

---

# **Preliminary Ecological Appraisal**

---

**Chaseways, Russels Rd, Halstead  
Essex**

**for**

**Cox Design**

**5 July 2021**

---

**Client**

Cox Design

---

---

**Planning authority**

Braintree District Council

---

***Time limit of reliance***

*Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.*

*Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).*

Document	Preliminary Ecological Appraisal
Version	1.0
Date	5 July 2021
Authors	Miranda Proctor B.Sc (Hons), Natural England licences (Bat survey level 1, Great crested newt level 1)
Reviewer	Etienne Swarts B.Compt (Hons), F.Deg.Sc, ACIEEM, Natural England licences (Bat survey level 2, Great crested newt level 2)

***Signed disclosure***

*The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.*

*Etienne Swarts, ACIEEM*

**Greenlight Environmental Consultancy Limited**

Diss Business Hub  
Hopper Way  
Diss  
Norfolk  
IP22 4GT  
[www.greenlightco.co.uk](http://www.greenlightco.co.uk)



## **Table of Contents**

<b>SUMMARY</b>	<b>4</b>
<b>1. METHOD</b>	<b>6</b>
<b>2. SITE CONTEXT</b>	<b>6</b>
<b>3. DESCRIPTION OF THE DEVELOPMENT</b>	<b>8</b>
<b>4. DESKTOP REVIEW</b>	<b>8</b>
<b>5. FIELD STUDY</b>	<b>11</b>
<b>6. DISCUSSION AND CONCLUSIONS</b>	<b>28</b>
<b>7. BIBLIOGRAPHY</b>	<b>32</b>
<b>APPENDIX A</b>	<b>METHODS</b>
<b>APPENDIX B</b>	<b>MAP OF PROTECTED SITES WITHIN 2KM</b>
<b>APPENDIX C</b>	<b>PROTECTED SITES CITATIONS</b>
<b>APPENDIX D</b>	<b>LEGISLATION</b>
<b>APPENDIX E</b>	<b>PLANT SPECIES RECORDED ON SITE</b>
<b>APPENDIX F</b>	<b>EXAMPLES OF BAT AND BIRD BOXES</b>
<b>APPENDIX G</b>	<b>EXAMPLES OF HEDGEHOG FRIENDLY FENCING</b>
<b>APPENDIX H</b>	<b>NATIVE SPECIES SUITABLE FOR PLANTING AND SOWING</b>
<b>APPENDIX I</b>	<b>PROPOSED PLANS</b>

## SUMMARY

- Greenlight Environmental Consultancy Ltd. has been commissioned to carry out a Preliminary Ecological Appraisal for a proposed development at Chaseways, Russels Rd, Halstead, Essex, CO9 1SP (grid reference: TL).
- This report outlines the habitat features on site, the likelihood of protected species being present and any potential effects of the proposed development on such species.
- The ecology report is required in support of a planning application for the demolition of the existing dwelling and construction of a new residential dwelling on similar footprints.
- The survey and assessment were completed by independent, qualified and experienced ecologists with Natural England survey licences for the relevant protected species.
- The findings of the assessment are that the habitats on the site are of **low** ecological value and that there are no significant ecological constraints that would prevent the proposed works.
- Further surveys for **bats** are required to inform an ecological impact assessment of the site and an appropriate mitigation strategy.
- If the following mitigation and enhancements are incorporated into the proposed layout, there will be a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Protected sites	One statutory and ten non-statutory protected sites within 2km.	No significant impacts on protected sites and their qualifying features.	None required.
Protected habitats and habitats subject to conservation designations	The existing dwelling, areas of hardstanding, amenity grassland and introduced shrub will be removed as part of the proposed works. No Priority Habitats will be affected.	Low scale of habitat loss predicted for wildlife.	<u>Mitigation</u> Soft landscaping scheme to include the planting of new native species-rich hedgerows and trees on and around the site. Construction work to be carried out in accordance with BSI (2012), BS 5837:2012, to protect trees and their root protection areas.
Bats	<b>Low</b> bat roosting potential in dwelling on site. <b>Moderate</b> bat roosting potential in garage on site. <b>Negligible</b> bat roosting potential in trees located on site. <b>Low</b> value commuting and foraging habitat on site.	Potential disturbance of bat roosts if present in buildings. Low scale loss and potential light disturbance of commuting and foraging habitats on site.	<u>Mitigation</u> One activity survey to be conducted on the dwelling between May and August. If works alter to include the garage on site, two activity surveys will be required between May and September. The results of these surveys will determine an appropriate mitigation strategy. A European Protected Species Mitigation License will be required. The development is able to accommodate

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
			mitigation such as a bat loft and/or bat boxes. Lighting schemes should comply with Bat Conservation Trust and CIE 150:2003 guidance.
Breeding birds	Nesting habitats for scrub, hedgerow, tree and building nesting birds present on site, including potential breeding habitat for five Red and four Amber listed species. No suitable barn owl foraging habitat on site.	Low scale loss of nesting habitat on site. Potential disturbance to breeding birds.	<u>Mitigation</u> Works to any scrub, hedgerow, trees and buildings on site to be conducted outside bird nesting season or under watching brief of ecologist if during nesting season. <u>Enhancement</u> Installation of one integrated swift box and one integrated sparrow terrace, installed on the new building.
Great crested newts	Predominantly unsuitable terrestrial habitats on site. Four ponds within 250m of the site, two assessed as <b>poor</b> to <b>average</b> suitability, and two could not be accessed for detailed assessment. Site falls within Amber risk zone for district level licensing. No GCN records within 2km.	GCN unlikely to be present within proposed area of works. Removal of pond located on site.	<u>Precautionary mitigation</u> Cut and maintain vegetation short (maximum height of 10cm) on and around the site until the start of works.
Reptiles	Habitats on site predominantly unsuitable. Three reptile records within 2km.	Reptiles unlikely to be found on site due to small quantities of suitable habitats present. No impacts predicted.	<u>Precautionary mitigation</u> Cut and maintain vegetation short (maximum height of 10cm) on and around the site until the start of works.
Other animals	N/A	Potential harm to animals.	<u>Mitigation</u> Porous hedgehog friendly fencing should be used within and around the site. Rough sawn planks placed inside any open excavations. Night lighting of the construction site should be minimised as far as possible. Construction materials should be stored off the ground on pallets.

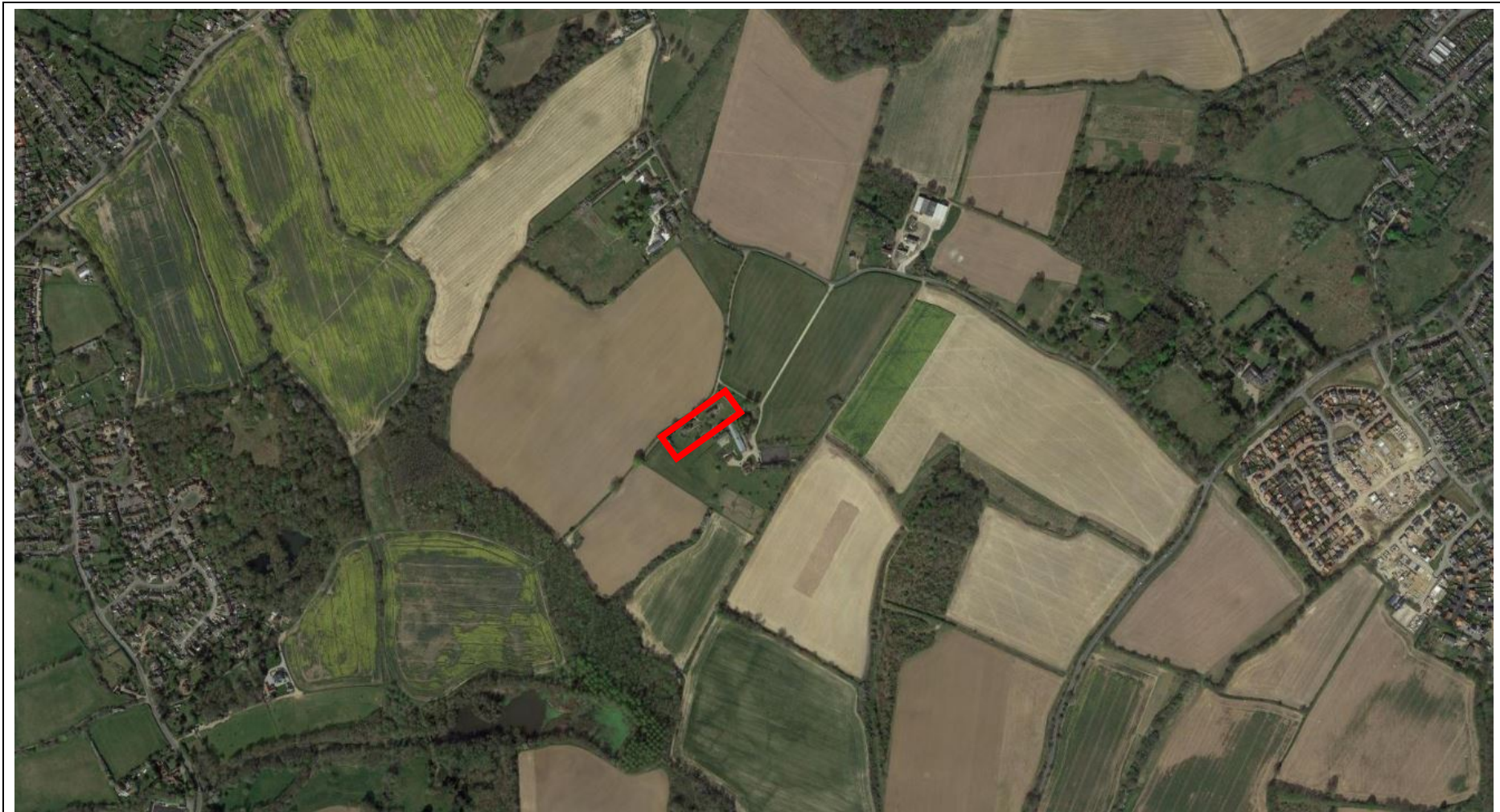
## 1. METHOD

- 1.1. A walkover of the site was conducted on 14<sup>th</sup> June 2021 by Miranda Proctor – an independent, qualified and experienced ecologist. Survey conditions were as follows: 25°C, 10mph wind, sunny and dry.
- 1.2. All survey methods were carried out in accordance with the most up to date good practice guidance for the relevant protected species. Please refer to Appendix A for the full methodology and species breakdown.
- 1.3. The habitats on and directly adjacent the site were considered unsuitable for the following protected species and no further surveys or mitigation for these species are detailed in this report:
  - Water vole *Arvicola amphibius*
  - Otter *Lutra lutra*
  - White-clawed crayfish *Austropotamobius pallipes*
  - Badger *Meles meles* (setts)
  - Hazel dormouse *Muscardinus avellanarius*
  - Natterjack toad *Epidalea calamita*

## 2. SITE CONTEXT

### Location

- 2.1. The general location of the site is shown in Figure 1 below.
- 2.2. The site is situated in a rural setting approximately 0.9km east of Gosfield and 1.1km west of Halstead, with Bourne Brook approximately 0.5km south, the A131 located approximately 0.7km east and Braintree Rd approximately 1km west.
- 2.3. The site is enclosed by an access track to the north, neighbouring farm to the south and improved grassland to the east and west. The wider surroundings are comprised of a mixture of residential dwellings, blocks of woodland and arable fields lined with mature trees and hedgerows.



**Figure 1**  
Satellite image of site surroundings, site indicated by red line.  
Image © Google, date accessed 18/06/21

### 3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the demolition of the existing dwelling, and construction of a new residential dwelling on similar footprints. Please refer to Appendix I for the proposed plans.

### 4. DESKTOP REVIEW

#### Protected sites

##### *Statutory*

- 4.1. There is one statutory protected site located within 2km – one Local Nature Reserve (“LNR”).
- i. Gosfield Sandpits, Braintree LNR, approximately 0.5km west.  
*“Gosfield Nature Reserve is on the site of former sand and gravel workings.” (Woodland Trust, 2020)*
- 4.2. The proposed development falls outside of all SSSI Impact Risk Zones, being a rural residential development.

