
Preliminary Ecological Appraisal

Beechwood Farm, Forward Green

for

Mr. Nigel Ward

10 November 2020

Client

Mr. Nigel Ward

Planning authority

Mid Suffolk 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).


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<i>Signed disclosure</i>	
<i>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.</i>	
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SUMMARY

- Greenlight Environmental Consultancy Ltd. has been commissioned to carry out a Preliminary Ecological Appraisal for a proposed development at Beechwood Farm, Forward Green, Earl Stonham, Stowmarket, Suffolk, IP14 5EQ (grid reference: TM 10112 59089).
- 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 siting of three shepherd huts to use as holiday lets.
- 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.
- 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 four 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	Amenity grassland and ephemeral vegetation 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> The planting of a low number of native trees or hedgerows along the site boundary. Construction work to be carried out in accordance with BSI (2012), BS 5837:2012, to protect trees and their root protection areas. Aquatic habitats protected from runoff and pollution (including soil spill).
Bats	Negligible bat roosting potential in buildings and trees on site. Low value commuting and foraging habitat on site.	Low scale loss and potential light disturbance of commuting and foraging habitats on site.	<u>Mitigation</u> Lighting schemes should comply with Bat Conservation Trust and CIE 150:2003 guidance. <u>Enhancement</u> Installation of three standalone bat boxes.
Breeding birds	Nesting habitats for tree and building nesting birds present on site, including potential breeding habitat for one Amber listed species.	Low scale loss of nesting habitat on site. Potential disturbance to breeding birds.	<u>Mitigation</u> Works to any hedgerows, trees and buildings on site to be conducted outside bird nesting season or under watching brief of ecologist if during nesting season.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
	No suitable barn owl foraging habitat on site.		<u>Enhancement</u> Installation of three small bird boxes.
Great crested newts	Terrestrial habitats on site predominantly unsuitable. Three ponds within 250m of the site, two assessed as poor suitability, and one could not be accessed for detailed assessment. One GCN record within 2km.	GCN highly unlikely to be found on site and 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.
Water voles and otters	Suboptimal habitat adjacent the site. Four water vole and two otter records within 2km.	No impacts predicted.	None required.
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 3rd November 2020 by Nathan Duszynski – an independent, qualified and experienced ecologist. Survey conditions were as follows: 8°C, 17mph wind, sunny intervals 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:
 - White-clawed crayfish *Austropotamobius pallipes*
 - Reptiles (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*)
 - 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 within a rural arable landscape, with the A1120 located adjacent the eastern boundary. The A140 and A14 are located approximately 1.5km southeast and 2.1km southwest respectively. The closest town is Stowmarket located approximately 5km west of the site.
- 2.3. The site is enclosed by arable fields to the north and south, the A1120 to the east and a mixture of an arable field, woodland and tall ruderal vegetation to the west. The wider surroundings are comprised of a mixture of residential and commercial buildings, small 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 09/11/20

3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the siting of three shepherd huts to use as holiday lets. 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 Sites of Special Scientific Interest (“SSSI”). Please refer to Appendix C for the full citation.

- i. Lingwood Meadows, Earl Stonham SSSI, approximately 1.4km southeast.

“Lingwood Meadows consists of two floristically rich old meadows and is one of the few remaining examples of unimproved grassland in Suffolk. The number of such traditionally managed, herb rich meadows has been greatly reduced in recent decades and remain under threat from changes in agricultural practice. It supports a high number of grasses and herbs.”

- 4.2. The proposed development falls outside of any SSSI Impact Risk Zones relating to rural non-residential developments.

Non-statutory

- 4.3. There are four non-statutory protected sites located within 2km – four County Wildlife Sites (“CWS”). Please refer to Appendix C for the full citations.

- i. RNR 70 CWS, approximately 15m east.

“Yellow Vetchling & pyramidal orchids. This site is also a Roadside Nature Reserve.”

- ii. RNR 179 CWS, approximately 1.6km east.

“Chalk flora including pyramidal orchids. This site is also a Roadside Nature Reserve.”

- iii. RNR 190 CWS, approximately 1.6km southeast.

“Species-rich chalk flora with wet flushes in patches. This is also a Roadside Nature Reserve.”

- iv. Forrold Meadow CWS, approximately 0.6km north.

“Forrold Meadow is a species-rich grassland (Priority habitat) and contains a good assemblage of meadow flora. ... The ancient hedgerow and two ponds (one of which has been more recently created) provide further structural diversity and habitat opportunities for wildlife including

Priority species stag beetle, great crested newt, grass snake, dunnock, house sparrow and starling.”

Protected habitats and habitats subject to conservation designations

- 4.4. There are no Priority Habitats, as listed under the NERC Act 2006 Section 41 Habitats of Principal Importance found on site.
- 4.5. Other Priority Habitats to occur within 2km (identified using MAGIC – managed by Natural England), include Lowland Meadows, Deciduous Woodland, Traditional Orchards and Woodpasture and Parkland BAP Priority Habitat. The closest of which, is Traditional Orchards located approximately 375m south of the site.

