CSA environmental

Former Friends School,
Saffron Walden

Preliminary Ecological Appraisal

Prepared by
CSA Environmental

on behalf of
Chase New Homes

Report Ref: CSA/4017/01

December 2018

urban design | ecology | landscape | heritage

This report may contain sensitive ecological information. It is the responsibility of the Local Authority to determine if this should be made publicly available.

Report Reference	Date	Revision	Prepared by	Approved by	Comments
CSA/4017/01	10/12/2018	-	TC	JW	Draft for comment
CSA/4017/01a	24/06/2019	B	TC	JW	Amended to reflect proposals
CSA/4017/01b	26/07/2019	B	TC/JW	JW	Amended following comments

CONTENTS

EXECUTIVE SUMMARY

Residential development of c. 100 dwellings is proposed within the former recreational grounds associated with the Friend School, Saffron Walden, for which planning permission will be sought.

CSA Environmental was instructed by Chase New Homes to undertake a Preliminary Ecological Appraisal (PEA) of the Site to identify ecological constraints to development, inform recommendations for design, highlight opportunities for ecological enhancement and determine any additional investigation/survey work necessary.

No designated sites or areas of ancient woodland have been identified within the Site or within the immediate surroundings which would be effected by the proposed scheme.

The Site is dominated by a grass sports field of limited ecological interest. Areas of greater ecological interest or where further investigation work is recommended include the established boundary hedgerows and tree belts, a pocket of deciduous woodland, individual mature trees and several buildings.

Off-site, adjacent to the application boundary are the buildings of Friends School, within which a brown long-eared bat roost was identified during an internal building inspection.

Further surveys are to be undertaken in respect of bats to establish the need for and details of any mitigation requirements. Potential mitigation measures have been set out in the event that bat roosts or other important ecological features are identified at the Site.

Opportunities have been highlighted for ecological enhancement measures that could be delivered as part of the proposed development, including creation of species-rich grassland and/or butterfly banks.

1.0 INTRODUCTION

1.1 This report has been prepared by CSA Environmental on behalf of Chase New Homes. It sets out the findings of a Preliminary Ecological Appraisal (PEA) of the former recreational grounds associated with Friends School, Saffron Walden (hereafter referred to as 'the Site'). Residential development is proposed at the Site, for which planning permission will be sought. Development proposals comprise the construction of c. 100 residential units within the former recreational grounds.

1.2 The scope of this appraisal has been determined with due consideration for best-practice guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017), and to the *Biodiversity: Code of practice for planning and development* (BS 42020:2013) published by the British Standards Institution (2013).

1.3 The Site occupies an area of c. 7.1ha and is located around central grid reference TL54113756, within the southern half of Saffron Walden. It comprises a combination of mixed age buildings, with associated hardstanding, areas of grassland, woodland and established boundary hedgerows and tree belts (see Habitats Plan in Appendix A). Adjacent off-site habitats include a number of buildings associated with the former Friends School, which were included within the scope of the Preliminary Ecological Appraisal, associated ornamental planting and neighbouring residential properties.

1.4 A desk study and extended Phase 1 Habitat survey were undertaken of the Site, the findings of which are presented herein.

1.5 This PEA aims to:

- Identify any ecological constraints to development of the Site
- Inform design decisions
- Identify further ecological surveys and investigation necessary to inform a full Ecological Impact Assessment (EcIA) of the Site
- Highlight opportunities for ecological enhancement

1.6 As set out in best practice guidelines (CIEEM, 2017) a PEA is typically only suitable for planning submission where there are no ecological constraints relating to the project. Where ecological constraints are identified, such as the presence of important ecological features, the effects of development on these features should be assessed within a separate EcIA report, which would supersede the PEA.

2.0 LEGISLATION, PLANNING POLICY & STANDING ADVICE

Legislation

2.1 Legislation relating to wildlife and biodiversity of particular relevance to this PEA includes:

- The Conservation of Habitats and Species Regulations 2017
- The Wildlife and Countryside Act 1981 (as amended)
- The Natural Environment and Rural Communities (NERC) Act 2006
- The Protection of Badgers Act 1992

2.2 This above legislation has been addressed, as appropriate, in the production of this report. Further information on the above legislation is provided in Appendix B.

National Planning Policy

2.3 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019) sets out the government planning policies for England and how they should be applied. Chapter 15: Conserving and Enhancing the Natural Environment, is of particular relevance to this report as it relates to ecology and biodiversity. Further details are provided in Appendix B.

2.4 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their effects within the planning system.

Local Planning Policy

2.5 A number of local planning policies relate to ecology, biodiversity and/or nature conservation. These are summarised in Table B.1 of Appendix B. These policies have been addressed, as appropriate, in the production of this report.

Standing Advice

2.6 Natural England Standing Advice (Natural England, 2014) regarding habitats and protected species aims to support local authorities and forms a material consideration in determining applications in the same way as any individual response received from Natural England following consultation. Standing advice has therefore been given due consideration, alongside other detailed guidance documents, in the production of this report.

3.0 METHODS

Desk Study

3.1 The Multi-Agency Geographic Information for the Countryside (MAGIC) online database was reviewed in October 2018 to identify nature conservation designations within the following search radii:

- Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites within 10km of the Site (including possible/proposed sites)
- Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Local Nature Reserves (LNR) within 3km of the Site
- Other relevant data e.g. Ancient Woodland Inventory within 1km of the Site

3.2 A review was undertaken of the location of any such designations, their distance from and connectivity with the Site, and the reasons for their designation. This information was used to determine whether they may be within the Site's zone of influence.