##### *Non-statutory*

- 4.3. There are 10 non-statutory protected sites located within 2km – 10 Local Wildlife Sites (“LoWS”). Please refer to Appendix C for the full citations.
- i. Bra116 Whiteash Wood LoWS, approximately 2km southwest.  
*“This ancient woodland site has been largely replanted with a mixture of mainly Pedunculate Oak (*Quercus robur*), Ash (*Fraxinus excelsior*), Alder (*Alnus glutinosa*), Cherry (*Prunus sp.*) and conifers along with many other broadleaved species in lesser quantities. The ground flora is luxuriant in the recent plantations, with many ruderal species amongst the woodland flora.”*
- ii. Bra122 Gosfields Pits LoWS, approximately 0.5km west.  
*“This site comprises a series of disused gravel pits, where ponds, acid grassland, scrub and woodland have developed. Barring a small fragment of habitat on the west side, the remainder now forms Gosfield Nature Reserve.”*
- iii. Bra125 The Slip CWS, approximately 2km south.  
*“This narrow stretch of woodland is dominated by Pedunculate Oak (*Quercus robur*), some Birch (*Betula sp.*) and a Hazel (*Corylus avellana*) understorey. The ground flora includes Bluebell (*Hyacinthoides non-scripta*), Woodruff (*Galium odoratum*) and Foxglove (*Digitalis purpurea*).”*



- iv. Bra127 Broak's Wood LoWS, approximately 1.2km north.  
*"The majority of this wood is ancient, largely replanted with both coniferous and broadleaved species."*
- v. Bra131 Rayne Hatch Wood LoWS, approximately 1.6km south.  
*"This large ancient wood has been extensively replanted with Poplars (Populus sp.), Larch (Larix sp.), Scots Pine (Pinus sylvestris) and Sweet Chestnut (Castanea sativa), with Pedunculate Oak (Quercus robur), Silver Birch (Betula pendula), Hazel (Corylus avellana) and Elder (Sambucus nigra) also present. The ground flora is poor due to the detrimental effects of the forestry management."*
- vi. Bra132 Aldercar Wood Valley LoWS, approximately 0.8km south.  
*"This small stream valley site with Alder (Alnus glutinosa) lining the lower slopes and young plantation on the upper slopes is noted for a marshy central flush area."*
- vii. Bra137 Great Spansey Wood LoWS, approximately 0.6km north.  
*"Great Spansey Wood comprises Small-leaved Lime (Tilia cordata) coppice with a mix of Pedunculate Oak (Quercus robur), Ash (Fraxinus excelsior), Silver Birch (Betula pendula) and some Hornbeam (Carpinus betulus) coppice."*
- viii. Bra148 Sloe Hill Meadows LoWS, approximately 1.9km northeast.  
*"This site slopes steeply down to a wet valley bottom. Typical species present in the wetter zones include Cuckooflower (Cardamine pratensis), Ragged Robin (Lychnis flos-cuculi) and Creeping Jenny (Lysimachia nummularia). Such marshy sites are an increasingly scarce habitat in Essex."*
- ix. Bra149 Chapel Hill Meadow LoWS, approximately 1.3km northeast.  
*"Located on the western outskirts of Halstead, Chapel Hill Meadow has a varied flora that reflects the poorly drained conditions."*
- x. Bra 150 Sloe Cottage Meadow LoWS, approximately 1.6km northeast.  
*"The sward of this meadow is composed of Creeping Bent-grass (Agrostis stolonifera), Meadow Foxtail (Alopecurus pratensis), Sweet Vernal Grass (Anthoxanthum odoratum), Cock's-foot (Dactylis glomerata), Cat's-tails (Phleum spp.) and Crested Dog's-tail (Cynosurus cristatus). Of particular interest is the presence of Ragged Robin (Lychnis flos-cuculi) in damper areas generally dominated by Rushes (Juncus spp.)."*

### **Protected habitats and habitats subject to conservation designations**

- 4.4. Priority Habitats, as listed under the NERC Act 2006 Section 41 Habitats of Principal Importance found on site include: Hedgerows.
- 4.5. Other Priority Habitats to occur within 2km (identified using MAGIC – managed by Natural England), include Coastal and Floodplain Grazing Marsh, Good Quality Semi-Improved Grassland, Deciduous Woodland, Traditional Orchards and Woodpasture and Parkland BAP Priority Habitat. The closest of which, is Deciduous Woodland located approximately 350m east of the site.

### **Protected species**

- 4.6. The biodiversity data search within 2km of the site indicated 132 records from 63 species.
- 4.7. Records of note within 2km and relevant to the proposed development works are:
  - One swift *Apus apus* records, with the most recent from 2017.
  - Three reptile records, with the most recent from 2017. The closest record is located approximately 1km west. Species include: slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara* and grass snake *Natrix Helvetica*.
  - Fourteen hedgehog *Erinaceus europaeus* records, with the most recent from 2020.
  - Fifteen bat records, with the most recent from 2018, including common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, unidentified pipistrelle *Pipistrellus sp.*, brown long-eared *Plecotus auritus* and Daubenton's *Myotis daubentonii*.

### **Protected species licences**

- 4.8. A 2km search on <http://www.magic.gov.uk/> indicated no records of granted European Protected Species ("EPS") Mitigation Licences.

## 5. FIELD STUDY

### Habitats

- 5.1. The habitats on the site are of **low** ecological value, being mainly amenity grassland managed as lawn, introduced shrub, tall ruderal vegetation, scattered trees, hardstanding and buildings. Hedgerows occur along site boundaries.
- 5.2. Figure 2 provides a phase 1 map of the habitats present on the site. NERC Act 2006 Section 41 habitats have been identified where relevant. A full list of plant species recorded on site is attached in Appendix E.

#### *Scrub (phase 1 habitat classification A2)*

- 5.3. The site features a small area of scrub along the northern boundary; the habitat is dominated by gorse *Ulex europaeus* and bramble *Rubus fruticosus*.

#### *Parkland and scattered trees (phase 1 habitat classification A3)*

- 5.4. The site contains several scattered trees. Species include: apple *Malus sp.*, ash *Fraxinus excelsior*, cherry *Prunus sp.*, English oak *Quercus robur*, false acacia *Robinia pseudoacacia*, hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, Lawson's cypress *Chamaecyparis lawsoniana*, silver birch *Betula pendula* and willow *Salix sp.*

#### *Tall ruderal (phase 1 habitat classification C3.1)*

Tall ruderal vegetation occurs at the base of the eastern boundary hedgerow. Species include: barren brome *Bromus sterilis*, cleavers *Galium aparine*, cocksfoot *Dactylus glomerata*, common chickweed *Stellaria media*, false oat grass *Arrhenatherum elatius*, nettle *Urtica dioica*, red dead nettle *Lamium purpureum*, smaller cat's-tail *Phleum bertolonii*, thistle *Cirsium sp.*, white dead nettle *Lamium album* and Yorkshire fog *Holcus lanatus*.

#### *Standing water (phase 1 habitat classification G1)*

- 5.5. A small garden pond is located west of the existing dwelling. Please refer to the GCN section below for further details.

#### *Amenity grassland (phase 1 habitat classification J1.2)*

- 5.6. The majority of the site is comprised of amenity grassland managed as lawn. Species include: annual meadow grass *Poa annua*, common mouse-ear *Cerastium fontanum*, cranesbill

*Geranium sp.*, creeping buttercup *Ranunculus repens*, creeping cinquefoil *Potentilla reptans*, daisy *Bellis perennis*, dandelion *Taraxacum sp.*, fescue *Festuca sp.*, perennial rye grass *Lolium perenne*, smaller cat's-tail, white clover *Trifolium repens*, yarrow *Achillea millefolium* and yorkshire fog.

*Introduced shrub (phase 1 habitat classification J1.4)*

- 5.7. The site featured areas of introduced shrub. Species include: buddleia *Buddleja sp.*, flowering quince *Chaenomeles sp.*, foxglove *Digitalis sp.*, Indian currant *Symphoricarpos orbiculatus*, ladies bonnet *Aquilegia vulgaris*, lupin *Lupinus sp.*, palm *Arecaceae sp.* and rose *Rosa sp.*

*Intact, species-poor hedge (phase 1 habitat classification J2.1.2)*

- 5.8. The site features an intact, species-poor hedgerow which encloses an area of hardstanding; the hedgerow is comprised of privet *Ligustrum sp.* This hedgerow is not classified as Priority Habitats under the NERC Act 2006 Section 41 Habitats of Principal Importance, nor does it qualify as "important" under The Hedgerow Regulations 1997, lacking the required characteristics.
- 5.9. The site features an intact, species-poor hedgerow along the southern site boundary, comprised of European filbert *Corylus avellana*, giant filbert *Corylus maxima* and hornbeam *Carpinus betulus*. This hedgerow is not classified as Priority Habitats under the NERC Act 2006 Section 41 Habitats of Principal Importance, nor does it qualify as "important" under The Hedgerow Regulations 1997, lacking the required characteristics.

*Intact, species-rich hedge with trees (phase 1 habitat classification J2.3.1)*

- 5.10. The site features an intact, species-rich hedgerow with trees, which runs along the west, north and east boundaries. Species include: bramble, blackthorn *Prunus spinosa*, elder *Sambucus nigra*, English oak, hawthorn, holly and Lawson's cypress. This hedgerow is classified as Priority Habitats under the NERC Act 2006 Section 41 Habitats of Principal Importance, but does not qualify as "important" under The Hedgerow Regulations 1997, lacking the required associated features.

*Fence (phase 1 habitat classification J2.4)*

- 5.11. The site contains post and rail fencing which encloses site boundaries.

*Wall (phase 1 habitat classification J2.5)*

5.12. The site contains a mixture of brick and breezeblock walls.

*Buildings (phase 1 habitat classification J3.6)*

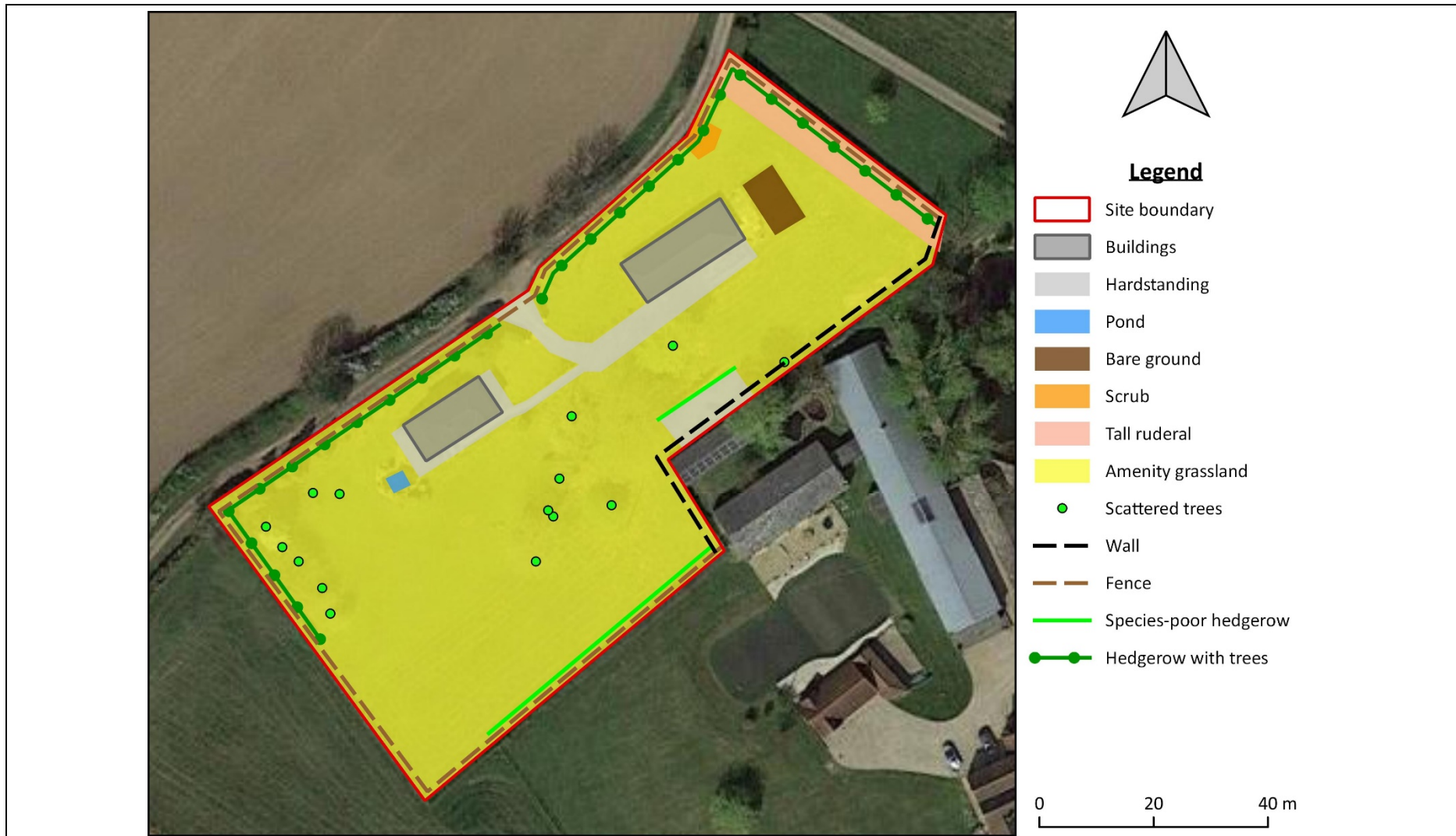
5.13. There are two buildings on site. Please refer to the bat section detailed below for further information.