Protected species

- 4.6. The biodiversity data search within 2km of the site indicated 590 records from 116 species.
- 4.7. Records of note within 2km and relevant to the proposed development works are:
- 22 barn owl *Tyto alba* records, with the most recent from 2016.
 - 10 skylark *Alauda arvensis* records, with the most recent from 2013.
 - 22 swift *Apus apus* records, with the most recent from 2018.
 - One GCN *Triturus cristatus* records from 2004, located approximately 1.1km northwest. Please note, GCN are included in the Forrold Meadow CWS citation and located approximately 0.6km north.
 - Two otter *Lutra lutra* records, with the most recent from 2009. The closest record is located approximately 0.6km southeast.
 - Four water vole *Arvicola amphibius* records, with the most recent from 2009. The closest record is located approximately 0.6km north.
 - 45 hedgehog *Erinaceus europaeus* records, with the most recent from 2017.
 - 10 bat records, with the most recent from 2015, including common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, brown long-eared bats *Plecotus auritus*, serotines *Eptesicus serotinus*, noctules *Nyctalus noctula* and other unidentified bat species.

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, hardstanding, ephemeral and hedgerows on the site peripheries.
- 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.

Parkland and scattered trees (phase 1 habitat classification A3)

- 5.3. The site contains several scattered trees on and directly adjacent the site. Species include: cherry *Prunus sp.*, pear *Pyrus sp.* and poplar *Populus sp.*

Amenity grassland (phase 1 habitat classification J1.2)

- 5.4. A large proportion of the site is comprised of amenity grassland that is regularly managed as lawn. Species include: bristly oxtongue *Helminthotheca echioides*, cock's-foot *Dactylis glomerata*, common chickweed *Stellaria media*, creeping buttercup *Ranunculus repens*, dandelion *Taraxacum officinale*, perennial ryegrass *Lolium perenne* and spotted medick *Medicago arabica*.

Ephemeral (phase 1 habitat classification J1.3)

- 5.5. There are two areas of ephemeral vegetation, that are comprised of recently disturbed topsoil which has self-seeded. Species include: bristly oxtongue, cleavers *Galium aparine*, common chickweed, dandelion, ragwort *Jacobaea vulgaris*, red dead-nettle *Lamium purpureum*, teasel *Dipsacus fullonum* and white dead-nettle *Lamium album*.

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

- 5.6. The site features several two recently planted intact, species-poor hedgerows which are regularly managed. The northern boundary hedgerow is dominated solely by beech *Fagus sylvatica*, while the southern boundary hedgerow is dominated solely by cherry laurel *Prunus laurocerasus*. These hedgerows are not classified as Priority Habitats under the NERC Act 2006 Section 41 Habitats of Principal Importance, being recently planted and with the latter being non-native.

Fence (phase 1 habitat classification J2.4)

- 5.7. The site contains a timber post and rail fence with welded wire mesh along the southern and western boundaries.

Buildings (phase 1 habitat classification J3.6)

- 5.8. There are two buildings on site that are used for storage. Please refer to the bat section detailed below for further information.

Hardstanding (phase 1 habitat classification J5)

- 5.9. A large proportion of the site features an area of concrete and compacted gravel hardstanding, with encroaching ruderal vegetation in places.

Target note number	Comments
1	Bonfire heap.
2	Log pile measuring approximately 3m wide, 3m long and 1m high.

Table 1, phase 1 target notes.

