



Land at Wix Road, Bradfield

Preliminary Ecological Appraisal

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CONTENTS

1.0	SUMMARY	3
2.0	INTRODUCTION	4
3.0	METHODOLOGY	6
4.0	RESULTS (<i>Baseline Conditions</i>)	12
5.0	CONCLUSIONS AND RECOMMENDATIONS.....	18
6.0	ENHANCEMENT MEASURES	22
7.0	REFERENCES	24
8.0	LEGISLATION	25

Figure 1: Site Location Plan



1.0 SUMMARY

- 1.1 The site (located at NGR: TM 14373011) was found to comprise an area of well managed land in current soft fruit production with a small area of fallow land in the western field corner. A narrow, leggy, hawthorn dominated hedge runs along the south western boundary with Wix Road. Outline planning permission is being sought to build up to nine residential dwellings on the land.
- 1.2 The hedge and to a much lesser degree the soft fruit bushes provide suitable habitat for nesting birds. Ideally removal of such potential nesting habitat would commence during October to February inclusive to avoid the bird nesting season. If this is not possible, immediately prior to commencement of works a check for nesting birds should be undertaken by a suitably experienced ecologist. Any active nests will need to be left in situ until the young have left the nest.
- 1.3 The site is not deemed suitable for any other protected species.
- 1.4 The enhancement measures detailed in section 6.0 can be secured via a planning condition, and should result in a minor overall enhancement for nesting house sparrow and roosting bats at the site scale.



2.0 INTRODUCTION

Instruction

- 2.1 This report has been prepared by Liz Lord following instruction by Mr. J. Pearce of Brooks Leney to carry out an ecological appraisal of a c.0.8ha parcel of land north of Wix Road, Bradfield, Manningtree, Essex CO11 2UX.

Site Proposals

- 2.2 Outline planning permission is being sought to develop the site for up to nine residential dwellings.

Site Description

- 2.3 The site is situated close to the centre of the village of Bradfield, between Bradfield and Bradfield Heath. The Stour Estuary runs c.1.4km to the north of the site, and the town of Manningtree c.3.5km north west. To the north east and south east of the site extend fields of soft fruit bushes and recently planted fruit trees. To the north west and south west are existing residential dwellings located on the outskirts of Bradfield. The wider surrounding landscape is dominated by arable fields, modern orchards and soft fruit production, seasonal polytunnels, scattered solar farms and pasture of varying size, interspersed with wide hedges and small pockets of woodland.
- 2.4 A site location plan is provided below.



Fig 1: Site location, with approximate site boundary highlighted red. Aerial photograph taken from Google Earth Pro, image dated 9/5/2020



- 2.5 This report has been written broadly in accordance with the report writing guidelines produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM 2018, 2017a, 2017b). In accordance with the client brief, this survey and report aims to:
- 2.5.1 Where possible, identify and describe all potentially significant ecological effects on protected and notable species / sites associated with the proposals;
 - 2.5.2 Where possible, set out the mitigation measures required to ensure compliance with nature conservation legislation and address any potentially significant ecological effects;
 - 2.5.3 Identify how mitigation measures will / could be secured;
 - 2.5.4 Provide an assessment of the significance of any residual effects;
 - 2.5.5 Identify appropriate enhancement measures; and
 - 2.5.6 Where deemed necessary, set out the requirements for post construction monitoring.
- 2.6 This survey and report is intended to inform, as necessary, the layout and design of the proposals, future landscape design and management on site, and where required the methodology and timing of development works.

Timescales

- 2.7 The construction period is expected to be around 12-36 months following the granting of relevant permissions.
- 2.8 This report is valid for a period of 18 months from the date of survey. Beyond this time, changes to vegetation may have occurred which could require re-assessment and potentially further survey to re-determine the presence / likely absence of protected species.

Relevant Documents

- 2.9 A proposed site layout was not available at the time of survey, however it is understood that the proposals will entail up to nine residential dwellings set alongside Wix Road, in a form of continuation of the residential development immediately adjacent to the north west.
- 2.10 Note that any minor amendments to the overall scheme are unlikely to alter the conclusions and recommendations of this report.
- 2.11 Recommendations included within this report are the professional opinion of an experienced ecologist based on the client's proposals for the site, the site surveys, the results of the desk study, and features present in the surrounding environment.