3.3 Essex Field Club (EFC) and Essex Wildlife Trust Biological Records Centre (EWTBRC) were contacted for details of any non-statutory nature conservation designations and records of protected/notable habitats and species. This information was requested for an area encompassing the Site and adjacent land within c. 2km of its central grid reference. This search area was selected to include the likely zone of influence upon non-statutory designations and protected or notable habitats and species.

3.4 The Woodland Trust's online Ancient Tree Inventory was reviewed for known ancient or veteran trees within the Site and adjacent land.

3.5 In accordance with Natural England's Great Crested Newt Mitigation Guidelines (2001), a desktop search was undertaken to identify ponds within 500m of the Site which may have potential to support breeding great crested newts *Triturus cristatus*, using Ordnance Survey (OS) mapping, the MAGIC database and aerial photography.

3.6 All relevant desk study data are presented in Appendix C.

Field Survey

Extended Phase 1 Habitat Survey

3.7 An extended Phase 1 habitat survey was carried out in fine and dry weather conditions on 18 and 25 October 2018 by Tom Clemence ACIEEM and Emma Robson GradCIEEM, encompassing the Site and adjacent buildings which comprise the former Friends School.

3.8 Phase 1 Habitat survey is a method of classification and mapping wildlife habitats in Great Britain. It was originally intended to provide "*...relatively rapidly, a record of the semi-natural vegetation and wildlife habitat over large areas of countryside.*" The Phase 1 Habitat Survey method has been widely 'extended' beyond its original purpose to allow the capture of information at an intermediate level between Phase 1 and Phase 2 Habitat surveys, and here includes the following:

- More detailed floral species lists for each identified habitat
- Descriptions of habitat structure, the evidence of management and a broad assessment of habitat condition
- Mapping of additional habitat types (e.g. hardstanding)
- Identification of Priority Habitats under Section 41 of the NERC Act
- Identification of Habitats Directive Annex I habitat types
- Evidence of, or potential for, European Protected Species (EPS) (including bats, great crested newt, dormouse and otter)
- Evidence of, or potential for, other protected species (including birds, reptiles, water vole, badger and certain invertebrates)
- Evidence of, or potential for, other notable species (including S41 Species of Principal Importance as well as notable, rare, protected or controlled plants and invertebrates)

3.9 Results of the extended Phase 1 Habitat survey are presented on the Habitats Plan in Appendix A.

Preliminary Roost Assessment (Structures)

3.10 All accessible buildings on-site were inspected and assessed for their potential to support roosting bats, with due consideration for the *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). Full survey methods and results are provided in Appendix D.

Limitations

3.11 There were no specific limitations to the desktop study. The extended Phase 1 habitat survey was conducted outside of the optimum time of year to record full floral interest. However, the conditions were appropriate to assess the interest of a Site of this type with a long standing, intense, habitat management regime. The internal inspection of the buildings was limited, in part, on the grounds of health and safety due to known asbestos within several roof spaces and access restrictions. This is fully detailed where applicable within Appendix D.

Evaluation and Assessment

3.12 The evaluation and assessment of ecological features is beyond the scope of a PEA and has therefore not been undertaken here. Formal evaluation and assessment of any identified important ecological features should be undertaken as part of either a full EcIA, or receptor-

specific survey and assessment in accordance with the published CIEEM method (CIEEM, 2018).

4.0 BASELINE ECOLOGICAL CONDITIONS

Nature Conservation Designations

Statutory

4.1 There are no statutory designations covering any part of the Site and furthermore, no international or national/local statutory designations were identified within 10km and 3km of the Site respectively.

Non-Statutory

4.2 A total of eight non-statutory designations were identified within 2km of the Site. These non-statutory designations are described in Table 1 below. All of the designations are well removed from the Site and therefore no adverse effects as a result of the development are anticipated.

Table 1. Non-Statutory Designations within search radii

Site Name & Designation	Distance & Direction from Survey Area	Special Interests or Qualifying Features
Non-Statutory Designations within 2km		
Audley End Park Wall Protected Roadside Verge	c. 0.7km west	Section of road verge supports a large population of Lesser Calamint *Clinopodium nepeta* and Wild Clary *Salvia verbenaca*, both Essex Red Data List species.
Roos Hill Protected Roadside Verges	c. 0.8km south	Road verge designated in recognition of their chalk grassland flora.
Audley Park Pastures	c. 1.1km north-west	Combination of dry grassland, wet pasture, sedge beds and swamp adjacent to The Slade stream.
River Cam Wet Woods	c. 1.4km west	This site consists of two main blocks of tall swamp, sedgebed and willow plantation either side of the River Cam adjacent to Audley Park.
Saffron Walden Golf Course	c. 1.5km north-west	Supports an important chalk grassland flora.
Spring Wood	c. 1.5km north-west	Large ancient wood under estate woodland management.
Ashdon Road Verges	c. 1.5km north-east	Group of verges which includes the Saffron Walden – Ashdon Road Protected Roadside Verge (West Section) UTT45 designated for their chalk grassland flora.
Brakey Lee Wood	c. 1.7km south-west	Ancient woodland site replanted with Poplars with only isolated standards of ash *Fraxinus excelsior* and pedunculate oak *Quercus robur*.

Ancient Woodland

4.3 There is no designated Ancient Woodland covering any part of the Site or immediately adjacent land. No trees on or adjacent to Site are listed on the Ancient Tree Inventory.

Habitats and Flora

4.4 Habitats recorded on-site were classified in line with current Phase 1 habitat survey guidance (JNCC, 1990), as illustrated in Appendix A.

Notable Flora Records

4.5 The EWT and EFC provided 26 records of 11 notable plant species from within the search area. Those of potential relevance to the Site include bee orchid *Ophrys apifera* and lesser calamint *Clinopodium nepeta.* Neither of which were recorded within the Site. The majority of other records returned were for non-native invasive species, located off-site.