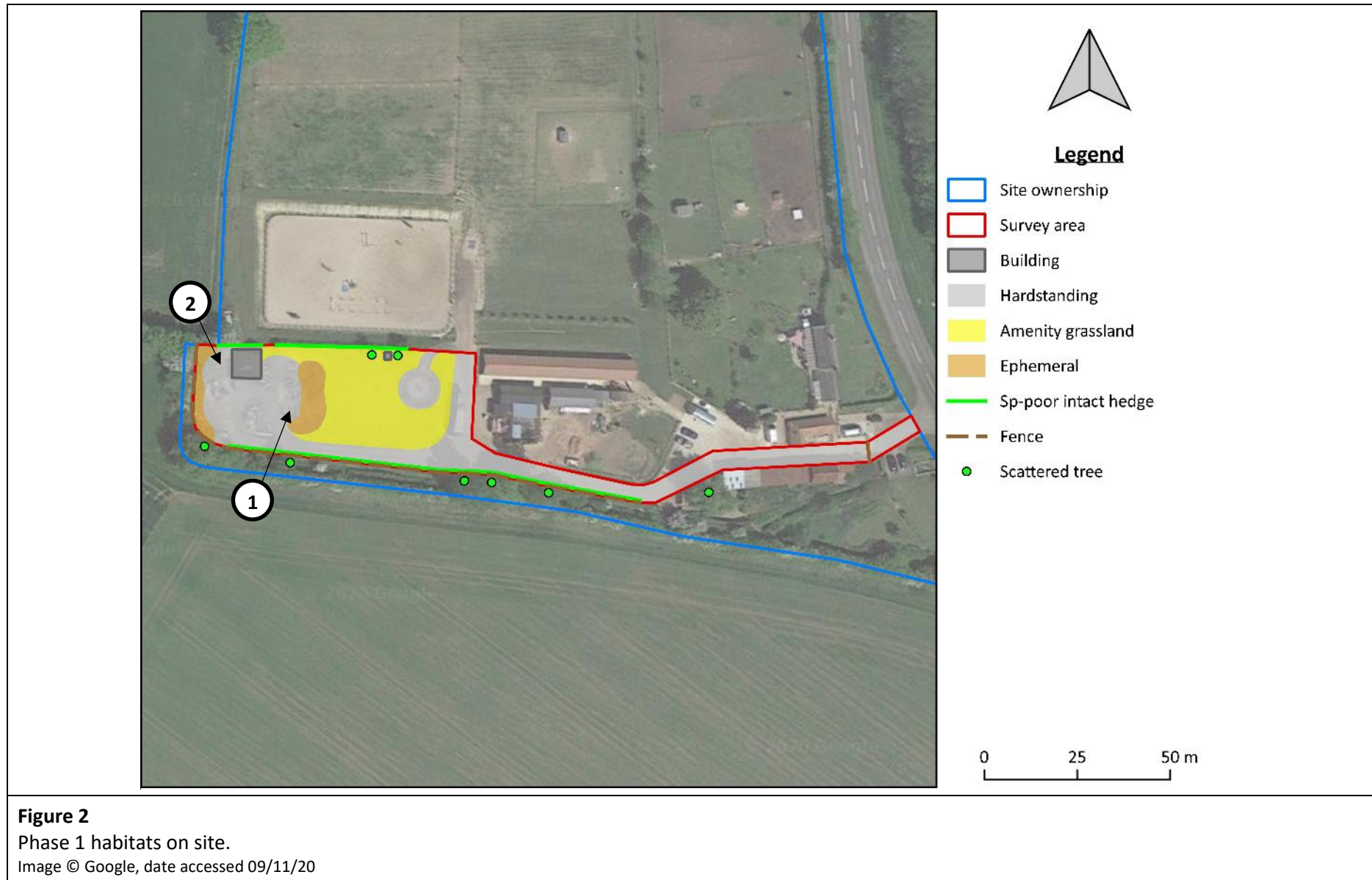




Photo 1, road frontage and existing eastern access to the site, looking west.



Photo 2, hardstanding and sp.-poor intact hedgerow along access track, looking west.



Photo 3, hardstanding and amenity grassland, looking northwest.



Photo 4, hardstanding, looking northwest.



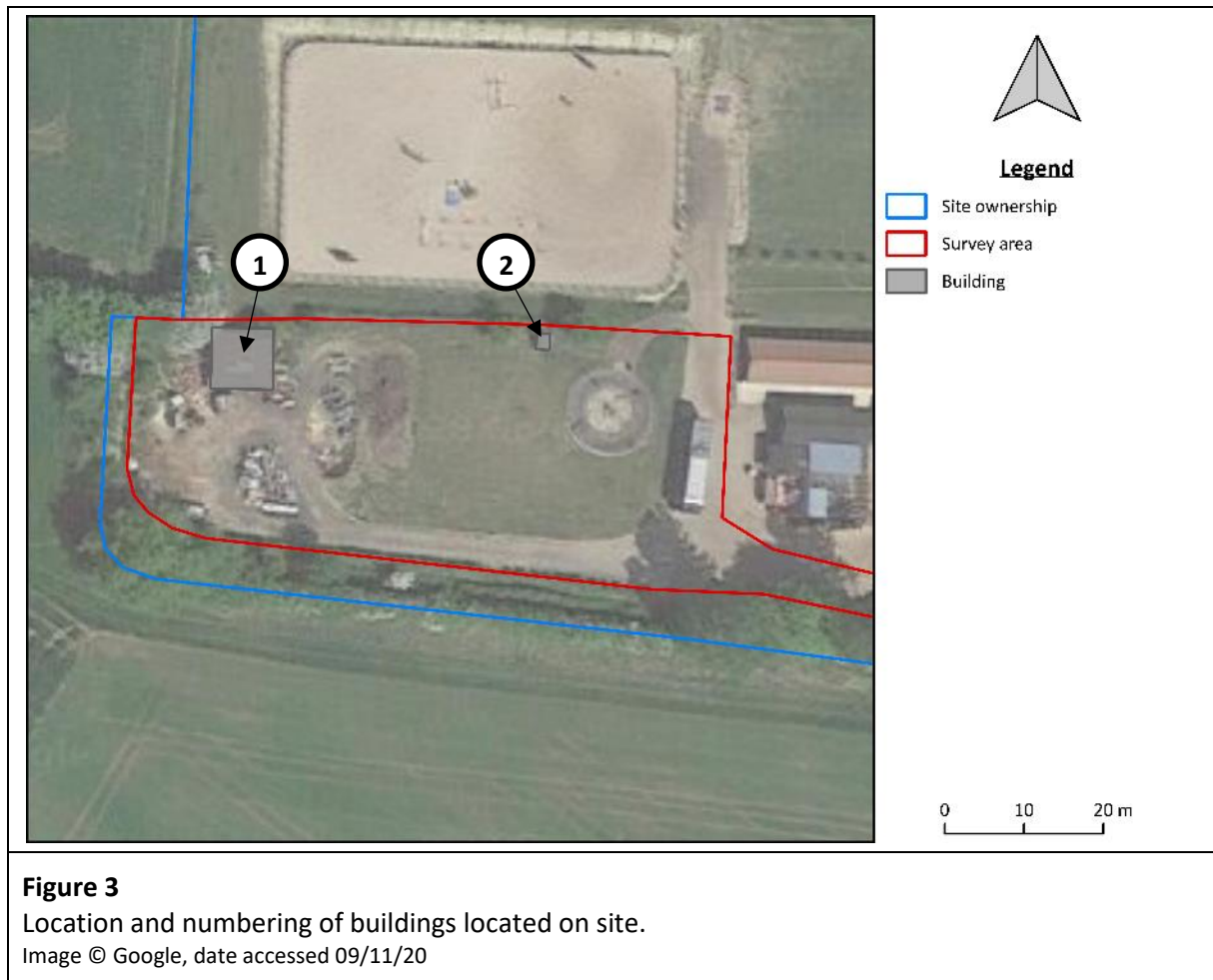
Photo 5, ephemeral vegetation, looking southwest.