*Bare ground (phase 1 habitat classification J4)*

5.14. The site features an area of bare ground which has been cultivated for growing vegetable crops.

*Hardstanding (phase 1 habitat classification J5)*

5.15. The site features a concrete hardstanding.



**Figure 2**  
Phase 1 habitats on site.  
Image © Google, date accessed 28/06/21



**Photo 1**, the north entrance off of the north access track, looking south.



**Photo 2**, looking northwest across the site from the southeast corner.



**Photo 3**, looking northeast across the site from the southwest corner.



**Photo 4**, the species-rich hedgerow with trees which runs along the west, north and east site boundaries.





**Photo 5**, the species-poor hedge which encloses part of the south boundary.

## Bats

5.16. There are two buildings located on site, as indicated in Figure 3 and photos 6-10.



### *Building one*

5.17. The dwelling is constructed of rendered brick walls, with a pitched slate tile roof. The dwelling features PVC soffit boxes, PVC window frames and PVC doors. Tightly fitted lead flashing is present at chimney joins. No internal access to the dwelling was available during the survey.

5.18. Roosting opportunities are present under distorted and raised roof tiles, and within the loft space. No external evidence of bat presence was observed.

5.19. The dwelling is assessed as **low** roost suitability for bats due to its location and roosting features.



**Photo 6**, south and east aspects of the dwelling on site.



**Photo 7**, lifted and distorted tiles on the northwest corner of the building provides potential roosting feature and/or access point to the loft space.

*Building two*

- 5.20. The garage is constructed of a mixture of brick and weatherboard walls, with a pitched concrete pan tile roof. The garage features open eaves, timber framed windows, timber doors and metal garage doors. No internal access to the dwelling was available during the survey; only a small stable section was accessible to the east of the garage and two bird nests were observed (please see bird section below for further details).
- 5.21. Roosting opportunities are present within the loft space, between gaps of timber, brick and weatherboard. No evidence of bat use was observed externally.
- 5.22. The garage is assessed as **moderate** roost suitability for bats due to its location and roosting features.



**Photo 8**, south and west aspects of the garage on site.



**Photo 9**, gaps in brickwork provide suitable roosting features and access points.



**Photo 10**, gaps beneath weatherboard, between timber and brick and in open eaves provide suitable roosting features and access points.

### Trees

5.23. The trees around the site boundary were assessed for bat roosting potential and were considered unsuitable due to their age and/or lack of features.

### Foraging and commuting links

5.24. The site provides **low** value foraging and commuting habitat for bats along boundary hedgerows.

5.25. The landscape immediately adjacent to the site is considered of **moderate** value for foraging and commuting bats, with linked hedgerows, treelines and the Bourne Brooke (approximately 0.5km south of the site) providing links to the wider landscape. Residential dwellings adjacent the site and within Gosfield (approximately 0.9km east) and Halstead (approximately 1.1km west) have the potential to provide roosting opportunities for bats.

### Birds

5.26. Birds in the UK are classified into three categories of conservation importance - red, amber and green. Factors such as global threat level, population decline, breeding population decline and contraction of breeding range are taken into account to determine classification.

5.27. The following bird species were observed during the site visit:

#### **Red listed:**

House sparrow	<i>Passer domesticus</i>
---------------	--------------------------

#### **Green listed:**

Blackbird	<i>Turdus merula</i>
Blue tit	<i>Cyanistes caeruleus</i>
Goldfinch	<i>Carduelis carduelis</i>
Great tit	<i>Parus major</i>
Pied wagtail	<i>Motacilla alba</i>
Rook	<i>Corvus frugilegus</i>
Swallow	<i>Hirundo rustica</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

#### **Introduced:**

Pheasant	<i>Phasianus colchicus</i>
----------	----------------------------

- 5.28. The site provides suitable nesting habitats for scrub, hedgerow, tree and building nesting species. An old wood pigeon nest and unidentified nest were observed within the small stable section of building two.
- 5.29. The site provides potential breeding habitat for the following Red listed species: house sparrow *Passer domesticus*, mistle thrush *Turdus viscivorus*, song thrush *Turdus philomelos*, starling *Sturnus vulgaris* and yellowhammer *Emberiza citrinella*.
- 5.30. The site provides potential breeding habitat for the following Amber listed species: bullfinch *Pyrrhula pyrrhula*, dunnock *Prunella modularis*, house martin *Delichon urbicum* and swift *Apus apus*.
- 5.31. No signs of barn owl were found on the site and no foraging habitat is present.

### **Great crested newts**

- 5.32. There is one pond within the survey site and three further ponds within 250m, which for the size of the development and nature of terrestrial habitat on the site, is a sufficient distance to consider for assessment (Figure 4). GCN are most likely to occupy good quality terrestrial habitat within 250m of a breeding pond (English Nature, 2001).
- 5.33. The terrestrial habitats on the site are considered predominantly unsuitable for GCN, consisting of amenity grassland, with small areas of scrub, tall ruderal vegetation and hedgerows along site boundaries.
- 5.34. Terrestrial habitats adjacent the site include a mixture of unsuitable (arable fields and neighbouring farms/dwellings with associated gardens and hardstanding) and suitable (improved grassland, hedgerows and deciduous woodland) GCN foraging, commuting and hibernating habitats.
- 5.35. Ponds one and two were assessed as **poor** to **average** suitability for GCN (Table 1). Ponds three and four were not assessed in detail, as authorised access to the ponds was not available.
- 5.36. Please note, pond one is a man-made pond (lined) with a water depth of <10cm.
- 5.37. The site falls within the Amber risk zone for GCN district level licensing, which is classified as “containing main population centres for GCN and comprise important connecting habitat that aids natural dispersal” (Natural England, 2021).
- 5.38. Bourne Brook approximately 0.5km south, the A131 located approximately 0.7km east and Braintree Rd approximately 1km west, act as habitat barriers and ecologically separate the site from ponds in the local vicinity.

Pond	1	2	3	4
Geographic location	Zone A	Zone A	No access available.	No access available.
	1.00	1.00		
Pond surface area (m <sup>2</sup> )	<50m <sup>2</sup>	350m <sup>2</sup>		
	0.05	0.70		
Desiccation rate	Annually	Never		
	0.10	0.90		
Water quality/ invert density	Poor	Poor		
	0.33	0.33		
Shoreline shade (%)	5%	60%		
	1.00	1.00		
Waterfowl impacts	Absent	Minor		
	1.00	0.67		
Fish impacts	Absent	Possible		
	1.00	0.67		
Ponds within 1km	13+	13+		
	1.00	1.00		
Terrestrial habitat quality	Poor	Poor		
	0.33	0.33		
Macrophyte cover (%)	20%	0%		
	0.50	0.30		
HSI Score	<b>Poor</b>	<b>Average</b>		
	0.44	0.63		

**Table 1**, HSI score for ponds within 250m of the proposed site.

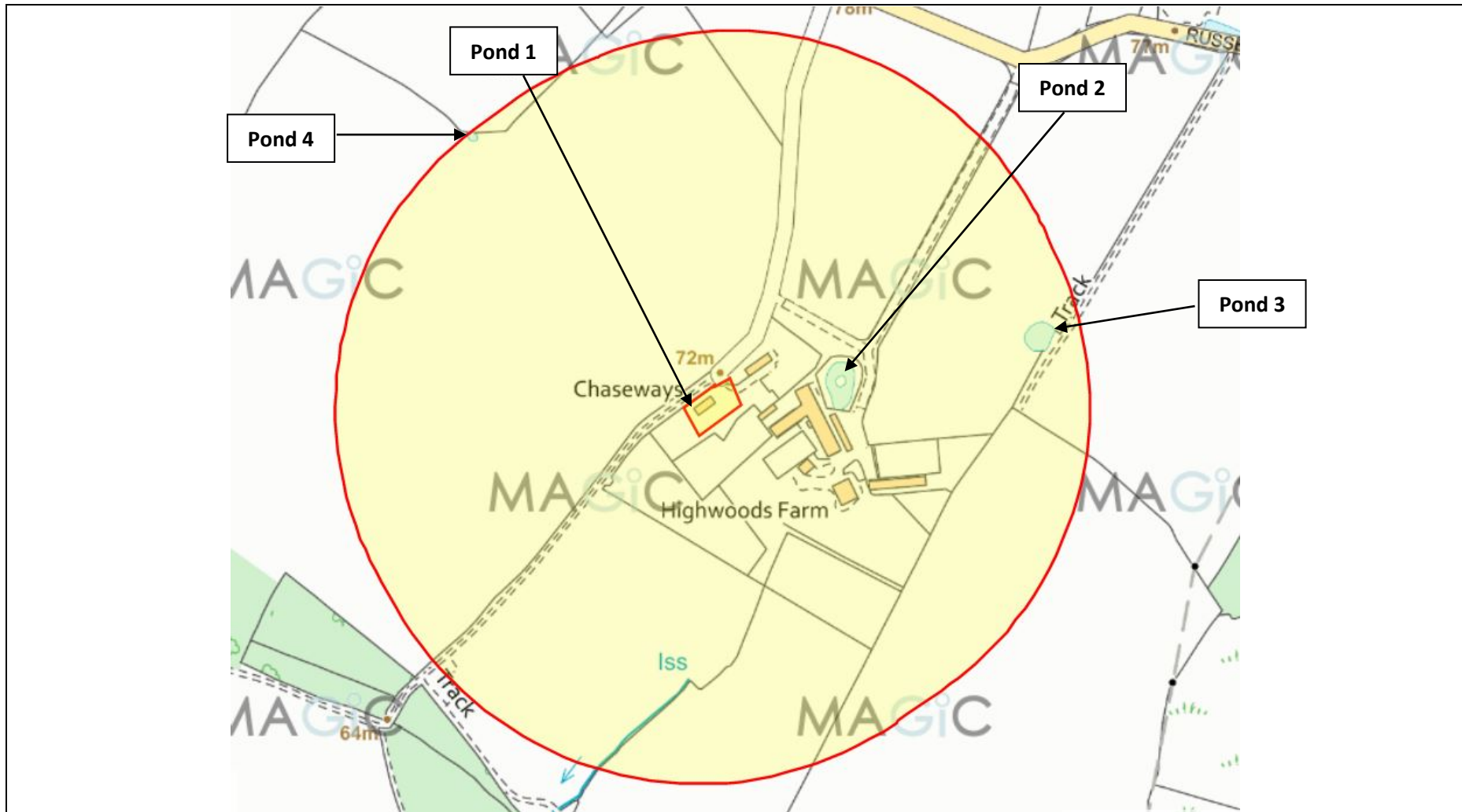


**Photo 11**, pond one, looking east.





**Photo 12**, pond two, looking south.



**Figure 4**  
Ponds within 250m of the proposed site.  
Image © MAGiC, date accessed 28/06/21

## **Reptiles**

- 5.39. The habitats on the site are considered predominantly unsuitable for reptiles, consisting of amenity grassland, with small areas of suboptimal habitat (scrub, tall ruderal vegetation and hedgerows).
- 5.40. Habitats located on the site boundaries including the base of the hedgerows could be used as commuting habitats by reptiles if they were present in the area.
- 5.41. Terrestrial habitats adjacent the site include a mixture of unsuitable (arable fields and neighbouring farms/residential dwellings with associated gardens and hardstanding) and suitable (improved grassland, hedgerows and deciduous woodland) reptiles foraging, commuting and hibernating habitats.
- 5.42. Bourne Brook approximately 0.5km south, the A131 located approximately 0.7km east and Braintree Rd approximately 1km west, may act as habitat barriers and ecologically separate the site from habitats further afield. Please note grass snakes may use water courses including Bourne Brook to commute and forage along.