Amenity Grassland

4.6 Amenity grassland which comprises the c. 5ha former recreational ground dominates the Site. The grassland has been subject to a longstanding, and ongoing, management regime of frequent short mowing. Species recorded were typical of this habitat types and included red fescue *Festuca rubra*, perennial rye-grass *Lolium perenne* and cock's-foot *Dactylis glomerata*. Herbs were limited to the margins but those recorded indicate likely underlying calcareous trophic conditions. These include knapweed *Centaurea* sp. and agrimony *Agrimonia eupatoria*, in particular within the northern edges.

Semi-Natural Deciduous Woodland

4.7 A c. 0.7ha area of secondary woodland is present within the south-eastern corner of the Site. Trees within the woodland comprise a combination of young and semi-mature specimen, including sycamore *Acer pseudoplatanus,* silver birch *Betula pendula*, false acacia *Robinia pseudoacacia* and beech *Fagus sylvatica*. No evidence of traditional woodland management was recorded with a poorly formed, sparse understorey. Species recorded include hawthorn *Crataegus monogyna,* elder *Sambucus nigra* and garden privet *Ligustrum ovalifolium*. Herbs within the woodland were limited both in coverage and diversity, being dominated by common nettle *Urtica dioica* and bramble *Rubus fruticosus* agg.

Trees

4.8 Parts of the southern and eastern Site boundaries comprises a c. 260m tree belt of mature lime *Tilia x europaea* trees, with hawthorn, yew *Taxus baccata* and garden privet within the understorey and wood false brome *Brachypodium sylvaticum* within the herb layer.

4.9 A c. 60m section of the northern boundary comprises a tree belt with mature beech and yew trees recorded. The herb layer was limited with common ivy *Hedra helix* noted as the dominant species.

4.10 Numerous individual trees are present throughout the Site, these include mature specimens of common lime, beech and silver birch. Further detail of individual tree locations, maturity should be provided within a suitable arboricultural assessment.

Hedgerows

4.11 Parts of the northern and eastern Site boundaries comprise hedgerows, as described below.

4.12 Part of the eastern Site boundary comprises a c. 230m long, well-established hedgerow which shows evidence of periodic management. Species present include a combination of native a non-native species; namely, laurustinus *Viburnum tinus*, cotoneasters *Cotoneaster* spp. and field maple *Acer campestre.* Several mature lime trees are also present within the hedgerow.

4.13 Part of the northern Site boundary comprises c. 160m long hedgerow. The hedgerow shows limited evidence of management and is growing atop an earth bank. Firethorn *Pyracantha coccinea* dominates the species composition with abundant snowberry *Symphoricarpos albus* and semi-mature lime trees at c. 10m centres along its length also recorded.

Buildings

4.14 A number of mixed age buildings are present within the Site and within the off-site areas of Friends School. These are of a range of construction methods and are understood to have been built between 1879 and 2012. A full list and overview of the buildings within the Site and off-site, in association with former Friends School is provided within Appendix D (Table D.1). In addition, an assessment of their suitability for roosting bats has also been included.

4.15 Of the buildings assessed, buildings [redacted] are present within the application Site boundary.

Hardstanding

4.16 Areas of hardstanding are present within the Site associated with the on-site buildings. These areas include access roads/tracks, car parking facilities, pavements and paths. None support features of ecological interest.

Fauna

Bats

4.17 A total of 363 bat records were identified within the search area, the majority of which were for common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*. Records for Barbastelle *Barbastella barbastellus* were returned. However, the resolution of the grid reference supplied with the record is inadequate to provide a meaningful location or distance from the Site.

Preliminary Roost Assessment - Structures

4.18 All on-site structures (B8 and B19-B21) were assessed for their potential to support roosting bats, in addition to all buildings adjacent to the Site, associated with the former Friend School. In total, these comprise 21 buildings and have been labelled B1-B21 on the Habitats Plan in Appendix A.

4.19 The buildings assessed were categorised in respect of bat roosting potential as follows:

- [redacted] – 'confirmed' brown long-eared bat roost
- [redacted] – 'High' bat roost potential,
- [redacted] – 'Moderate' potential
- B3 and B9 – 'Low' potential
- B4 - B7, B11, B13, B18 - B20 – 'Negligible' potential

4.20 A bat roost was identified within loft space 3 of [redacted]. This comprised a single brown long-eared bat roosting at the time of survey, at target note location TN1 (Appendix A, Buildings Plan). In addition to the roosting bat, scattered bat droppings, characteristic in shape and size of brown long-eared bat, were recorded throughout loft spaces 1, 2, 3, 4, 5 and 6 of [redacted].

4.21 The full results of the building inspection are provided in Table D.1 of Appendix D.

Preliminary Roost Assessment - Trees

4.22 A number of trees are present within the Site. Though a tree does not need to be of a particular age or maturity to support a roosting bat, it is widely accepted that there is a positive correlation between these factors and the likelihood of encountering features suitable for roosting bats. Therefore, there are numerous trees within the Site with the potential to support roosting bats. Detailed inspection of individual trees has not been included within the scope of the survey works carried out to date.

Badger

4.23 The EWT and EFC have provided seven records of badger *Meles meles* from within the search area, dating from 1996 to 2016. The closest record is c. 0.4km from the Site.

4.24 No evidence of badgers or their setts, were recorded within the Site during the initial Phase 1 survey. However, woodland, tree belts and grassland within the Site provide a range of sett digging and foraging opportunities. It should be noted that although the Site is located within a sub-urban context, there is the potential for badgers to make use of the on-site and wider sub-urban habitats.