Photo 6, target note two – log pile, looking north.

Bats

5.10. There are two buildings located on site, as indicated in Figure 3 and photos 7-8.



Buildings 1-2

5.11. The buildings vary in construction and are comprised of:

- Building one – a metal shipping container with a timber framed lean-to on the west aspect. The lean-to is open fronted and features a corrugated metal roof.
- Building two – a timber framed shed situated on a concrete base, with timber tongue and groove cladding and a pitched bitumen felt roof.

5.12. There were no signs of use by bats on the building exteriors or interiors and the structures provide unsuitable roost environments, with no suitable cavities for roosting bats. The buildings are assessed as **negligible** roost suitability for bats.



Photo 7, south aspect of building one, looking north.



Photo 8, south and west aspects of building two, looking northeast.

Trees

5.13. 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

- 5.14. The landscape immediately adjacent to the site is considered of **moderate** value for foraging and commuting bats, with several hedgerows and treelines providing links to the wider landscape. Residential dwellings locally have the potential to provide roosting opportunities for bats.
- 5.15. The site itself provides **low** value foraging habitat for bats along the recently planted hedgerows.

Birds

- 5.16. 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.
- 5.17. The following bird species were observed during the site visit:

Red listed:

Starling

*Sturnus vulgaris***Amber listed:**

Dunnock

*Prunella modularis***Green listed:**

Blackbird

Turdus merula

Carrion crow

Corvus corone

Great tit

Parus major

Pied wagtail

Motacilla alba

Robin

Erithacus rubecula

Woodpigeon

*Columba palumbus***Introduced:**

Pheasant

Phasianus colchicus

- 5.18. The site provides suitable nesting habitats for tree and building nesting species.
- 5.19. The site provides potential breeding habitat for the following Amber listed species: swift.
- 5.20. No signs of barn owl were found on the site and no foraging habitat is present.

Great crested newts

- 5.21. There are no ponds 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).
- 5.22. The terrestrial habitats on the site are considered predominantly unsuitable for GCN, consisting of amenity grassland managed as lawn, hardstanding and ephemeral vegetation.
- 5.23. Terrestrial habitats adjacent the site include a mixture of unsuitable (arable fields and residential dwellings with associated gardens and hardstanding) and suitable (tall ruderal vegetation, scrub, hedgerows and deciduous woodland) GCN foraging, commuting and hibernating habitats.
- 5.24. Ponds one and two were assessed as **poor** suitability for GCN (Table 2). Pond three was not assessed in detail, as authorised access to the ponds was not available.
- 5.25. The A1120 to the east act as a habitat barrier and ecologically separates the site from ponds in the local vicinity.

Pond	1	2	3
Geographic location	Zone A	Zone A	Authorised access unavailable
	1.00	1.00	
Pond surface area (m ²)	<50m ²	<50m ²	
	0.05	0.05	
Desiccation rate	Annually	Annually	
	0.10	0.10	
Water quality/ invert density	Poor	Poor	
	0.33	0.33	
Shoreline shade (%)	0%	80%	
	1.00	0.60	
Waterfowl impacts	Absent	Absent	
	1.00	1.00	
Fish impacts	Absent	Absent	
	1.00	1.00	
Ponds within 1km	13+	13+	
	1.00	1.00	
Terrestrial habitat quality	Poor	Poor	
	0.33	0.33	
Macrophyte cover (%)	0%	0%	
	0.30	0.30	
HSI Score	Poor	Poor	
	0.42	0.40	

Table 2, HSI score for ponds within 250m of the proposed site.



Photo 9, pond one, looking northwest.



Photo 10, pond two, looking west.