## 6. DISCUSSION AND CONCLUSIONS

### Protected sites

- 6.1. The development footprint falls outside all identified protected sites (statutory and non-statutory). There is one statutory protected site and ten non-statutory protected sites located within 2km of the site.
- The closest statutory and non-statutory protected site (Gosfield Sandpits LNR and LoWs), is located approximately 0.5km west and designated for its variety of habitats.
- 6.2. The proposed development falls outside of any SSSI Impact Risk Zones relating to rural residential developments.
- 6.3. The proposed development is expected to have no effects on statutory or non-statutory protected sites or their qualifying features, owing to its relatively small scale, distance to protected sites and limited predicted impacts beyond the area of works.

### Habitats

- 6.4. The proposed works will require the demolition of the existing dwelling ( $\approx 0.01$ ha) on site, removal of areas of hardstanding ( $< 0.01$ ha), and the clearance of vegetated habitats on site, including  $\approx 0.01$ ha of amenity grassland and  $< 0.01$ ha of introduced shrub. This is expected to result in a low scale loss of nesting habitat for building nesting birds, and a low scale loss of foraging features for bats. Please refer to the bat section below for predicted impacts on buildings with potential bat roosts.
- 6.5. As a precautionary measure, the following mitigation is recommended to avoid impacts on habitats from the proposed works:
- i. A soft landscaping scheme to include the planting of new native species-rich ( $\geq 5$  species), hedgerows and trees on and around the site (see Appendix H for suggested species).
  - ii. Construction works carried out in accordance with British Standards Institution (2012), BS 5837:2012, Trees in relation to design, demolition and construction – recommendations, to protect trees which are to be retained and their root protection areas.

### Bats

- 6.6. The proposed works will require the demolition of the dwelling on site, which has the potential to materially modify or destroy potential bat roosting locations, if present.

- 6.7. The following surveys/mitigation is recommended to determine if any bat species are present, the nature of their use of the building(s) and any roosting locations:
- i. At least one bat activity survey (comprised of a dusk emergence survey) to be conducted on the existing dwelling on site, between May and August.
  - ii. If works alter to incorporate the garage on site, at least two bat activity survey (comprised of a dusk emergence and a dawn return-to-roost survey) will be required prior to works.
  - iii. If bats are found to be present and roosting within any building(s), further activity surveys and a European Protected Species Mitigation Licence may be required for the development.
  - iv. Lighting schemes should follow guidance from the Bat Conservation Trust and CIE 150:2003. Warm-white (long wavelength) lights with UV filters should be fitted as close to the ground as possible. Lighting units should be angled below 70° and equipped with movement sensors, baffles, hoods, louvres and horizontal cut off units at 90°.
- 6.8. The outcomes of further activity surveys will inform the detailed recommended mitigation for bats. We consider that the construction of new buildings will be able to accommodate this in the form of alternative roosting opportunities, as required.
- 6.9. Building Regulations state that the energy efficiency of buildings must be improved where possible and that contractors must assess the condensation risk within the roof space and make appropriate provisions in line with BS 5250:2011. This British Standard states that both High Resistance (bitumen type 1F) and Low Resistance (NBCRM) underlays are acceptable as long as appropriate ventilation is provided. As NBCRM are proven to entangle bats through regular contact, which also compromises the integrity of the membrane, the Bat Conservation Trust recommend only traditional type 1F bitumen is used.

### **Birds**

- 6.10. The proposed works are expected to result in a low scale loss of bird nesting habitat through the demolition of the existing dwelling on site and clearance of vegetation.
- 6.11. Any works affecting bird nesting habitat such as management of scrub, hedgerows, trees or buildings would ideally need to be conducted outside the main nesting season, which lasts from March to August. If work is planned during the bird nesting season then a precautionary check of all habitats, should be conducted by a qualified ecologist immediately prior to starting any work. If any nesting birds are found, an appropriate protection zone from the nest will be required and should be maintained until the young have fledged.
- 6.12. As enhancements, we recommend the installation of:

- i. One integrated swift box installed on the new dwelling on site (Schwegler Brick Nest Box Type 25 – Appendix F).
  - ii. One integrated sparrow terrace installed on the new dwelling on site (Schwegler 1SP Sparrow Terrace – Appendix F).
  - iii. A soft landscaping scheme to include the planting of new native species-rich ( $\geq 5$  species), hedgerows and trees on and around the site (see Appendix H for suggested species).
- 6.13. Natural England and Local Planning Authorities (“LPA”) have recognised a significant decline in swift populations across the country, and are actively endorsing integrated swift boxes to provide a net gain in biodiversity, as is encouraged by NPPF 2019.

### **Great crested newts**

- 6.14. The proposed works are expected to result in a loss of the small garden pond on site and  $\approx 0.03$ ha terrestrial habitat ( $\approx 0.01$ ha of buildings,  $\approx 0.01$ ha of amenity grassland,  $< 0.01$  introduced shrub and  $< 0.01$  hardstanding).
- 6.15. Pond one is a man-made pond that dries annually, it has a ‘poor’ HSI score, no evidence of eggs present on aquatic vegetation and unsuitable terrestrial habitat adjacent. We therefore consider it would not be a suitable breeding pond.
- 6.16. Taking a worst-case scenario of  $< 0.1$ ha of land being lost or damaged within 100m of a breeding pond, the risk assessment calculation (set out in the GCN method statement template provided by Natural England) indicates an “*offence likely*”, although goes on to state:
- “This generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined.”*
- 6.17. We consider it highly unlikely that GCN would forage and/or commute across the proposed area of works due to predominant unsuitable habitats.
- 6.18. Habitats located within the proposed area of works are considered unsuitable for GCN, consisting predominantly of a building, hardstanding, introduced shrub and amenity grassland.
- 6.19. As a precautionary measure, the following mitigation is recommended to avoid impacts on GCN from the proposed works:
- iv. Vegetation on site should be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.

6.20. After these precautionary mitigation measures, we predict no impact on GCN as a result of the development plans, and no further surveys are necessary.

### **Reptiles**

6.21. The proposed works are not expected to result in a loss of reptile habitat; works will include the clearance of unsuitable reptile habitats ( $\approx 0.01$ ha buildings,  $< 0.01$ ha hardstanding,  $\approx 0.01$ ha amenity grassland and  $< 0.01$ ha introduced shrub).

6.22. Although suitable reptile habitats are present on site, they are in small quantities and not due for removal. As a precautionary measure, the following mitigation is recommended to avoid impacts on reptiles from the proposed works:

- i. Vegetation on site should be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.

6.23. After these precautionary mitigation measures, we predict no impact on reptiles as a result of the development plans, and no further surveys are necessary.

### **Other animals**

6.24. The surrounding habitat of the site is considered suitable for hedgehogs. To maintain potential hedgehog routes within the site and between the site and further habitats, we recommend that any fencing installed is porous and provides access openings for hedgehogs (see Appendix G for examples).

6.25. General mitigation to protect wildlife during the construction period are as follows:

- Any excavations should have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations should be checked each morning works are scheduled for, to remove any animals trapped.
- Lighting of the construction site at night should be minimised as far as practicable, to reduce the risk of possible disruption to nocturnal animals such as bats and badgers.
- Construction materials should be stored off the ground on pallets, to prevent providing shelter for animals and subsequent harm when materials are moved.

## 7. BIBLIOGRAPHY

- Baker, J., Beebee, T., Buckley, J. Gent, T., Orchard, D. (2011). *Amphibian Habitat Management Handbook*. Amphibian and Reptile Conservation: Bournemouth
- Barn Owl Trust (2012). *Barn Owl Conservation Handbook*. Pelagic Publishing: Exeter.
- Bright, P., Morris, P., Mitchell-Jones, T. (2006). *The dormouse conservation handbook*. English Nature
- British Standard BS 42020:2013 *Biodiversity - Code of Practice for planning and development*.
- British Standards Institution (2012). BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations*.
- CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal*.
- Collins, J. (Ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn.)*. The Bat Conservation Trust, London.
- Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R., Lock, L. Musgrove, A., Noble, D., Stroud, D., Richard, G. (2015). *Birds of conservation concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man*. *British Birds* 108, 708-746.
- Edgar, P., Foster, J., Baker, J. (2010). *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation: Bournemouth
- English Nature (2001). *Great Crested Newt Mitigation Guidelines*. Peterborough.
- Gent, A.H. and Gibson, S.D. eds. (1998). *Herpetofauna Workers' Manual*. Peterborough, Joint Nature Conservation Committee.
- Griffiths, R.A., Raper, S.J., Brady, L.D. (1996). *Evaluation of a standard method for surveying common frogs (Rana temporaria) and newts (Triturus cristatus, T. helveticus, and T. vulgaris)*. Joint Nature Conservation Committee Report No. 259.
- International Commission on Illumination (2003). CIE 150:2003, *Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations*.
- JNCC (2010). *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.
- Langton, T., Beckett, C., Foster, J. (2001). *GCN Conservation handbook*. Froglife.
- McLean, I.F.G., JNCC (Drafted by) on behalf of the Inter-agency Translocations Working Group (2003). *A Habitats Translocation Policy for Britain*.
- Mitchell-Jones (2004). *Bat mitigation guidelines*. English Nature: Peterborough
- 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.
- Pearce, G.E. (2011). *Badger behaviour, conservation and rehabilitation*. Pelagic Publishing: Exeter.
- Sewell, D., Griffiths, R.A., Beebee, T.J.C., Foster, J., Wilkinson, J.W. (2013). *Survey protocols for the British herpetofauna*. ARC, DICE University of Kent and University of Sussex.
- Stone, E.L. (2013). *Bats and lighting: Overview of current evidence and mitigation*. University of Bristol.
- Strachan R., Moorhouse T., Gelling, M. (2011). *Water Vole Conservation Handbook Third Edition*. University of Oxford: Abingdon
- Woodland Trust (2021). <https://www.woodlandtrust.org.uk/visiting-woods/woods/gosfield-nature-reserve/>



## Appendix A Methods

### Desktop Review

A desktop review of published data, such as records of protected sites and species, OS maps and satellite images has been carried out. A data search was carried out with the Essex Wildlife Trust Biological Records Centre ("EWTBRC").

A field survey visit was conducted to confirm the findings of the desktop review and to record habitats and species located on site.

Equipment available for use during the survey were binoculars, ladders, torches, endoscope and a digital camera.

### Habitats

The habitats on site have been defined using the Handbook for Phase 1 habitat survey (JNCC, 2010). Natural Environment and Rural Communities (NERC) Act (2006) habitats listed under section 41 have been identified where appropriate.

### Bats

An assessment of the habitats on and surrounding the site for bat interest was made, in accordance with latest bat survey guidelines (Collins, 2016).

The building(s) on site was assessed for its potential to support roosting bats and involved a thorough internal and external search of all suitable cavities, holes and crevices. All suitable areas, including objects, ledges and floors were inspected for the following signs:

- Bat droppings
- Stains around roosting places and entrance points
- Urine marks
- Prey remains
- Areas devoid of cobwebs
- Live or dead bats
- Suitable cracks and crevices for bats to enter

In exposed conditions, the signs of bat usage such as droppings and urine marks can be obliterated by heavy rain.

An evaluation system was applied to the building(s) using the following criteria:

- **Negligible roost suitability for bats.** These buildings have no potential roosting features for bats, or very few or minor features in an isolated or unsuitable location such that the presence of a bat roost is considered highly unlikely. Such buildings usually fall into two main types: generally, well

maintained without cracks and crevices, no gaps between bargeboard or soffit and wall, or without an attic space; or those which contain some or all of the above features, but are both draughty and thick in cobwebs or contain strong odours such as solvents, diesel etc. It must be borne in mind that a building from this latter group can become suitable for bats following refurbishment. This often happens to houses once the attic space has been cleaned and under-felted prior to timber treatment. When no suitable habitats for bats are found, no further surveys or European Protected Species (“EPS”) mitigation licence are required.

- **Low roost suitability for bats.** Buildings in this category have one or more potential roost sites that could be used by individual bat opportunistically. These buildings do not however provide suitable conditions (such as space, shelter, temperature, humidity, or light and noise disturbance) to be used on a regular basis by a large number of bats. Structures with low roost suitability for bats will require **one dusk emergence or one dawn re-entry survey** conducted between May and August to assess their current use by bats.
- **Moderate roost suitability for bats.** These buildings contain one or more potential roosting sites which could be regularly used by bats owing to their size, shelter, protection and conditions. These buildings are however unlikely to support a roost of high conservation status (maternity roost or hibernation roost). Structures with moderate roost suitability for bats will require two surveys, **one dusk emergence and one dawn re-entry survey** conducted between May and September with at least one of the surveys undertaken between May and August, to assess their current use by bats.
- **High roost suitability for bats.** This group includes buildings with one or more potential roost sites which are obviously suitable for use by a larger number of bats on a regular basis and potentially for longer periods of time owing to their size, shelter, protection and conditions. These buildings may support a roost of high conservation status (maternity roost or hibernation roost) and will require three activity surveys to assess their current use by bats. The surveys should include at least **one dusk emergence and** at least **one dawn re-entry survey** (the third survey can either be at dusk or dawn) and should be conducted between May and September with at least two of surveys undertaken between May and August.