Dormouse

4.25 No records of dormouse *Muscardinus avellanarius* were identified within the search area.

4.26 The Site is set within a residential sub-urban context with no tangible connectivity to suitable dormouse habitat. The Site in isolation does not comprise habitats which could support a relict dormouse population. Therefore, with these factors taken in combination, dormice are taken as likely absent from the Site.

Riparian Mammals

4.27 No records of water vole *Arvicola amphibius* were identified within the search area however a total of six records of otter *Lutra lutra* were identified within the search area, the majority of which were associated with Sir Joshua's Bridge on the River Cam, c. 2km south-west of the Site.

4.28 No watercourses or other suitable habitats are present within the Site or within the adjoining landscape. Therefore, both otter and water vole are taken as likely absent from the Site.

Other Mammals

Brown Hare

4.29 No records were returned for brown hare *Lepus europaeus* or harvest mouse *Micromys minutus* from within the search area.

4.30 A total of 30 records of hedgehog *Erinaceus europaeus* were identified within the search area, one of which is located on-site to the north-eastern corner, and another two records are from gardens adjacent to the Site.

4.31 The Site does not provide suitable habitat opportunities for brown hare or harvest mouse, such that both species are taken as likely absent.

4.32 Hedgehog have been confirmed as present within the Site and the local area. Habitats within the Site which are likely of importance to

hedgehogs include the hedgerows, tree belts and woodland. Hedgehogs are listed under Section 41 of the NERC Act (2006) as a species of principle importance in regard to their conservation.

Birds

4.33 A total of 401 records of 71 bird species were identified within the search area, dating from 2007 to 2017. Those of potential relevance to the Site include green woodpecker *Picus viridis*, house martin *Delichon urbicum,* swallow *Hirundo rustica*, starling *Sturnus vulgaris* and song thrush *Turdus philomelos.*

4.34 The majority of the Site is limited in its potential for providing important habitat to nesting and foraging birds. Areas of greatest interest are limited to the boundary hedgerow, tree belts and woodland habitats.

Reptiles

4.35 A total of seven records of two reptile species were identified within the search area including grass snake *Natrix natrix* and slow worm *Anguis fragilis*. The closest record is of grass snake, c. 0.3km south-east of the Site, on the edge of Saffron Walden.

4.36 No evidence of reptile was recorded within the Site at the time of survey. The majority of the habitats within the Site were unsuitable for reptiles, save for marginal areas of longer grassland. However, it is understood that until recently, these areas of now longer grassland were under a long standing management regime, keeping sward lengths short year round and therefore, unsuitable for reptiles. In light of this and given a lack of connectivity to other habitats within the local area which could sustain a population of reptiles, it is taken as unlikely that colonisation could have occurred during this period. Therefore, reptiles are taken as likely absent from the Site.

Amphibians

4.37 A total of nine records of three amphibian species were identified within the search area, including common frog *Rana temporaria* common toad *Bufo bufo* and great crested newt (GCN) *Triturus cristatus.* The closest records are for common frog, c. 0.3km north. The closest and most recent record for GCN is from Bridge End Gardens, c. 1.1km north-west of the Site, dating from 2001.

Great Crested Newt

4.38 Despite spending much of their annual lifecycle within the terrestrial environment, great crested newts are dependent upon the presence of suitable aquatic breeding habitat in order for a population to persist. One pond was identified off-site c. 25m from the boundary (Habitats Plan, Appendix A). No further ponds appear to be present within a dispersible range of the Site, based on OS mapping and aerial imagery, however garden ponds may be present within the local area.

4.39 The off-site pond was subject to an HSI assessment (Oldham *et al.*, 2000) and scored a below average suitability to support GCN (0.52) (see Appendix E). As such it is taken as unlikely for GCN to be present within the Site.

Invertebrates

4.40 A total of 445 records of 291 invertebrate species were identified within the search area, all of which are located c. 0.26km beyond the Site boundary.

4.41 The majority of the Site is taken to be of limited interest to invertebrates. Habitats with the potential to sustain greater assemblages are limited to the boundary habitats and on-site woodland.

5.0 DISCUSSION AND RECOMMENDATIONS

Nature Conservation Designations

Non-Statutory

5.1 All non-statutory designations identified are considered to be at a sufficient distance from the Site so as to be unaffected by the proposed development with no other pathways of impacts (e.g. hydrological) identified.

Habitats and Flora

Amenity Grassland

5.2 Limited areas of grassland at the Site show heighted levels of ecological interest by the presence of several common grassland indicator species including common knapweed and agrimony, notably the earth bund which bounds the Site to the north. Due to the underlying soil conditions (calcareous), opportunities exist for the successful enhancement of such areas via a straight forward landscaping and/or management regime. As such this and other areas of grassland should be incorporated into the scheme where possible and enhanced for the benefit of wildlife, including pollinators.

Semi-natural deciduous woodland

5.3 Wooded habitats, even of lower quality provide shelter and foraging opportunities for a range of species. It is therefore recommended that the woodland to the south-east of the Site is retained and enhanced within the development scheme as far as possible.

Trees

5.4 The tree belt associated with the southern Site boundary offers an important wooded habitat corridor and provides linkages to the on-site woodland. This group of trees should be retained and protected alongside the scheme where possible. In addition, the avenue of mature lime trees which extends beyond the Sites southern boundary is an important landscape and ecological feature and should be retained and protected.

5.5 All of the semi-mature and mature trees at the Site are of ecological importance and therefore their retention should be incorporated into the scheme where possible and protected during the construction phase.

Hedgerows

5.6 The hedgerows bounding the Site to the east and north comprise both native and non-native species. Such linear features represent important foraging, refuge and dispersal habitat for a range of fauna,

so should be retained and protected wherever possible. If practicable, non-native species should be removed and replaced with native infill planting.