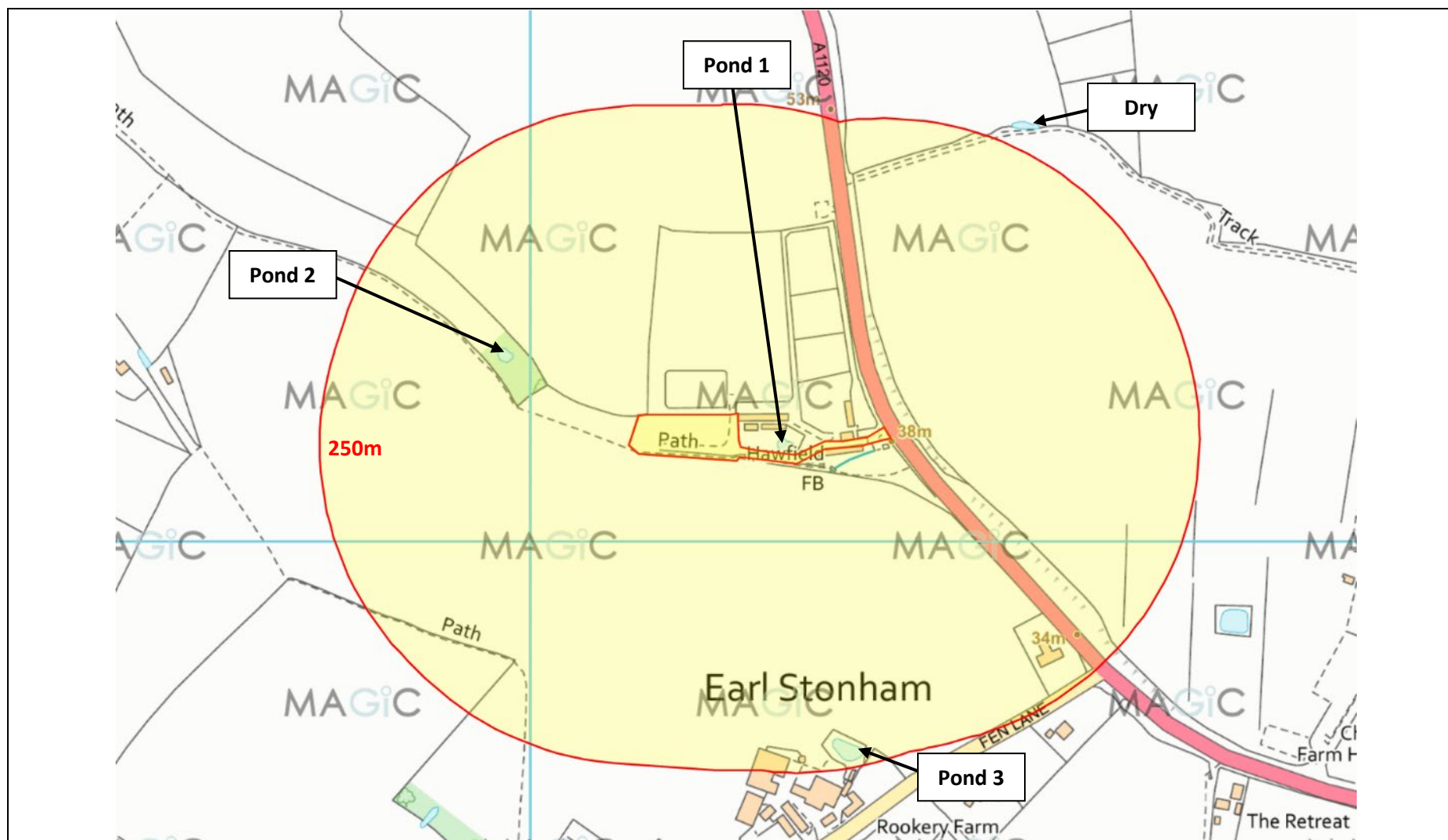


Figure 4
Ponds within 250m of the proposed site.
Image © MAGIC, date accessed 09/11/20

Water voles and otters

- 5.26. A seasonally wet ditch is present adjacent the southern and western boundaries of the survey area, but within the site ownership. The ditch featured steep earth banks, was slow flowing and heavily encroached by bramble *Rubus fruticosus*, nettle *Urtica dioica* and willowherb *Epilobium sp.* At the time of survey, after extensive heavy rainfall over previous days, the ditch contained <10cm of water. The ditch is expected to be dry during spring, summer and the majority of autumn.
- 5.27. The ditch was considered suboptimal for water voles and otters, with no burrows, holts or signs of use observed.

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 four non-statutory protected sites located within 2km of the site.
- The closest statutory protected site (Lingwood Meadows, Earl Stonham SSSI), is located approximately 1.4km southeast and designated for its maritime floristically rich old meadows.
 - The closest non-statutory protected site (RNR 70 CWS), is located approximately 15m east of the site and designated for its yellow vetchling and pyramidal orchids.
- 6.2. The proposed development falls outside of any SSSI Impact Risk Zones relating to rural non-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 and limited predicted impacts beyond the area of works.

Habitats

- 6.4. The proposed works will require the removal of building one, ≈0.05ha of hardstanding, <0.01ha of amenity grassland and ≈0.01ha of ephemeral vegetation. No priority habitats will be affected by the proposed development. 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 and trees 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. The planting of a small number of native trees or hedgerows along the site boundaries (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.
 - iii. Watercourses to be protected from runoff and pollution (including soil spill) from the proposed development.