Trees on and around the site were assessed for their suitability to support roosting bats. The assessment involved a ground level inspection of the exterior of the trees to search for features offering roosting potential to bats such as split limbs, woodpecker holes, cavities, lifted bark and dense thick-stemmed ivy.

An evaluation system was applied to the trees using the following criteria:

- **Negligible roost suitability for bats.** Trees unlikely to be used by roosting bats.
- **Low roost suitability for bats.** A tree of sufficient size and age to contain Potential Roosting Features (“PRFs”), but with none seen from the ground or features seen with only very limited roosting potential.

- **Moderate roost suitability for bats.** A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
- **High roost suitability for bats.** A 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 and surrounding habitat.

The habitats on and around the site were assessed for their commuting and foraging potential for bats. An evaluation system was applied to the commuting and foraging potential using the following criteria.

- **Negligible commuting and foraging potential for bats.** Habitat features unlikely to be used by commuting or foraging bats.
- **Low commuting and foraging potential for bats.** Habitats that could be used by a small number of commuting or foraging bats such as, a gappy hedgerow, unvegetated stream or lone trees, but are isolated and not well connected to the surrounding landscape.
- **Moderate commuting and foraging potential for bats.** Habitats that are continuous and connected to the wider landscape such as, lines of trees, scrub, linked back gardens, grasslands and water features.
- **High commuting and foraging potential for bats.** Habitats that are continuous and connected to the wider landscape such as, river valleys, watercourses, hedgerows, lines of trees, deciduous woodland, and grazed parkland. These habitats are likely to be used regularly by commuting or foraging bats and are likely to be close to, or connected to, known roosts.

## Birds

The site and its surrounding habitats were assessed for their potential to support breeding birds. Bird nesting habitat could include grassland, hedgerows, scrub, trees and buildings.

Bird species noted during the site visit were recorded. Trees, buildings and grassland were checked for use by barn owls, swifts and skylarks.

## Great crested newts

Habitats on and near the site were assessed for their suitability for great crested newts ("GCN").

Water features on and near the site were assessed for their suitability for occupation by GCN, according to a Habitat Suitability Index ("HSI"). The HSI is a theoretical index of a waterbody's suitability to support a breeding population of GCN and is calculated from a series of ten variables recorded on site, as detailed in Table 2.

Indices	Name	Description
SI1	Geographic Location	Lowland England or upland England, Scotland and Wales
SI2	Pond area	To the nearest 50m <sup>2</sup>
SI3	Permanence	Number of years' pond dry out of ten
SI4	Water quality	Measured by invertebrate diversity
SI5	Shade	Percentage shading of pond edge at least 1m from shore
SI6	Fowl	Level of waterfowl use
SI7	Fish	Level of fish population
SI8	Pond count	Number of ponds within 1km divided by 3.14
SI9	Terrestrial habitat	Quality of surrounding terrestrial habitat
SI10	Macrophytes	Percentage extent of macrophyte cover on pond surface

**Table 2**, HSI indices.

The HSI score is the geometric mean of the ten suitability indices calculated:

$$HSI = (SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10)^{1/10}$$

Once calculated, the HSI score for a waterbody can be categorised as follows:

Excellent (>0.8)

Good (0.7 – 0.79)

Average (0.6 – 0.69)

Below Average (0.5 – 0.59)

### **Water voles, otters and white-clawed crayfish**

Water features on and adjacent to the site were assessed for use by water vole, otter and white-clawed crayfish.

Otters in England typically use areas of fresh water and streams and ditches for moving between habitats. Otter holts are usually located underneath tree roots, in tunnels. Field signs of presence include spraints on prominent features such as bridges, tree bases or boulders, and footprints.

Water voles inhabit burrows in the banks of ponds, ditches, streams and rivers. Field signs include droppings left in latrine spots, burrow entrances or feeding remains.

White-clawed crayfish inhabit streams and rivers with a moderate flow rate, and lakes. Clear, well-oxygenated water is preferred. Typical habitat features include crevices in rocks, gaps between stones, submerged plants and tree roots.

### **Reptiles**

The habitats on the site and within the proposed area of works were assessed for suitability for reptiles.

Reptiles rely on conditions that allow them to maintain their body temperature through basking. They require access to direct sunlight, shelter from the elements, sufficiently large populations of prey species and hibernation sites.

Reptiles typically favour a habitat mosaic with a diverse vegetation structure, which could include grassland, scrub and woodland.

### **Badgers**

An inspection of all habitats with the potential to support badger *Meles meles* sett construction and foraging activities on the application site was undertaken. Any incidental observations of badger signs were also recorded. The survey comprised searching for evidence of badger activity in the form of setts, droppings, pathways, snuffle holes, hair and footprints.

### **Dormice**

Dormice habitats include deciduous woodland, hedgerows and scrub. Dormice are found mainly in the south of England, including Kent and Sussex, with sporadic populations elsewhere. An assessment of the suitability of site habitats for occupation by dormice was made.

### **Other protected species**

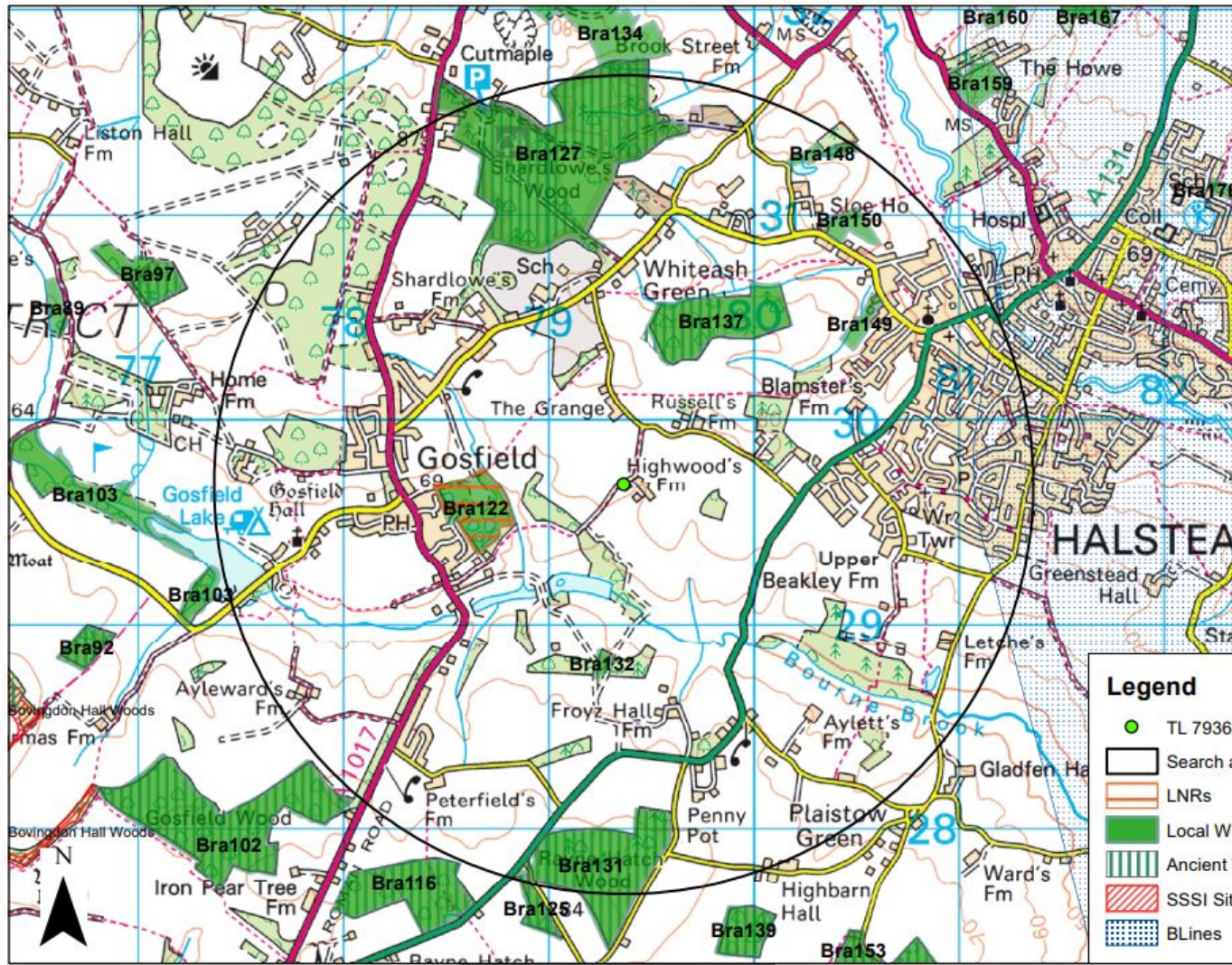
Particular regard was made to the nature of the proposed development and the potential of impact upon any other protected species, species which are nationally or locally scarce, or species subject to other conservation designations such as Red Data Book or Priority S41 species, from the development work, should these be present in the area.

### **Constraints**

No internal access to buildings on site was available during the time of the survey.

**Appendix B**  
**Map of protected sites within 2km**

Essex Wildlife Trust Records Centre - designated sites within 2km search boundary for Chaseways, Russels Road, Halstead area



Essex Wildlife Trust  
 Biological Records Centre  
 Abbots Hall Farm  
 Great Wigborough  
 Essex  
 CO5 7RZ  
  
[www.essexwtrecords.org.uk](http://www.essexwtrecords.org.uk)  
[records@essexwt.org.uk](mailto:records@essexwt.org.uk)  
[@EssexWTrecords](https://twitter.com/EssexWTrecords)

**Legend**

- TL 79365 29682
- Search area
- LNRs
- Local Wildlife Sites
- Ancient Woodlands
- SSSI Sites
- BLines

0 0.275 0.55 1.1 Kilometers 1:25,000

Crown Copyright ©. All Rights Reserved.  
 Ordnance Survey Licence Number: 100025798

Date: 09/06/2021 Created by : Dana Knollova

## Appendix C Protected sites citations

### Local Wildlife Sites citations

#### LOCAL WILDLIFE SITES BRAintree DISTRICT Bra116 Whiteash Wood



Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

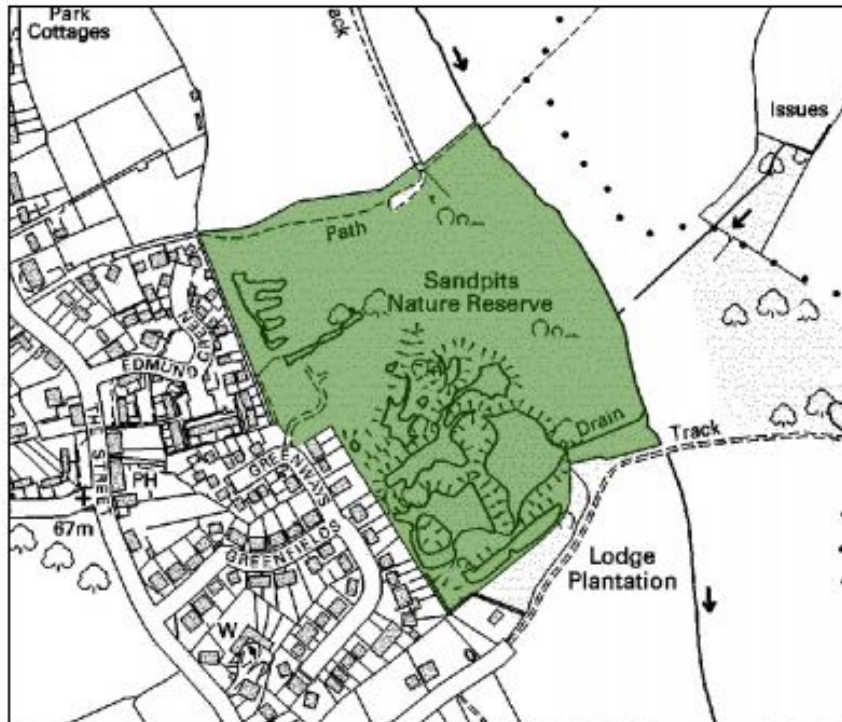
#### **Bra116. Whiteash Wood (14.7 ha) TL 783277**

This ancient woodland site has been largely replanted with a mixture of mainly Pedunculate Oak (*Quercus robur*), Ash (*Fraxinus excelsior*), Alder (*Alnus glutinosa*), Cherry (*Prunus* sp.) and conifers along with many other broadleaved species in lesser quantities. The ground flora is luxuriant in the recent plantations, with many ruderal species amongst the woodland flora.