Fauna

Bats

5.7 A confirmed bat roost is present off-site within [redacted], with an induvial brown long-eared bat found within loft space 3 (Appendix A).

5.8 Buildings within the Site include [redacted] which has 'high' bat roost potential and [redacted] which has 'moderate' potential (Appendix D). All other buildings within the Site are categorised as having 'negligible' bat roosting potential.

5.9 A number of further buildings, outside of the Site have also been categorised in respect of their bat roosting suitability. These are listed in full in Appendix D.

5.10 Emergence/re-entry surveys are to be undertaken to determine the presence or likely absence of roosting bats in association with the on-site buildings. The results of these surveys will be used to inform a full impact assessment and the need or otherwise for mitigation measures.

5.11 In the event that bat roosts are identified at the site within one or more of the existing buildings proposed for demolition, it is anticipated that mitigation would require the following:

- Works to be undertaken under the auspices of an appropriate licensing regime (such as a European Protected Species Mitigation (derogation) licence obtained from Natural England)
- Precautionary approach to demolition, including appropriate timing of works, work undertaken under supervision and
- Provision of new roosting features within the Site, such as those integrated into new buildings, providing equivalent or greater opportunities for those bat species identified to roost on-site
- Careful design of external lighting to ensure bats can continue to make use of the site, including to forage and navigate, as well as to roost

5.12 Should any trees within the Site require removal or significant arboricultural works then further surveys should be undertaken to assess the potential of these trees to support roosting bats and to inform mitigation measures where required.

Nesting Birds

5.13 Based on their legal protection, any clearance of potential nesting habitat (including demolition of buildings) will be undertaken outside of the bird nesting season (i.e. outside of March-August inclusive), or

immediately following confirmation by a suitably qualified ecologist that no active nests are present.

Badgers

5.14 No badger setts were recorded at the Site at the time of survey and badgers are considered unlikely to represent a constraint to development. However, due to the presence of suitable habitats, a precautionary pre-construction badger survey is recommended in the event that any setts dug in the interim.

Summary of Further Survey Work

5.15 Based on the ecological constraints identified above, Table 3 summarises for further work to be undertaken to determine the need for, and scope of, any avoidance, mitigation and/or compensation measures to address potential adverse effects of development. The outcome of this further work will inform a full impact assessment (i.e. EcIA) of the final scheme.

Table 3. Recommendations for further investigation/survey

Ecological Feature	Further work	Applicable timescales
Bats	Preliminary ground-based roost assessment of on-site trees to be impacted by scheme	TBC following arboricultural survey
	• 3 x Emergence/re-entry surveys of buildings with 'High' potential [redacted] • 2 x Emergence/re-entry surveys of buildings with 'Moderate' potential (B8) See Appendix D, table D.1 for further details	May – August

Opportunities for Ecological Enhancement

5.17 To promote adherence to the NPPF the following opportunities for ecological enhancement have been identified:

1. Creation of calcareous grassland and/or chalk banks for butterflies and other invertebrates
2. Wildlife pond creation as part of wider landscaping scheme to provide new aquatic opportunities and increase biodiversity
3. Incorporation of native plants and those of wildlife importance in to landscaping scheme to provide foraging opportunities for birds, invertebrates and bats
4. Improved connectivity of green infrastructure with new hedgerow planting and infill planting
5. Provision of new bat roosting opportunities within retained buildings, new buildings and retained mature trees

6. Provision of bird nesting opportunities within retained buildings, new buildings and retained mature trees
7. Increased habitat connectivity for hedgehogs and other small mammals in the form of a 'hedgehog highway' incorporated into garden fences.
8. Management of on-site woodland for the benefit of wildlife.

6.0 REFERENCES

British Standards Institution, 2013. *BS 42020:2013 Biodiversity — Code of practice for planning and development*. London: BSI.

CIEEM, 2016. *Guidelines for Assessing and Using Biodiversity Data*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM, 2017. *Guidelines for Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM, 2017. *Guidelines for Preliminary Ecological Appraisal*, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J., ed., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd ed. London: The Bat Conservation Trust.

DEFRA (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services. Defra, London.

English Nature, 2001. *Great crested newt mitigation guidelines*. Peterborough: EN.

Joint Nature Conservation Committee, 1990. *Handbook for Phase 1 habitat survey – a technique for environmental audit*. Revised reprint 2010. Peterborough: JNCC.

JNCC and Defra (2012) UK Post-2010 Biodiversity Framework (on behalf of the Four Countries' Biodiversity Group). July 2012.

Ministry of Housing, Communities and Local Government, 2019. *National Planning Policy Framework (NPPF)*. London: Ministry of Housing, Communities and Local Government.

Multi-Agency Geographic Information for the Countryside (MAGIC), 2013. *Interactive Map*. [online] Available at: <http://www.magic.gov.uk/MagicMap.aspx> [Accessed October 2018].

Natural England and Department for Environment, Food & Rural Affairs, 2014. *Protected species and sites: how to review planning proposals*. [online, last updated August 2016] Available at: <https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals> [Accessed October 2018].

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M., 2000. Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10 (4), 143-155.

Woodland Trust, no date. *Ancient Tree Inventory*. Available online at: [redacted]
[Accessed October 2018].

Appendix A

Habitats Plan & Photosheet

Photo 1. Northern elevation of [redacted]

Photo 2. Hardstanding and trees to north of [redacted]

Photo 3. On-site woodland within south-eastern corner.

Photo 4. South-western elevation of [redacted].

Photo 5. South-eastern elevations of [redacted].