Bats

- 6.6. The proposed works are expected to result in a low scale loss of foraging and commuting habitats for bats through increased noise and light levels.
- 6.7. As a precautionary measure, the following mitigation is recommended to avoid impacts on bats from the proposed works:
 - i. 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°.
 - ii. The planting of a small number of native trees or hedgerows along the site boundaries (see appendix H for suggested species).
- 6.8. 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.
- 6.9. As enhancements, we recommend the installation of:
 - i. Three standalone bat boxes (Schwegler 1FF Bat Box with built-in wooden rear panel – Appendix F).
- 6.10. After these precautionary mitigation measures, we predict no impact on bats as a result of the development plans. We consider that a European Protected Species Licence will not be required, and no further surveys are necessary.

Birds

- 6.11. The proposed works are expected to result in a low scale loss of bird nesting habitat through the removal of building one and increased noise and light levels.
- 6.12. Any works affecting bird nesting habitat such as management of 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.

6.13. As enhancements, we recommend the installation of:

- i. Three small bird boxes (Schwegler 1B or 2H Nest Box – Appendix F).
- ii. The planting of a small number of native trees or hedgerows along the site boundaries (see appendix H for suggested species).

Great crested newts

6.14. The proposed works are expected to result in a low scale loss of terrestrial habitats (<0.01ha of amenity grassland and ≈0.01ha of ephemeral vegetation), with aquatic habitats unaffected.

6.15. GCN are most likely to use suitable terrestrial habitat within only 250m of a breeding pond (English Nature, 2001) and we consider it highly unlikely that GCN would be present on site.

6.16. As a precautionary measure, the following mitigation is recommended to avoid impacts on GCN 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.

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

Water voles and otters

6.18. The proposed works are not expected to directly affect the seasonally wet ditch adjacent the southern and western boundaries. Furthermore, no burrows, holts or signs of use were observed along the ditch.

6.19. No impacts are expected on these species from the proposed development and no mitigation is required.

Other animals

6.20. 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).

6.21. 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.

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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 Suffolk Biodiversity Information Service ("SBIS").

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 3.

Indices	Name	Description
SI1	Geographic Location	Lowland England or upland England, Scotland and Wales
SI2	Pond area	To the nearest 50m ²
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 3, 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.

