *Although the UK Biodiversity Action Plan (UKBAP) has been superseded by the UKBF, Local BAPs are still relevant and should be consulted during any proposed works.*
Tree Preservation Order (TPO)	The Town and Country Planning (Tree Preservation) (England) Regulations 2012	Covered under The Town and Country Planning Regulations (2012) for England making it an offence to cut down, top, lop, uproot, wilfully damage or wilfully destroy a tree (which is protected by a TPO or that is within a conservation area) without the Local Planning Authority's permission.
Hedgerows	The Hedgerows Regulations 1997	Under the regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. In general, permission will be required before removing hedges that are at least 20 metres in length, over 30 years old and contain certain species of plant. The local planning authority will asses the importance of the hedgerow using criteria set out in the regulations. See Defra and Natural England websites for further guidance and information.
Japanese knotweed, hybrid knotweed, giant knotweed **Giant hogweed** **Rhododendron**	Wildlife and Countryside Act 1981 S.14 (as amended)	It is illegal to plant or otherwise cause to grow in the wild these species which are listed in schedule 9.. Any contaminated soil or plant material is classified as controlled waste and should be disposed of in a suitably licensed landfill site, accompanied by appropriate Waste Transfer documentation, and must comply with section 34 of the Environmental Protection Act 1990.

[1] Defra (2012) *Biodiversity 2020 – A strategy for England's Wildlife and ecosystem services*

Habitats & Species	Legislation	Guidance
Himalayan balsam etc		
Invasive species	Regulation on Invasive Alien Species (Regulation EU No 1143/2014) Commission Implementing Regulation (EU) 2016/1141	Regulation adopting a list of 37 invasive alien species of Union concern. It imposes legal requirements on member states releating to prevention, early warning and rapid response, and management of established species. Full list of species here: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R1141&from=EN

Policy	Guidance
National Planning Policy Framework (NPPF) 2012	The central message of the NPPF is a *"presumption in favour of sustainable development"* (paragraph14) within plan-making and decision-taking. This presumption runs throughout all aspects of the NPPF, however, the following statements are particularly pertinent to planning decisions in the context of nature conservation at the subject Site: *"The planning system should contribute to and enhance the natural and local environment by...minimising impacts on biodiversity and providing net gains in biodiversity where possible"* (paragraph 109); *"If significant harm [from a proposed development] cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for planning permission should be refused"* and *"opportunities to incorporate biodiversity in and around developments should be encouraged" (*paragraph 118); *"Planning decisions should ensure that adequate site investigation information, prepared by a competent person, is presented"* (paragraph 121); and *"* [planning] *decisions should limit the impact of light pollution from artificial light on..nature conservation"* (paragraph 125)
DEFRA - Biodiversity 2020: A strategy for England's wildlife and ecosystem services	England's current biodiversity strategy setting out high level and comprehensive action required in order to halt biodiversity loss in line with signed international and EU agreements and commitments. The paper sets out the "*strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea. It builds on the successful work that has gone before, but also seeks to deliver a real step change….. shifting the emphasis from piecemeal conservation action towards a more integrated landscape scale approach……..The mission for this strategy, for the next decade, is to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people*" with focused delivery "through action in four areas: *1. a more integrated large-scale approach to conservation on land and at sea* *2. putting people at the heart of biodiversity policy* *3. reducing environmental pressures* *4. improving our knowledge* The four priority areas are broadly aligned to the strategic goals of the *Convention on Biological Diversity Strategic Plan 2011-2020*, adjusted to fit the priorities in England".
North Herts District Council Local Plan (originally adopted 1996)	**<u>Policy 14: Nature Conservation</u>** For Local Nature Reserves, Sites of Special Scientific Interest, Nature Reserves of the Hertfordshire and Middlesex Wildlife Trust, and Sites of local Wildlife Significance, the Council will preserve their wildlife importance by not normally granting planning permission for development proposals in these Sites, or which may harm their value, and will seek their continued management for nature conservation. For Sites of Wildlife Value, the Council will not normally grant planning permission for development proposals which do not take account of and encourage the potential nature conservation value of the Site.