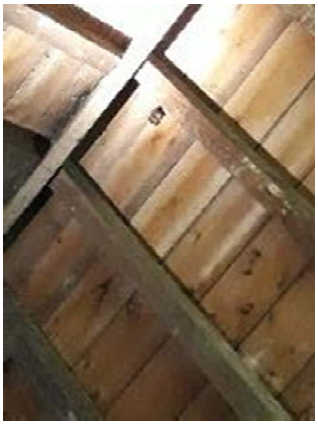

Photo 6. Individual brown long-eared bat in [redacted]

Appendix B

Legislation and Planning Policy

The **Conservation of Habitats and Species Regulations 2017** transposes Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, and aspects of Council Directive 79/409/EEC on the Conservation of Wild Birds, into UK domestic law. The Regulations make prescriptions for the designation and protection of Sites of Community Importance ('European sites', e.g. Special Areas of Conservation and Special Protection Areas) and European Protected Species (EPS).

The **Wildlife and Countryside Act 1981** (as amended, principally by the Countryside and Rights of Way Act 2000) forms the basis for protection of statutory designated sites of national importance (e.g. Sites of Special Scientific Interest; SSSIs) and native species that are rare and vulnerable in a national context. Additionally, badgers are protected under the **Protection of Badgers Act 1992**.

Section 40(1) of the **Natural Environment and Rural Communities (NERC) Act 2006** states that each public authority, "must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity." This legislation makes it clear that planning authorities should consider impacts to biodiversity when determining planning applications, with particular regard to the Section 41 (S41) lists of 56 habitats and 943 species of principal importance. The UK Biodiversity Action Plan (BAP) has been superseded by the Biodiversity 2020 Strategy, which continues to prioritise the S41 lists, however Local BAPs continue to influence biodiversity management and conservation effort, including through the spatial planning system, at the local scale.

National Planning Policy Framework (2018) (NPPF) sets out the government planning policies for England and how they should be applied. With regards to ecology and biodiversity, Chapter 15: Conserving and Enhancing the Natural Environment, paragraph 170, states that the planning system and planning policies should minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Paragraph 175 sets out the principles that local planning authorities should apply when determining planning applications:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts).

- 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.

- 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 reasons58 and a suitable compensation strategy exists.

- 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.

The **Government Circular 06/2005**, which is referred to within the NPPF, defines statutory nature conservation sites and protected species as a material consideration in the planning process.

Local planning policies of relevance to ecology, biodiversity and/or nature conservation have been set out in Table B.1 below.

Table B.1. Summary of regional and local planning policy relating to ecology

Policy	Summary
Uttlesford Local Plan Adopted January 2005	
Policy GEN7 – Nature Conservation	*"Development that would have a harmful effect on wildlife or geological features will not be permitted unless the need for the development outweighs the importance of the feature to nature conservation. Where the site includes protected species or habitats suitable for protected species, a nature conservation survey will be required. Measures to mitigate and/or compensate for the potential impacts of development, secured by planning obligation or condition, will be required. The enhancement of biodiversity through the creation of appropriate new habitats will be sought."*
Policy ENV7 - The Protection of the Natural Environment - Designated Sites	*"Development proposals that adversely affect areas of nationally important nature conservation concern, such as Sites of Special Scientific Interest and National Nature Reserves, will not be permitted unless the need for the development outweighs the particular importance of the nature conservation value of site or reserve.* *Development proposals likely to affect local areas of nature conservation significance, such as County Wildlife sites, ancient woodlands, wildlife habitats, sites of ecological interest and Regionally Important Geological/ Geomorphological Sites, will not be permitted unless the need for the development outweighs the local significance of the site to the biodiversity of the District. Where development is permitted the authority will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's conservation interest."*

Policy	Summary
Policy ENV8 – Other Landscape Elements of Importance for Nature Conservation	*"Development that may adversely affect these landscape elements:* • *Hedgerows* • *Linear tree belts* • *Larger semi natural or ancient* • *woodlands* • *Semi-natural grasslands* • *Green lanes and special verges* • *Orchards* • *Plantations* • *Ponds* • *reservoirs* • *River corridors* • *Linear wetland features* • *Networks or patterns of other locally important habitats.* *will only be permitted if the following criteria apply:* *a) The need for the development outweighs the need to retain the elements for their importance to wild fauna and flora;* *b) Mitigation measures are provided that would compensate for the harm and reinstate the nature conservation value of the locality.* *Appropriate management of these elements will be encouraged through the use of conditions and planning obligations."*

Appendix C

Desk Study Information

Appendix D

Preliminary Bat Roost Assessment

Methods

The aim of the preliminary roost assessment is to assess the potential for, or any evidence of, the presence of roosting bats associated with specific habitat features. Where significant potential for roosting is identified, further bat roost surveys are generally necessary to determine the presence or likely absence of a roost, and to characterise any roost present. The method described below has been followed with due consideration for the current best practice guidelines (Collins, 2016).

Structures

A detailed inspection of the exterior and interior of structures at the Site was undertaken to (i) identify and Potential Roost Features (PRFs) and potential bat ingress / egress points, and (ii) locate any evidence of bats such as live or dead specimens, droppings, urine splashes, fur-oil staining, feeding remains (e.g. moth wings) and/or squeaking noises. Equipment used included ladders, high-powered torches and close-focusing binoculars, as appropriate.

Where any droppings were present, samples were collected to enable species identification via DNA analysis, if required.

Limitations

The internal inspection of the buildings was limited, in part, on the grounds of health and safety due to known asbestos within several roof spaces and access restrictions. This is fully detailed where applicable within Table D.1.

Evaluation

Following the assessments, each structure was assigned one of the following categories in respect of its potential to support roosting bats (adapted from Collins, 2016):

- *Negligible*: no obvious PRFs
- *Low*: a structure with one or more PRFs 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 by large numbers of bats. A tree of sufficient size and age to contain PRFs but none seen from the ground or features seen only with very limited roost potential.
- *Moderate* – a structure or tree with one or more PRFs 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.