**Selection Criteria:** HCrl(a)



**LOCAL WILDLIFE SITES  
BRAINTREE DISTRICT  
Bra122 Gosfields Pits**



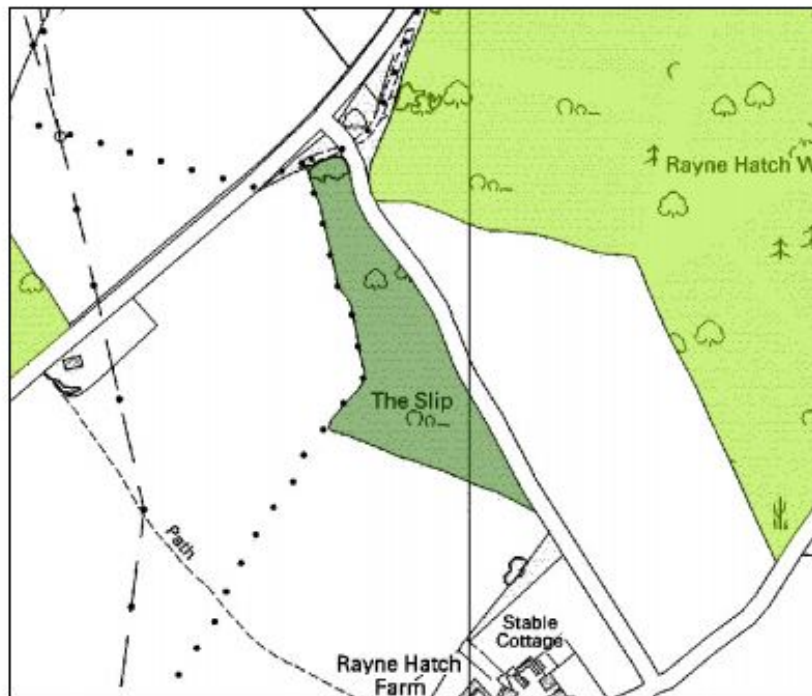
Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

**Bra122. Gosfield Pits (8.9 ha) TL 786296**

This site comprises a series of disused gravel pits, where ponds, acid grassland, scrub and woodland have developed. Barring a small fragment of habitat on the west side, the remainder now forms Gosfield Nature Reserve. As with most mosaic sites, these habitats support a wide range of flora and fauna. The grassland and scrub exhibits species of light, well drained and disturbed soils including Bracken (*Pteridium aquilinum*), Broom (*Cytisus scoparius*), Wavy Hair-grass (*Deschampsia flexuosa*) and Sheep's Sorrel (*Rumex acetosella*). The wide variety of woodland trees include Pedunculate Oak (*Quercus robur*), Beech (*Fagus sylvatica*), Goat Willow (*Salix caprea*) and Sycamore (*Acer pseudoplatanus*) and a ground flora with Wood Spurge (*Euphorbia amygdaloides*), Pignut (*Conopodium majus*) and Common Spotted Orchid (*Dactylorhiza fuchsii*).

**Selection Criteria:** HCr2(c), HCr6(b), HCr19

**LOCAL WILDLIFE SITES  
BRAintree DISTRICT  
Bra125 The Slip**



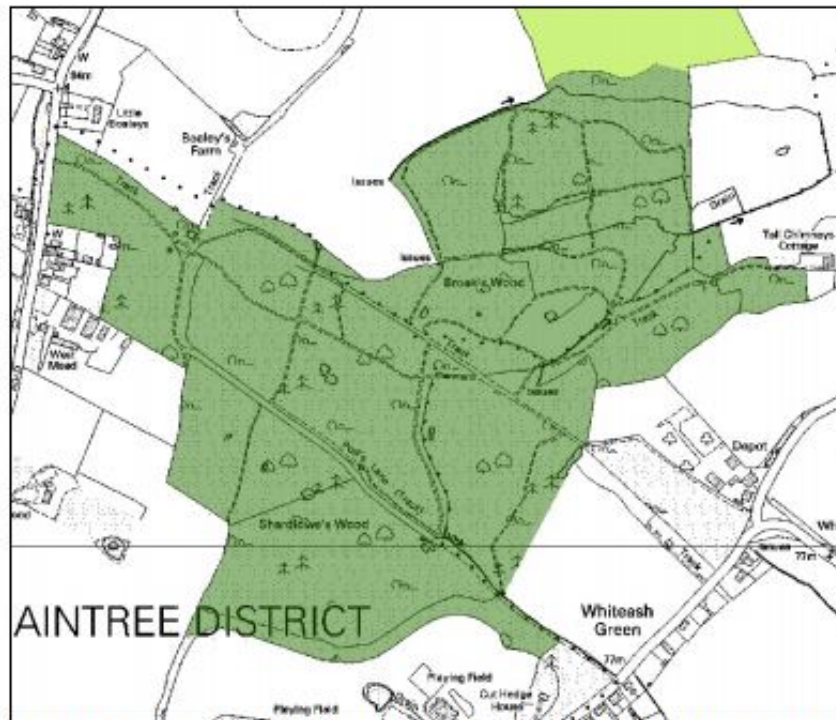
Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

**Bra125. The Slip (2.3 ha) TL 789276**

This narrow stretch of woodland is dominated by Pedunculate Oak (*Quercus robur*), some Birch (*Betula* sp.) and a Hazel (*Corylus avellana*) understorey. The ground flora includes Bluebell (*Hyacinthoides non scripta*), Woodruff (*Galium odoratum*) and Foxglove (*Digitalis purpurea*).

**Selection Criteria:** HCr1(a)

**LOCAL WILDLIFE SITES  
BRAintree DISTRICT  
Bra127 Broak's Wood**



Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

**Bra127. Broak's Wood (58.4 ha) TL 790312**

The majority of this wood is ancient, largely replanted with both coniferous and broadleaved species. A block of secondary woodland extends on the west side. Broadleaved species found in the ancient block include Ash (*Fraxinus excelsior*), Birch (*Betula* sp.), Pedunculate Oak (*Quercus robur*), Beech (*Fagus sylvatica*) and Sweet Chestnut (*Castanea sativa*). Hazel (*Corylus avellana*), Blackthorn (*Prunus spinosa*), Elder (*Sambucus nigra*) and occasional Midland Hawthorn (*Crataegus laevigata*) form a scattered shrub layer. The most diverse flora is to be found along the rides and tracks. Of note is Broadleaved Helleborine (*Epipactis helleborine*); the flora that also includes Creeping Jenny (*Lysimachia nummularia*), Yellow Pimpernel (*Lysimachia nemorum*), Primrose (*Primula vulgaris*), Bluebell (*Hyacinthoides non-scripta*), Pendulous Sedge (*Carex pendula*) and Remote Sedge (*Carex remota*).

The secondary woodland of mature planted wood adds to the ecological value of the ancient Broak's Wood complex and is also of interest in its own right. Whilst this plantation is principally a plantation of Beech (*Fagus sylvatica*) and Douglas Fir

(*Pseudotsuga menziesii*), a total of 17 other woody species have been recorded. The ground flora is equally diverse, including Yellow-wort (*Blackstonia perfoliata*), Three-veined Sandwort (*Moehringia trinervia*), Primrose (*Primula vulgaris*) and Broadleaved Helleborine (*Epipactis helleborine*). The three ponds are particularly interesting and a valuable habitat. The flora here includes Stonewort (*Chara* sp.), Mare's-tail (*Hippurus vulgaris*), Jointed Rush (*Juncus articulatus*), Marsh Bedstraw (*Galium palustre*) and Lesser Bulrush (*Typha angustifolia*). Numerous damselflies and dragonflies have been recorded.

**Selection Criteria:** HC1(a), HC2(a), SCr1

**LOCAL WILDLIFE SITES  
BRAintree DISTRICT  
Bra131 Rayne Hatch Wood**



Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

**Bra131. Rayne Hatch Wood (22.2 ha) TL 793278**

This large ancient wood has been extensively replanted with Poplars (*Populus* sp.), Larch (*Larix* sp.), Scots Pine (*Pinus sylvestris*) and Sweet Chestnut (*Castanea sativa*), with Pedunculate Oak (*Quercus robur*), Silver Birch (*Betula pendula*), Hazel (*Corylus avellana*) and Elder (*Sambucus nigra*) also present. The ground flora is poor due to the detrimental effects of the forestry management.

**Selection Criteria:** HCr1(a)

**LOCAL WILDLIFE SITES  
BRAINTREE DISTRICT  
Bra132 Aldercar Wood Valley**



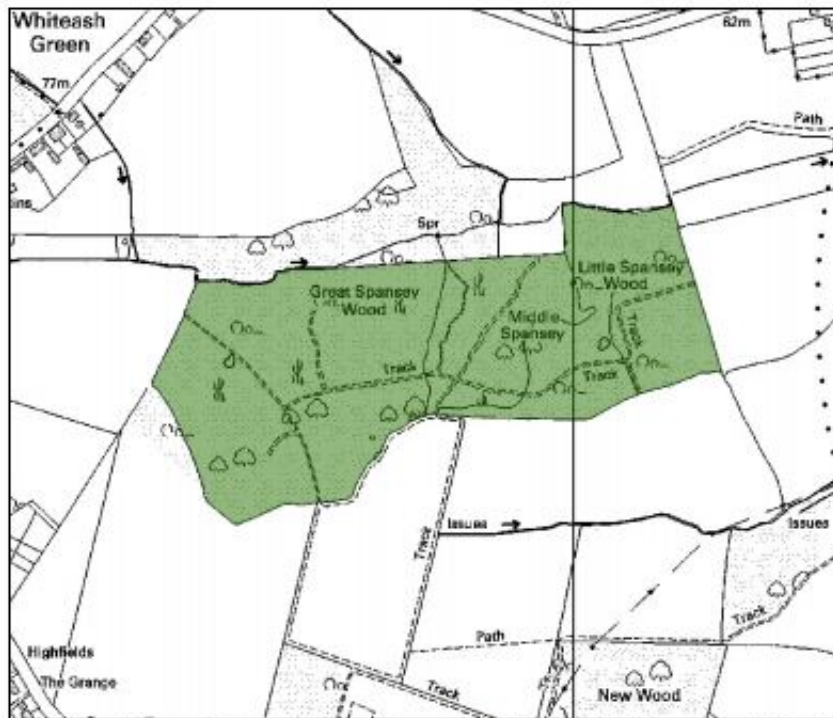
Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

**Bra132. Aldercar Wood Valley (0.7 ha) TL 793288**

This small stream valley site with Alder (*Alnus glutinosa*) lining the lower slopes and young plantation on the upper slopes is noted for a marshy central flush area. The wood is carpeted by Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*), with other recorded species including Ramsons (*Allium ursinum*), Meadowsweet (*Filipendula ulmaria*) and Water Mint (*Mentha aquatica*). Bluebell (*Hyacinthoides non-scripta*) is abundant on the upper slopes.

**Selection Criteria:** HCr2(d)

**LOCAL WILDLIFE SITES  
BRAINTREE DISTRICT  
Bra137 Great Spansey Wood**



Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

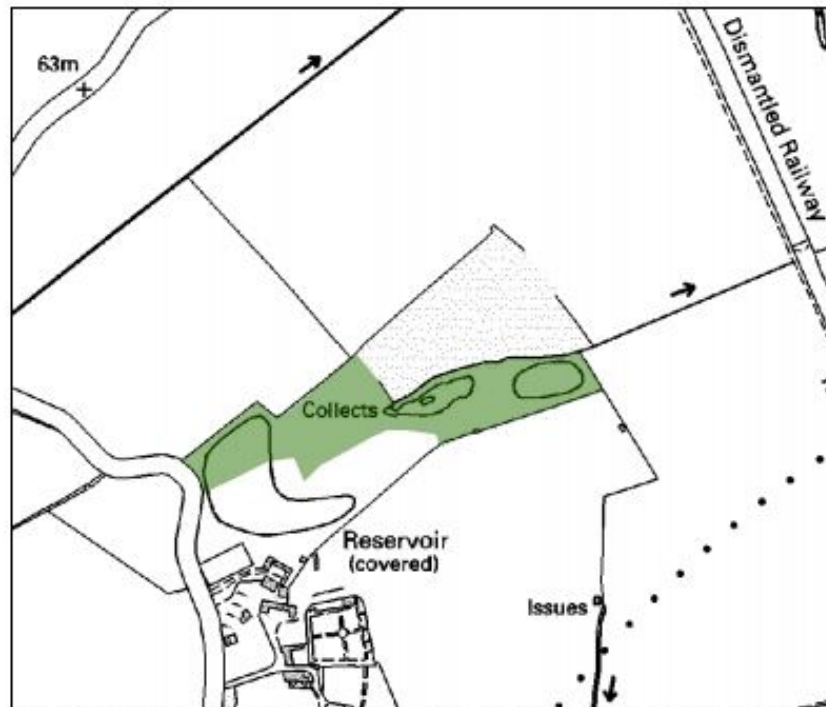
**Bra137. Great Spansey Wood (15.5 ha) TL 797305**

Great Spansey Wood comprises Small-leaved Lime (*Tilia cordata*) coppice with a mix of Pedunculate Oak (*Quercus robur*), Ash (*Fraxinus excelsior*), Silver Birch (*Betula pendula*) and some Hornbeam (*Carpinus betulus*) coppice. An interesting feature of the wood is the presence of Large-leaved Lime (*Tilia platyphyllos*). Hawthorn (*Crataegus monogyna*) and Elder (*Sambucus nigra*) form the shrub layer. Species of interest include Wood Sorrel (*Oxalis acetosella*), Bluebell (*Hyacinthoides non-scripta*) and Creeping Jenny (*Lysimachia nummularia*).