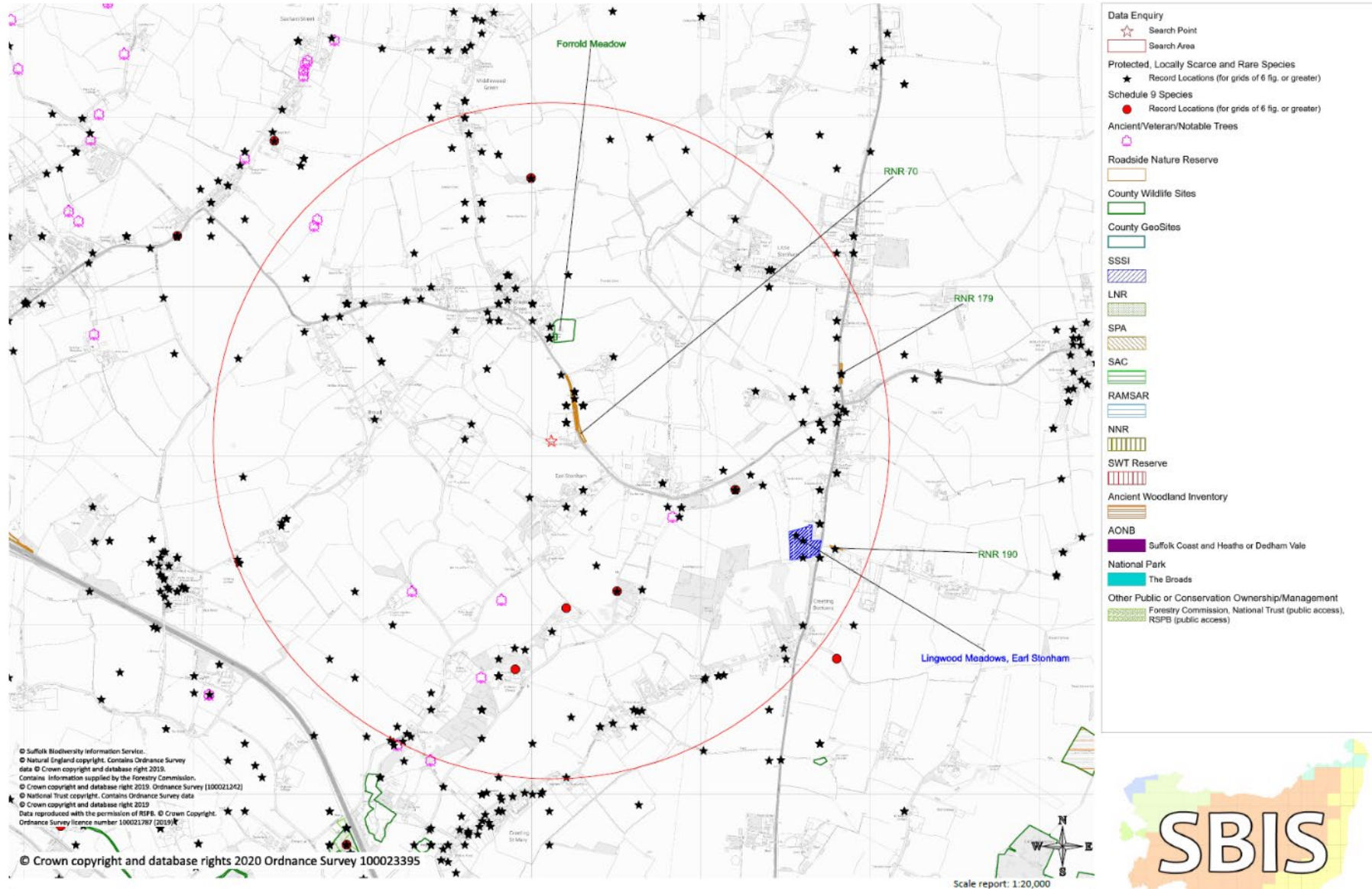
Other protected species

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

The field survey was conducted outside of the optimal survey period for flowering plants. Although the habitats recorded on site are unlikely to change to those described in this report, flora biodiversity is likely to be under recorded.

Appendix B
Map of protected sites within 2km



Greenlight (Beechwood Farm, Forward Green TM1011259089) 2km Data Enquiry

Suffolk Biodiversity Information Service
 Date: 04/11/2020 | Drawn by: Andy Mercer

Appendix C

Protected sites citations

SSSI citations

COUNTY: SUFFOLK SITE NAME: LINGWOOD MEADOWS, EARL STONHAM

DISTRICT: MID SUFFOLK

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended

Local Planning Authority: MID SUFFOLK DISTRICT COUNCIL, Suffolk County Council

National Grid Reference: TM 116584 Area: 2.66 (ha.) 6.6 (ac.)

Ordnance Survey Sheet 1:50,000: 155 1:10,000: TM 15 NW

Date Notified (Under 1981 Act): 1993

Description and Reason for Notification:

Lingwood Meadows consists of two floristically rich old meadows and is one of the few remaining examples of unimproved grassland in Suffolk. The number of such traditionally managed, herb rich meadows has been greatly reduced in recent decades and remain under threat from changes in agricultural practice. It supports a high number of grasses and herbs.

The sward is dominated by red fescue *Festuca rubra* and Yorkshire Fog *Holcus lanatus*, and eighteen further grass species typical of unimproved meadows have been recorded, such as crested dog's tail *Cynosurus cristatus*, quaking grass *Briza media* and sweet vernal-grass *Anthoxanthum odoratum*.

Fifty-five species other than grasses have been recorded in the grassland including the nationally scarce sulphur clover *Trifolium ochroleucon*. Other species which are characteristic of this grassland community include frequent common knapweed *Centaurea nigra*, pyramidal orchid *Anacamptis pyramidalis*, meadow vetchling *Lathyrus pratensis* and cowslip *Primula veris*. In part of the meadow the herbs are much more abundant than grasses.

The meadows slope down to the west, on calcareous clayey soil which is slowly permeable. Two ditches help drain water from the site. A tall hedge surrounding the meadows contains many tree and shrub species which adds further diversity and helps prevent spray drift from adjacent fields.

County Wildlife Sites citations

CWS Number Mid Suffolk 177
Site Name RNR 70
Parish Stonham Earl
District Mid Suffolk
NGR TM 10255933 - TM 10315908
Description Yellow Vetchling & pyramidal orchids. This site is also a Roadside Nature Reserve.
RNR Number 70
Area 0.44

CWS Number Mid Suffolk 178
Site Name RNR 179
Parish Stonham Earl
District Mid Suffolk
NGR TM 11835955 - TM 11835943
Description Chalk flora including pyramidal orchids. This site is also a Roadside Nature Reserve.
RNR Number 179
Area 0.1

CWS Number Mid Suffolk 191
Site Name RNR 190
Parish Creting St. Mary
District Mid Suffolk
NGR TM11795845
Description Species-rich chalk flora with wet flushes in patches. This is also a Roadside Nature Reserve.
RNR Number 190
Area 0.02

CWS Number	Mid Suffolk 199
Site Name	FORROLD MEADOW
Parish	STONHAM EARL
District	Mid Suffolk
NGR	TM101597
Description	<p>Forrold Meadow is a species-rich grassland (Priority habitat) and contains a good assemblage of meadow flora including oxeye daisy, common knapweed, yellow rattle, meadow buttercup, bird's-foot-trefoil, primrose, yellow oat grass, common spotted orchid, pyramidal orchid and pepper saxifrage. Species such as ragged-Robin and southern marsh orchid can be found in the wetter parts of the meadow. The grassland supports a wealth of invertebrates and offers refuge for small mammals. Priority species hedgehog is recorded here.</p> <p>The ancient hedgerow and two ponds (one of which has been more recently created) provide further structural diversity and habitat opportunities for wildlife including Priority species stag beetle, great crested newt, grass snake, dunnock, house sparrow and starling. Spotted flycatcher, turtle dove and lesser-spotted woodpecker have also previously been recorded.</p> <p>The meadow is managed by taking an annual hay cut.</p>
Area	1.52

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 30th 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).