- *High* – a structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Results

Table D.1. Description of on-site buildings and an assessment of their suitability for roosting bats

Building Ref.	Building Description	External features/ evidence	Internal features/ evidence	Bat roost potential
[redacted]	Built in 1879 with numerous extensions added over the years this buildings comprises a combination of construction methods. Brick built throughout there are two, three and four storey sections. Roof structures vary throughout the building, comprising a combination of pitched designs, with flat clay tiles. Restricted sections of tile hanging are present on numerous aspects throughout the building. Loft spaces are present throughout, the majority of which are lined with timber sarking and several are unlined.	No evidence of roosting bat was recorded. The following features were recorded which could be utilised by roosting bats: numerous lifted and missing flat roofing tiles, lifted areas of lead flashing on the roof. Traditional wooden sash windows were also recorded though these appeared to be well fitted at the time of survey.	Single brown long-eared bat confirmed roosting within loft space 3 (TN 1, Habitats Plan, Appendix A). In addition, scattered bat droppings, characteristic in shape and size of brown long-eared bat, were recorded throughout loft spaces 1, 2, 3, 4, 5 and 6. No access was possible to loft spaces 8 and 9 due to access restrictions. No additional roosting bats were recorded.	Confirmed - three surveys recommended.
[redacted]	Single-storey building of masonry construction with hip and valley pitched roof covered in flat clay tiles. Separate loft space.	Numerous slipped and missing roofing tiles (mostly on the eastern aspect).	No loft inspection was carried out on the grounds of risk posed by asbestos to health and safety.	High – three surveys recommended.
B3 (Chemistry building)	Single storey building of retendered masonry construction with shallow pitched roof, covered in	Small gaps between rendered walls and	False ceiling to shallow pitched roof. Combination	Low – one survey recommended.

Table D.1. Description of on-site buildings and an assessment of their suitability for roosting bats

Building Ref.	Building Description	External features/ evidence	Internal features/ evidence	Bat roost potential
	bitumen based felt.	plastic bargeboard on eastern apex. No droppings or evidence of bat noted.	of metal and wooden frame of modern construction. Roof comprises plywood boards with outer bitumen based felt applied directly over. No features or evidence.	
B4 (Built 2012/ Walden Prep School)	Two storey building of masonry construction with multi-pitched roof covered in flat fabricated tiles.	Built in 2012 the building is in commensura te condition with well-fitting external features. No features suitable for bats or evidence of bats noted.	Loft spaces are limited to the eave spaces. Insulation installed between timber roofing purlins and then lined with sheet plastic limited the scope of inspection but also provided negligible opportunities for ingres or egress from the main loft space. No evidence or features noted.	Negligible – no further survey work recommen ded.
B5 (Built 2012)	Two storey building of masonry construction with pitched roof covered in flat fabricated tiles.	Built in 2012 the building is commensura te in condition with well-fitting external features. No features suitable for bats or evidence of bats noted.	Loft spaces are limited to the eave spaces. Insulation installed between timber roofing purlins and then lined with sheet plastic limited the scope of	Negligible – no further survey work recommen ded.

Table D.1. Description of on-site buildings and an assessment of their suitability for roosting bats

Building Ref.	Building Description	External features/ evidence	Internal features/ evidence	Bat roost potential
			inspection but also provided negligible opportunities for ingres or egress from the main loft space. No evidence or features noted.	
B6 (Leicester Building)	Two storey building of masonry construction with T shaped Dutch gable roof covered in flat fabricated roofing tiles. Likely of late 20th century construction.	Well fitted roofing tiles recorded throughout. Restricted section of well fitted tile (slate-like) hangings with no gaps recorded. Well-fitting timber bargeboards. No features suitable for bats or evidence of bats noted.	Loft spaces throughout the building of fink timber construction, lined with bitumen based felt. No egress/ ingress points noted and minimal detritus throughout, indicating through sealing. No evidence of bat recorded.	Negligible – no further survey work recommended.
B7 (Language Building)	Two storey building of masonry construction with pitched roof covered in flat, closely fitting, clay tiles.	Well fitted roofing tiles recorded. One lifted tile noted on the southern elevation. Well-fitting timber bargeboards. No features suitable for bats or evidence of bats noted.	No loft inspection was carried. Loft spaces inaccessible on ground of health and safety.	Negligible – no further survey work recommended.
[redacted]	Two storey building of masonry construction with pitched roof covered in flat clay tiles. A modern extension is also present on the northern elevation comprising a single storey masonry built structure with a flat bitumen based felt	Numerous slipped and missing roof tiles on the pitched roof.	A loft space is present along the length of the original part of the building. The loft is lined with close	Moderate - two surveys recommended.

Table D.1. Description of on-site buildings and an assessment of their suitability for roosting bats

Building Ref.	Building Description	External features/ evidence	Internal features/ evidence	Bat roost potential
	covered roof and sizeable roof lantern/window.		fitting timber sarking throughout. The modern extension has no loft space. The construction of this part of B8 is not suitable for bats. No evidence of bat recorded.	
B9 (Gallery)	Single storey building of masonry construction with pitched roof covered in flat clay tiles with timber barge board.	Missing sections of mortar in tiling at gable southern end.	No loft space present. Internals are well lit by windows and in good state of repair.	Low – one survey recommended.
B10 (Essex Building)	Two storey building of masonry construction with L shaped pitched roof covered in flat clay tiles.	Gap noted in timber barge board on eastern elevation. Roofing tiles in place with no gaps noted.	Loft space present throughout with timber rafters, ridge board and no additional supporting timbers creating an uncluttered environment. Loft lined with bitumen based felt. No egress/ ingress points or evidence of bat recorded.	Moderate - two surveys recommended.
B11 (Workshop)	Single storey building of masonry construction with a shallow pitched, single skin corrugated cement bonded sheet roof and several skylight sections.	None.	No loft space present. Internals well-lit by skylights	Negligible – no further survey work recommended.
B12 (C.D.T Building)	Built in three single storey sections of differing construction types. One section is of masonry construction with a pitched roof covered in flat clay tiles. A restricted section of	Air vent on the eastern and western gable ends of the pitched roof providing	The only separate loft space within the building was within the section with a	Moderate – two surveys recommended.