Little Spansey Wood comprises coppiced Hazel (*Corylus avellana*) and Birch (*Betula* sp.), Pedunculate Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) and Hornbeam (*Carpinus betulus*) also occurring in the canopy. Species present in the ground flora include Dog's Mercury (*Mercurialis perennis*), Yellow Archangel (*Lamium galeobdolon*) and Bluebell (*Hyacinthoides non-scripta*), whilst small clearings within the wood have stands of Broad Buckler Fern (*Dryopteris dilatata*).

**Selection Criteria:** HCr1(a), HCr2(a)

**LOCAL WILDLIFE SITES  
BRAintree DISTRICT  
Bra148 Sloe Hill Meadows**



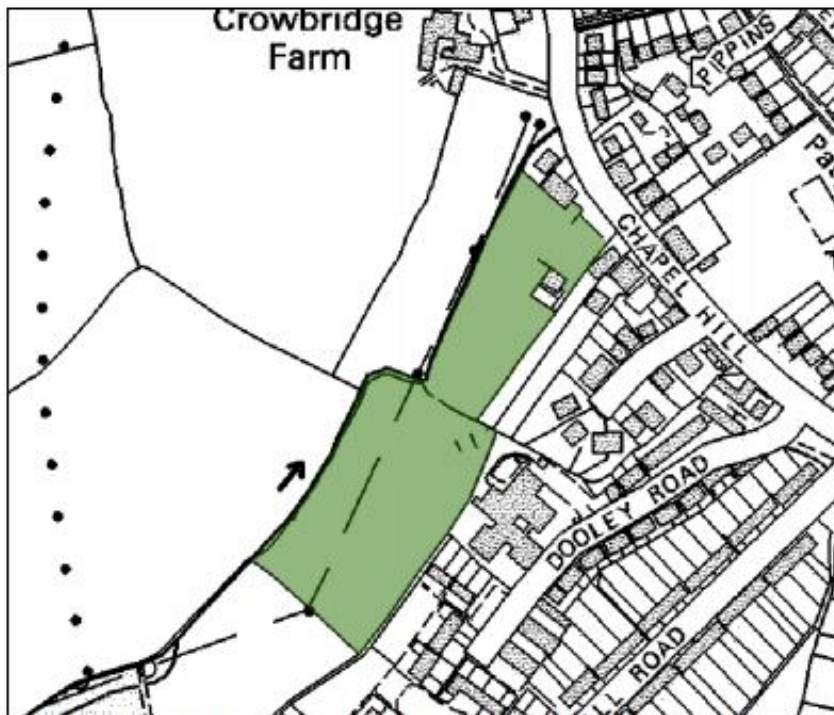
Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

**Bra148. Sloe Hill Meadows (1.6 ha) TL 804313**

This site slopes steeply down to a wet valley bottom. Typical species present in the wetter zones include Cuckooflower (*Cardamine pratensis*), Ragged Robin (*Lychnis flos-cuculi*) and Creeping Jenny (*Lysimachia nummularia*). Such marshy sites are an increasingly scarce habitat in Essex.

**Selection Criteria:** HCr10

**LOCAL WILDLIFE SITES  
BRAINTREE DISTRICT  
Bra149 Chapel Hill Meadow**



Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

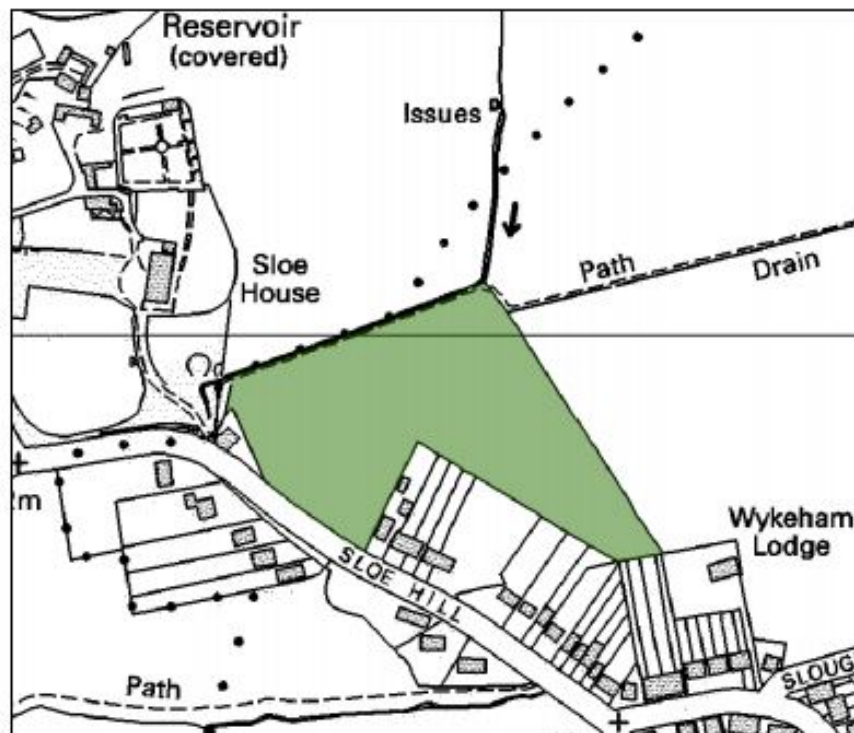
**Bra149. Chapel Hill Meadow (1.8 ha) TL 805304**

Located on the western outskirts of Halstead, Chapel Hill Meadow has a varied flora that reflects the poorly drained conditions. Typical damp grassland species include Marsh Marigold (*Caltha palustris*), Cuckooflower (*Cardamine pratensis*), Marsh Thistle (*Cirsium palustre*), Pignut (*Conopodium majus*) and Tufted Hair-grass (*Deschampsia cespitosa*). Other species of note are Common Spotted Orchid (*Dactylorhiza fuchsii*), Ragged Robin (*Lychnis flos-cuculi*) and Southern Marsh Orchid (*Dactylorhiza praetermissa*).

**Selection Criteria:** HCr10



**LOCAL WILDLIFE SITES  
BRAINTREE DISTRICT  
Bra150 Sloe Cottage Meadow**



Reproduced by permission of Ordnance Survey on behalf of HMSO © Crown Copyright and database right 2009. All rights reserved. Ordnance Survey Licence number 100025798

**Bra150. Sloe Cottage Meadow (2.5 ha) TL 805309**

The sward of this meadow is composed of Creeping Bent-grass (*Agrostis stolonifera*), Meadow Foxtail (*Alopecurus pratensis*), Sweet Vernal Grass (*Anthoxanthum odoratum*), Cock's-foot (*Dactylis glomerata*), Cat's-tails (*Phleum* spp.) and Crested Dog's-tail (*Cynosurus cristatus*). Of particular interest is the presence of Ragged Robin (*Lychnis flos-cuculi*) in damper areas generally dominated by Rushes (*Juncus* spp.).

**Selection Criteria:** HCr10

## Appendix D Legislation

### European Protected Species

**The Ramsar Convention (1971)** on Wetlands of International Importance especially as Waterfowl Habitat seeks to promote the conservation and wise use of wetlands, particularly those which support internationally significant numbers of water birds. This is achieved through the designation of Ramsar Sites.

**The European Community Council Directive on the Conservation of Wild Birds (79/409/EEC)** sets out general rules for the conservation of all naturally occurring wild birds, their nests, eggs and habitats. It requires member states to designate Special Protection Areas (SPAs) for protection of certain species.

The main piece of legislation relating to nature conservation in Great Britain is **The Wildlife and Countryside Act 1981 (as amended)**. This Act is supplemented by provision in **The Countryside and Rights of Way (CROW) Act 2000** and **The Natural Environment and Rural Communities Act 2006 (in England and Wales)**. This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds, their nests and eggs.

**The Countryside and Rights of Way Act 2000** strengthens the protection given to SSSIs. It revises the procedures for the notification of SSSIs and for the consenting of operations which may damage the special interest of a SSSI. Local authorities have a duty to take steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of SSSIs. The act also strengthens the existing provisions of the Wildlife and Countryside Act 1981 for the enforcement of wildlife legislation, including a new offence of "recklessly" destroying or damaging the habitats of certain protected species.

UK wildlife is also protected under **The Conservation (Natural Habitats &c.) Regulations 1994** (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2017, these Regulations, together with subsequent amendments, were consolidated into **The Conservation of Habitats and Species Regulations 2017**.

The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

**The Protection of Badgers Act 1992** consolidates previous badger legislation by providing comprehensive protection for badgers and their setts, with a requirement that any authorised sett disturbance or destruction be carried out under licence.

**The Hedgerows Regulations 1997** aim to protect important hedgerows in the countryside. They make it illegal to remove most countryside hedges without first notifying the local planning authority, and provide protection for 'important hedgerows'.

**County Wildlife Site** is a non-statutory designation used to identify high quality wildlife habitats in a county context. Local Authorities have a responsibility as part of their planning function to take account of sites of substantial nature conservation value and to consider them alongside other material planning considerations. The location of County Wildlife Sites will be included in Local Plans and Development Documents.

#### **National Planning Policy - National Planning Policy Framework (NPPF)**

Section 15 of the National Planning Policy Framework 2019 (NPPF): Conserving and enhancing the natural environment states that 'planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on and providing net gains for biodiversity.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat'.

#### **Implications of legislation and policies**

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

#### **Bats**

All bat species in Britain are protected under the Wildlife and Countryside Act 1981 through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. On 30<sup>th</sup> November 2017, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2017.

European protected animal species ("EPS") and their breeding sites or resting places are protected under Regulation 42. It is an offence for anyone to deliberately capture, injure or kill any such animal or to

deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit an offence only if he deliberately disturbs such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. The existing offences under the Wildlife and Countryside Act (1981) as amended which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale still apply to European protected species.

This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

### **Barn Owls**

The Habitats Regulations (1994), as amended, states that a person commits an offence in the case of Barn Owl only if this species is disturbed in the breeding season. This applies equally to all those bird species listed under Schedule 1.

### **Breeding Birds**

It is an offence to kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while that nest is in use or being built (even of "pest" species); take or destroy the eggs of any wild bird.

### **Great Crested Newts**

Great crested newts are protected under both English and European law. It is an offence to kill, injure, disturb or take great crested newts or to damage or destroy their places of shelter, whether the animals are present or not.

### **Water Vole**

The water vole received limited legal protection in April 1998 through its inclusion in Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) for some offences. Legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a water vole;
- possess or control a dead or live water vole, or any part of a water vole;

- intentionally or recklessly damage or destroy access to any structure or place which water voles use for shelter or protection or disturb Water Voles while they are using such a place;
- sell, offer for sale or advertise for sale live or dead Water Voles

Water voles, their breeding sites and resting places are protected by law. In most cases, work can be planned to avoid harming water voles. If works cannot avoid disturbing them or damaging their habitats, you may be able to get a licence from Natural England.

### **Otters**

Otters are protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and revised by the Countryside and Rights of Way Act 2004, making it an offence to:

- intentionally kill, injure or take an otter;
- possess or control any (live or dead) otter, or any part of or anything derived from an otter;
- intentionally or recklessly damage or destroy or obstruct access to any structure or place used for shelter or protection by an otter;
- intentionally or recklessly disturb an otter while it is occupying a structure or place for that purpose;
- to sell, offer for sale, possess or transport for the purpose of sale any (live or dead) otter or part or derivative of an otter;
- to advertise for buying and selling such things.