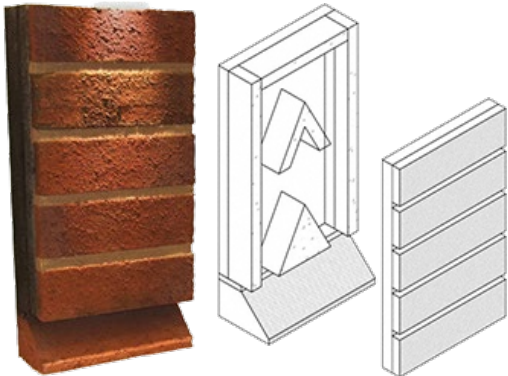
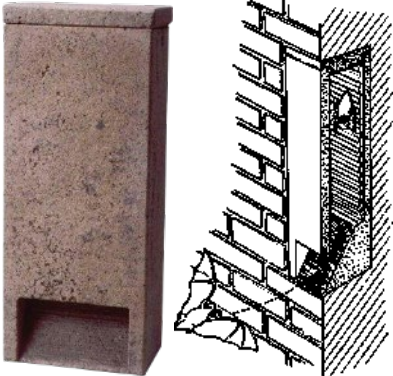


Appendix E

Plant species recorded on site

English name	Scientific name
Beech	<i>Fagus sylvatica</i>
Black nightshade	<i>Solanum nigrum</i>
Bramble	<i>Rubus fruticosus</i>
Bristly oxtongue	<i>Helminthotheca echioides</i>
Cherry	<i>Prunus sp.</i>
Cherry laurel	<i>Prunus laurocerasus</i>
Cleavers	<i>Galium aparine</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common chickweed	<i>Stellaria media</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping thistle	<i>Cirsium arvense</i>
Dandelion	<i>Taraxacum officinale</i>
Dock	<i>Rumex sp.</i>
Dog-rose	<i>Rosa canina</i>
Dogwood	<i>Cornus sanguinea</i>
Dove's-foot cranesbill	<i>Geranium molle</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Mallow	<i>Malva sylvestris</i>
Nettle	<i>Urtica dioica</i>
Pear	<i>Pyrus sp.</i>
Perennial ryegrass	<i>Lolium perenne</i>
Poplar	<i>Populus sp.</i>
Ragwort	<i>Jacobaea vulgaris</i>
Red dead-nettle	<i>Lamium purpureum</i>
Shepherd's purse	<i>Capsella bursa-pastoris</i>
Spear thistle	<i>Cirsium vulgare</i>
Speedwell	<i>Veronica sp.</i>
Spotted medick	<i>Medicago arabica</i>
Teasel	<i>Dipsacus fullonum</i>
White dead-nettle	<i>Lamium album</i>
Willowherb	<i>Epilobium sp.</i>

Appendix F Examples of bat and bird boxes

(images sourced from www.nhbs.com, www.habibat.co.uk and www.manthorpe.co.uk)

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

Recommendations for installing bat boxes:

(Sourced from Bat Conservation Trust 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>Small bird nesting box 1B Schwegler Nest Box</p> 	<p>Small bird nesting box 2H Schwegler Robin Box</p> 
<p>Integrated swift box Schwegler Brick Nest Box Type 25</p>  <p>Type 25</p>	<p>Standalone swift box WoodStone Swift Nest Box</p> 
<p>Integrated sparrow terrace 1SP Schwegler Sparrow Terrace</p> 	<p>Integrated sparrow terrace Terraced Sparrow Box</p> 

Recommendations for installing bird boxes:

(Sourced from British Trust for Ornithology www.bto.org and Manthorpe www.manthorpe.co.uk)

The highest priority when siting a nest box must be to provide a safe and comfortable environment in which birds can nest successfully.

Tips for putting up a nest box:

- 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.
- Don't place boxes too close to another nest box of the same type, as this may promote aggressive behaviour between neighbours.
- 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.
- Make sure cats cannot get into the box.
- Keep nest box away from bird feeders.
- 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.



Tips for putting up house sparrow terraces and swift bricks/boxes:

- Locate ≥ 5 m high on the gable wall of the property and above the level of the insulation zone.
- 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.

Appendix G

Examples of hedgehog friendly fencing

(images sourced from www.quercusfencing.com and www.jackson-fencing.co.uk)

Quercus Fencing	Jacksons-Fencing
Hedgehog friendly oak woven fencing panels	Hedgehog friendly gravel board for use with slotted posts
	

Recommendations for installing hedgehog friendly fencing:

(Sourced from Hedgehog Street 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>Hypochoeris 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>

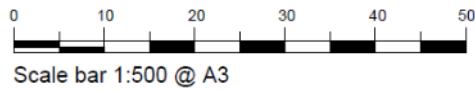
Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass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

Appendix I

Proposed plans



Block plan as existing



Ian Smille Architectural Services
75 Camden Road, Ipswich IP3 8JN
telephone 01473 714209
Do not scale from this drawing
- If in doubt ASK

Site block plan
Proposed Shepherds huts
Beechwood Farm, Forward Green, Stowmarket
For Nigel Ward
Scale 1:500 @ A3 dwg number 2018009/31 Rev. A