Table D.1. Description of on-site buildings and an assessment of their suitability for roosting bats

Building Ref.	Building Description	External features/ evidence	Internal features/ evidence	Bat roost potential
	inaccessible loft space is present within this part of the building. The second section is of masonry construction with a flat roof and parapet walls. The third section connects parts 1 and 2 and has a flat lead sheet roof. The sides of this section of building are clad in timber weather boarding.	potential access point for bats. Several gaps in masonry. Weather boarding is close fitting and is not assessed to provide a roosting feature. No evidence of bat recorded.	pitched roof. This loft space was inaccessible with no loft hatch or other access point recorded.	
B13	Single skinned timber framed shed with single skinned pitched roof covered in bitumen based felt.	Tongue and groove cladding closely fitting. No evidence noted.	No separate loft space. Timber sarking on roof. Space well-lit my natural light through windows.	Negligible – no further survey work recommended.
B14 (Croydon House Building)	Two storey building of masonry construction with hipped roof covered in slate tiles. The building has been extended with a contemporary two storey, masonry constructed section with a flat roof.	Mortar and roof tiles are mostly intact throughout. However several missing roofing tiles and crack in the masonry were noted within the original part of the building. No evidence of bat recorded.	The loft space within the original part of the building is unlined with slates nailed directly onto the timber purlins. This facilitated the inspection and has resulted in a relatively draughty loft space. Though slates are well fitting several points of ingress/egress were noted, including from the missing tile noted on the external. No suitable internal	Moderate (original part of building only) – two surveys recommended.

Table D.1. Description of on-site buildings and an assessment of their suitability for roosting bats

Building Ref.	Building Description	External features/ evidence	Internal features/ evidence	Bat roost potential
			features associated with the flat roof extension. No evidence of bat recorded.	
[redacted]	Single storey building of masonry construction with flat roof, roof lanterns throughout and timber weather boarding along the roof line.	The timber weather boarding has become raised in places leaving numerous gaps which could be exploited by roosting bats.	No features or evidence recorded.	High – three surveys recommended.
B16 (Assembly Hall)	Single storey building of masonry construction with pitched roof covered in interlocking pan tiles. Flat roofed section on northern elevation.	Gap in tiles and hole in soffit on eastern elevation	No loft inspection was carried out on the grounds of risk posed by asbestos to health and safety.	Moderate - two surveys recommended.
B17 (Laundry Building)	Single storey building of masonry construction with a mock Tudor timber frame and render in parts and Dutch gable roof covered in flat clay tiles.	Numerous lifted and missing roof tiles and slatted air vents in the gable ends provide potential features which could be used by roosting bats. No evidence of bat recorded.	No access was possible to the loft space of the building due to no loft hatch being present. Therefore a loft inspection was not carried out.	Moderate - two surveys recommended.
B18 (LSU)	Single storey building of masonry construction with accommodation built into the pitched roof, covered in interlocking pan tiles. Overhanging eves with timber sarking and dormer windows also present.	Roofing tiles are closely fitting. No features of evidence of bats recorded.	No loft present. Internal accommodation well-lit natural light from skylights.	Negligible – no further survey work recommended.
B19	Single storey building of masonry construction with	Roof tiles and other	No internal access.	Negligible – no further

Table D.1. Description of on-site buildings and an assessment of their suitability for roosting bats

Building Ref.	Building Description	External features/ evidence	Internal features/ evidence	Bat roost potential
	pitched roof covered in flat tiles. Building of modern construction.	external features closely fitting. No roosting features or evidence of bats recorded.	Inspection through slotted door revealed no separate loft space is present. Skylight in roof created a well-lit internal space. Breathable roofing membrane present.	survey work recommended.
B20 (Swimming Pool)	Single storey building of masonry construction with a pitched roof and interlocking clay pan tiles. Timber bargeboards and a roof lantern which runs the length of the ridge line are present.	Small gap recorded between building walls and the timber bargeboards. These were noted as being detritus filled. No evidence of bat was recorded.	No loft spaces present. The internal space it well illuminated by a roof lantern which runs the building length.	Negligible – no further survey work recommended.
[redacted]	Single storey sports hall building of masonry construction with flat roof. Timber cladding is present around the roof line.	Areas of missing timber cladding around the roof line, particularly on the western elevation have given rise to numerous potential roosting features and points of ingress/ egress.	No loft spaces present. No features of evidence of bat recorded.	High – three surveys recommended.

Appendix E

Great Crested Newt Habitat Suitability Index (HSI)

CSA
environmental

Dixies Barns, High Street, Ashwell,
Hertfordshire SG7 5NT
t 01462 743647
e ashwell@csaenvironmental.co.uk
w csaenvironmental.co.uk

Suite 1, Deer Park Business Centre, Eckington,
Pershore, Worcestershire WR10 3DN
t 01386 751100
e pershore@csaenvironmental.co.uk
w csaenvironmental.co.uk

Office 20, Citibase, 95 Ditchling Road,
Brighton BN1 4ST
t 01273 573871
e brighton@csaenvironmental.co.uk
w csaenvironmental.co.uk