Furthermore, otters are included on Schedule 2 of the Conservation (Habitats &c.) Regulations (1994), making it an offence to:

- deliberately to capture or kill a wild animal of a European protected species;
- deliberately to disturb any such animal;
- deliberately to take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

Otters are also listed as a priority species on the UK and Biodiversity Action Plans.

### **White-Clawed Crayfish**

This crayfish is listed under Annex II of the habitats directive and areas are designated as Special Areas of Conservation to protect this species. Outside of this a licence is required to capture this species. It is listed as a priority species under the Biodiversity Action Plan and is a Species of Principal Importance under section 41 of the NERC Act 2006.

### **Reptiles**

Reptiles such as common lizard, slowworm, grass snake or adder are protected under Section 9 of the Wildlife & Countryside Act (1981) as amended. The legislation makes it illegal to deliberately or recklessly kill or injure

any native reptile. This protection therefore requires that reasonable effort be made to avoid harm to reptiles during developments on land occupied by reptiles.

### **Badger**

The Wildlife and Countryside Act (1981) and its subsequent amendment in 1985 made it an offence to take, kill, injure or ill-treat a badger. The badger gained further protection under the auspices of The Protection of Badgers Act (1992) which consolidates all former protective legislation in relation to badgers, except their inclusion on Schedule 6 of the Wildlife and Countryside Act 1981.

Under the 1992 Act, the badger sett is protected against obstruction, destruction, and damage; furthermore, the animal's access to and from the sett must not be impeded. It should be noted that the concept/definition of the sett extends beyond the main sett to include annexe, subsidiary and outlying setts. However, although the badger and its sett are protected (including access to the sett), the wider habitat and foraging ground is not.

### **Dormice**

Dormice are protected from being killed, injured, captured or disturbed and their resting and breeding places should not be damaged or destroyed.

### **Natural England Licensing - EPS Mitigation Licensing**

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).

## Appendix E

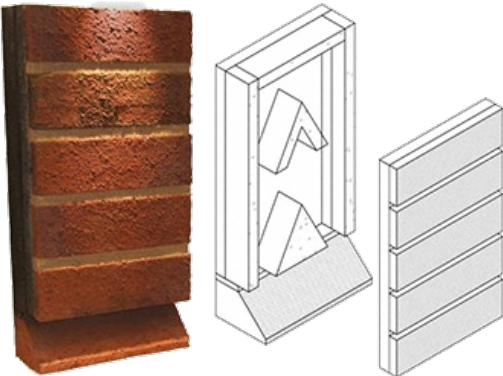
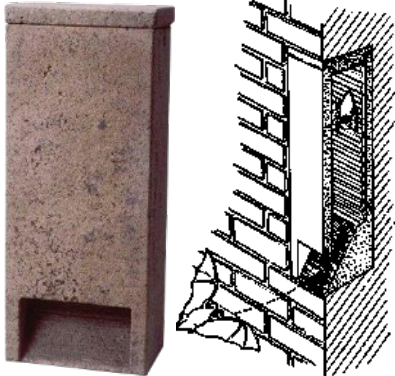


### Plant species recorded on site

English name	Scientific name
Annual meadow grass	<i>Poa annua</i>
Apple	<i>Malus sp.</i>
Ash	<i>Fraxinus excelsior</i>
Barren brome	<i>Bromus sterilis</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Buddleja	<i>Buddleja sp.</i>
Cherry	<i>Prunus sp.</i>
Cleavers	<i>Galium aparine</i>
Clover	<i>Trifolium sp.</i>
Cock's foot	<i>Dactylis glomerata</i>
Common chickweed	<i>Stellaria media</i>
Common mouse-ear	<i>Cerastium fontanum</i>
Cranesbill	<i>Geranium sp.</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping cinquefoil	<i>Potentilla reptans</i>
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum officinale</i>
Elder	<i>Sambucus nigra</i>
English oak	<i>Quercus robur</i>
European filbert	<i>Corylus avellana</i>
False oat grass	<i>Arrhenatherum elatius</i>
Fescue	<i>Festuca sp.</i>
Flowering quince	<i>Chaenomeles sp.</i>
Foxglove	<i>Digitalis sp.</i>
Giant filbert	<i>Corylus maxima</i>
Gorse	<i>Ulex europaeus</i>
Hawthorn	<i>Crataegus monogyna</i>
Holly	<i>Ilex aquifolium</i>
Hornbeam	<i>Carpinus betulus</i>
Indian currant	<i>Symphoricarpos orbuculatus</i>
Ivy	<i>Hedera helix</i>
Ladies bonnet	<i>Aquilegia vulgaris</i>
Lawson's cypress	<i>Chaemaecyparis lawsoniana</i>
Lupin	<i>Lupinus sp.</i>
Nettle	<i>Urtica dioica</i>
Palm	<i>Ateaceae sp.</i>
Perennial ryegrass	<i>Lolium perenne</i>
Privet	<i>Ligustrum sp.</i>
Red dead nettle	<i>Lamium purpureum</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rose	<i>Rosa sp.</i>
Silver birch	<i>Betula pendula</i>
Smaller cat's-tail	<i>Phleum bertolonii</i>
Thistle	<i>Cirsium sp.</i>
White clover	<i>Trifolium repens</i>
White dead nettle	<i>Lamium album</i>
Willow	<i>Salix sp.</i>
Yarrow	<i>Achillea millefolium</i>
Yorkshire fog	<i>Holcus lanatus</i>

## Appendix F

### Examples of bat and bird boxes

(images sourced from [www.nhbs.com](http://www.nhbs.com), [www.habibat.co.uk](http://www.habibat.co.uk) and [www.manthorpe.co.uk](http://www.manthorpe.co.uk))

<p style="text-align: center;"><b>Integrated bat box</b> Habibat Bat Box</p> 	<p style="text-align: center;"><b>Integrated bat box</b> 1FR Schwegler Bat Tube</p> 
<p style="text-align: center;"><b>Standalone bat box</b> 2F Schwegler Bat Box (General purpose)</p> 	<p style="text-align: center;"><b>Standalone bat box</b> 1FF Schwegler Bat Box with built-in wooden rear panel</p> 

#### Recommendations for installing bat boxes:

(Sourced from Bat Conservation Trust [www.bct.org](http://www.bct.org))

Ideally, several boxes should be put up facing in different directions to provide a range of conditions.

Locate boxes:


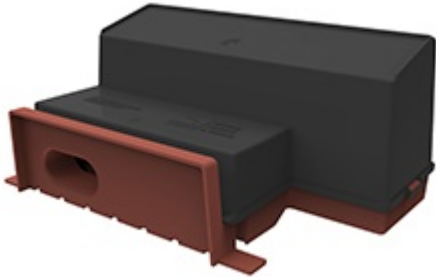


- Where bats are known to feed close to hedges and treelines (some bats use a treeline or hedgerow for navigation, putting boxes near these features may help the bats find the box).
- On trees: boxes should be placed on the trunk of a mature tree, where there is a clear flight line/accessible entrance.
- On buildings: boxes should be placed as close to the eaves as possible.
- As high as possible (ideally, at least 3 to 4m above the ground, where safe installation is possible).
- In sunny places, sheltered from strong winds (usually between south-west and south-east).

Make sure the boxes are secured.

Boxes can be installed on trees using adjustable ties to avoid damaging the trees. Otherwise, timber screw bolts or nails can be used. Aluminium alloy nails are less likely to damage saws and chipping machinery.

Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chittering noises from inside on warm afternoons and evenings are signs of occupation.





<p style="text-align: center;"><b>Integrated swift box</b> Schwegler Brick Nest Box Type 25</p>  <p style="text-align: center;">Type 25</p>	<p style="text-align: center;"><b>Integrated swift box</b> Manthorpe Swift Brick</p> 
<p style="text-align: center;"><b>Integrated sparrow terrace</b> 1SP Schwegler Sparrow Terrace</p> 	<p style="text-align: center;"><b>Integrated sparrow terrace</b> Terraced Sparrow Box</p> 
<p><b>Recommendations for installing bird boxes:</b> (Sourced from British Trust for Ornithology <a href="http://www.bto.org">www.bto.org</a> and Manthorpe <a href="http://www.manthorpe.co.uk">www.manthorpe.co.uk</a>)</p>	
<p>The highest priority when siting a nest box must be to provide a safe and comfortable environment in which birds can nest successfully.</p> <p>Tips for putting up a nest box:</p> <ul style="list-style-type: none"> <li>• Boxes should be sited 1-3m from the ground, ideally on tree trunks but can be placed on the side of a shed or wall. Avoid areas where foliage obscures the entrance hole.</li> <li>• Don't place boxes too close to another nest box of the same type, as this may promote aggressive behaviour between neighbours.</li> <li>• Shelter your nest box from prevailing wind, rain and strong sunlight. The box should face between north and east, and angled vertically or slightly downwards to prevent rain entering.</li> <li>• Make sure cats cannot get into the box.</li> <li>• Keep nest box away from bird feeders.</li> <li>• Use galvanized or stainless steel screws or nails. If fixing boxes to trees, galvanised wire can be used to tie the box to the trunk or hang it from a branch. Make sure to regularly inspect these fittings (every two or three years) to ensure the box remains securely attached.</li> </ul> <p>Tips for putting up house sparrow terraces and swift bricks/boxes:</p> <ul style="list-style-type: none"> <li>• Locate <math>\geq 5\text{m}</math> high on the gable wall of the property and above the level of the insulation zone.</li> <li>• Where possible, install in locations that are unlikely to receive large amounts of direct sunlight during the hottest times of the day, ideal places include below the overhang of the verge and barge board.</li> </ul>	

## Appendix G

### Examples of hedgehog friendly fencing

(images sourced from [www.quercusfencing.com](http://www.quercusfencing.com) and [www.jackson-fencing.co.uk](http://www.jackson-fencing.co.uk))

<p><b>Quercus Fencing</b> Hedgehog friendly oak woven fencing panels</p> 	<p><b>Jacksons-Fencing</b> Hedgehog friendly gravel board for use with slotted posts</p> 
--	---

#### **Recommendations for installing hedgehog friendly fencing:**

(Sourced from Hedgehog Street [www.hedgehogstreet.org](http://www.hedgehogstreet.org))

A hedgehog friendly fence should have a gap measuring at least 13cm by 13cm in the gravel board. These gaps allow any hedgehog to pass through but are too small for nearly all pets.

At least one hedgehog friendly fence panel should be located on each side of your garden, to provide unimpeded access.

Almost all fencing materials can be made hedgehog friendly, but may require DIY adaptations. Please note that some concrete gravel boards contain metal rods running along the length of the boards to provide strength and rigidity, and cannot be cut. To overcome this, a gap can be left between the gravel board and post to provide the required gap.

## Appendix H

### Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus spp.</i> (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate oak (d)	<i>Quercus robur</i>
Rowan (f; d)	<i>Sorbus aucuparia</i>
Pears (f; d)	<i>Pyrus spp.</i>
Silver birch (d)	<i>Betula pendula</i>
Small-leaved lime (d)	<i>Tilia cordata</i>
White willow (d)	<i>Salix alba</i>
Wild cherry (f; d)	<i>Prunus avium</i>
Walnut (d)	<i>Juglans regia</i>

Shrubs	
Blackthorn (f; d)	<i>Prunus spinosa</i>
Buckthorn (f; d)	<i>Rhamnus catharticus</i>
Crab apple (f; d)	<i>Malus sylvestris</i>
Dog rose (f; d)	<i>Rosa canina</i>
Dogwood (f; d)	<i>Cornus sanguinea</i>
Field maple (d)	<i>Acer campestre</i>
Guelder-rose (f; d)	<i>Viburnum opulus</i>
Hawthorn (f; d)	<i>Crataegus monogyna</i>
Hazel (d)	<i>Corylus avellana</i>
Holly (e)	<i>Ilex aquifolium</i>
Honeysuckle (f; d)	<i>Lonicera periclymenum</i>
Spindle (f; d)	<i>Euonymus europaeus</i>
Wild privet (f; se)	<i>Ligustrum vulgare</i>
Yew (f; e)	<i>Taxus baccata</i>

Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochaeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Primrose	<i>Primula vulgaris</i>
Red clover	<i>Trifolium pratense</i>
Selfheal	<i>Prunella vulgaris</i>
Sweet violet	<i>Viola odorata</i>
Wild daffodil	<i>Narcissus pseudonarcissus</i>
Yarrow	<i>Achillea millefolium</i>

Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Yellow oat-grass	<i>Trisetum flavescens</i>