Policy	Guidance
	Elsewhere, or when a development proposal is acceptable, the Council will expect development proposals to take account of, and where possible, to show improvements to the nature conservation value of the Site and its surroundings. In addition, the Council may require the preparation and implementation of a management scheme to maintain or enhance the Site's nature conservation value.
North Herts District Council Local Plan 2011 – 2031 (Emerging Policy legislation / preferred options consultation paper) Dec 2014	**Natural Environment Policy NE1: Landscape and Environmental Protection** The quality and character of the natural environment will be protected and enhanced. Development proposals should complement the character of the surrounding landscape and respect locally sensitive features as identified in the North Herts Landscape Study and the Chilterns AONB Management Plan. Proposals should provide high standards of built, landscape and environmental design in support of the development and landscape management guidelines provided for each landscape character area. Development proposals that would be detrimental to the natural environment will be refused where suitable mitigation measures cannot satisfactorily address the adverse impact. **Policy NE2: Green infrastructure** The Council will protect and enhance green infrastructure assets and new opportunities for creating green infrastructure will be sought. Where appropriate new development will be expected to contribute towards the provision of additional green infrastructure and the protection and enhancement of existing green infrastructure. Developers should use the guiding principles set out in the Green Infrastructure Plan to influence all development proposals from an early stage in the design process. Any new green infrastructure proposed must be accompanied by a plan for the long term sustainable maintenance and management of these assets, as well as phasing plans to demonstrate how they are to be delivered. **Policy NE3: Biodiversity** The Council will support new developments that make a positive contribution to the biodiversity of the district and opportunities to restore degraded or isolated habitats will be sought wherever possible. Development proposals which cause unacceptable harm to Sites of Special Scientific Interest, Regionally Important Geological Sites, Local Nature Reserves or managed Local Wildlife Sites will be refused unless it can be demonstrated that adverse effects could be satisfactorily minimised through mitigation measures. Development proposals which affect other Sites or features of local biodiversity will not be permitted where there is an adverse impact on the ecological, geological or biodiversity interests of the Site unless it can be demonstrated that adverse effects could be satisfactorily minimised through mitigation measures. Development proposals should also demonstrate that if there are existing wildlife habitats such as trees, hedgerows and woodlands they will be retained, safeguarded and managed during and after development.

Appendix B – Phase 1 Habitat Plan

Key

- Amenity Grassland
- Bare Ground
- Building
- Hardstanding
- Introduced Shrub
- Cherry Laurel Hedge
- Fence / Wall
- Broadleaved Scattered Tree
- Coniferous Scattered Tree
- Site Boundary
- Target Note

PROJECT

Pinehill Hospital, Hitchin

TITLE

Phase 1 Habitat Plan

CLIENT

GL Hearn

Rev		DR	CH	PA	Date

Drawn by	Checked by	Passed by	Date
AP	AP	TB	23/10/17

Scales @ A4 Size: 1:567

Issue Status: FINAL

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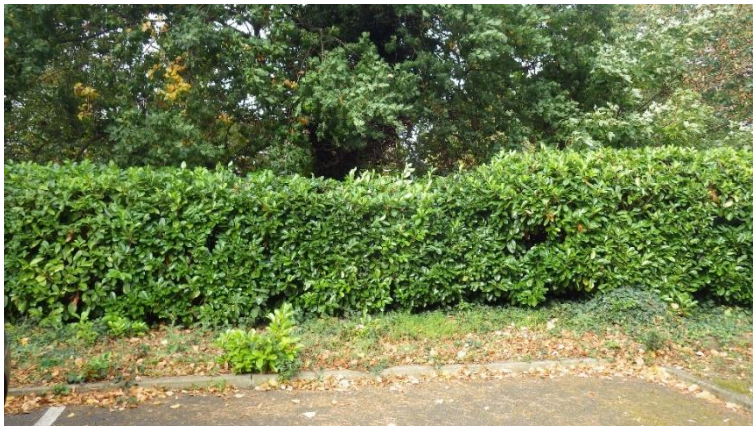
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Appendix C – Target Notes

TN	Description	Photo
1	Raised tiles on the main building are suitable for crevice dwelling bat species. Low bat roost potential.	
2	South east side of hospital building. Negligible bat roost potential.	

TN	Description	Photo
3	Gap in plywood which is of limited suitability for roosting bat.	
4	Wooden shed with timber slats and a raised bitumen roof. The gaps between the slats allow access to the crevices between the external slats and internal plywood walls. Low potential for roosting bat.	

TN	Description	Photo
5	An old robin's nest in the corner of the shed to the north of the Site.	
6	A mature horse chestnut in poor condition with splits and loose bark. Low potential for roosting bat.	

TN	Description	Photo
7	Footpath bordered by introduced species interspersed with crab apple. Moderate ecological value for bat, bird, and common assemblages of invertebrate.	
8	Cherry laurel hedges along the eastern and western boundaries of the Site. Low potential for bat, bird and common assemblages of invertebrates.	 Eastern boundary  Western boundary

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