3.0 METHODOLOGY

Desk Study

- 3.1 The Multi Agency Geographic Information for the Countryside (MAGIC) website was consulted on 15th March 2021 to determine the presence of any nationally and internationally designated sites such as Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites within influencing distance of the proposals.
- 3.2 The MAGIC website was also used to search for any records of European Protected Species Mitigation (EPSM) licences that have been approved by Natural England within a 5km radius of the application site since late 2008. The website was checked for any data from Natural England's great crested newt eDNA Habitat Suitability Index pond surveys for District Level Licensing 2017-2019 (last updated October 2020); and data from Natural England great crested newt Class Survey Licence returns within a 5km radius of the site (last updated May 2020).
- 3.3 Due to the small size of the site, the widespread nature and generally low ecological value of the habitats present, the author's existing awareness of protected species presence in the local area, and the very low potential for any protected species to be present on site, very few species records were likely to be of relevance to the proposals. Additional information regarding the local presence of protected or notable species was therefore not considered to be of significant relevance, and a detailed desk top records search was not undertaken. In this particular case, the results of a full detailed records search are extremely unlikely to affect the conclusions and recommendations of the report.
- 3.4 The Essex Wildlife Trust's online data set was consulted on 15th March 2021 for information regarding the presence of Local Wildlife Sites (LoWS) on site or immediately adjacent i.e. within the potential Zone Of Influence.

Site Survey

- 3.5 A daytime site survey was carried out on 9th March 2021. The survey was based upon the standard methodology for Extended Phase 1 Habitat Surveys (JNCC 2010), with habitats classified according to the abundance of plant species present. Any evidence of invasive species such as Japanese knotweed was noted.
- 3.6 The survey area was limited to the land within the red line boundary as shown in Figure 1, plus land immediately adjacent to the site, where accessible or visible.



- 3.7 The survey also included an assessment of the site's potential to support any legally protected species; or Species and Habitats of Principal Importance, as identified by Section 41 of the Natural Environment and Rural Communities Act 2006. Where best practice guidelines exist, these have been used to assess the likelihood that individual species will be present, for example Bat Surveys: Good Practice Guidelines (Collins, J. 2016) and Habitat Suitability Index for Great Crested Newt (Oldham *et al*, 2000).
- 3.8 Using criteria provided in best practice guidelines, habitats have been assessed for their potential to support protected species; notably bats, barn owls *Tyto alba*, badgers *Meles meles*, great crested newts *Triturus cristatus*, reptiles, water voles *Arvicola amphibius*, dormice *Muscardinus avellanarius* and otters *Lutra lutra*.
- 3.9 Where methodologies, classification or recommendations deviate from best practice guidelines, this report provides ecological justification for such changes.

Tree Survey

- 3.10 Where necessary trees were surveyed from ground level with a powerful torch and a pair of Nikon 12 x 50 binoculars for potential roost features (e.g. splits, cavities, lifted bark, woodpecker holes), and assessed in accordance with criteria outlined in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, J. 2016).

Surveyors

- 3.11 The survey was carried out by Liz Lord. Liz has been a professional ecologist since 2005, and holds current Natural England licences to survey bats - Class Licence Reg. No. 2015-13305-CLS-CLS; great crested newts - Class Licence Reg. No. 2020-44816-CLS-CLS; and barn owls - Class Licence Reg. No. CL29/00160. Liz is a full member of CIEEM.
- 3.12 The weather at the time of the site survey was sunny and still (BF0-1) with a temperature of 9°C.

Zone of Influence

- 3.13 The potential impacts of a development are not always limited to the boundaries of the site concerned, such as where there are ecological or hydrological links beyond the site boundaries. In order for the proposed works to have an impact on habitats and species outside of the site boundaries, there needs to be a source of impact, a pathway and a receptor for that impact.
- 3.14 The Zone of Influence will vary for different habitats and species depending on their sensitivity to predicted impacts, the distribution and status of the relevant species, whether a species is mobile, migratory, and whether its presence and activity varies according to the seasons.



3.15 An assessment of the Zone of Influence has been made based on the site boundaries shown in Figure 1, and where necessary recommendations to avoid any significant adverse impacts beyond the site boundaries have been provided in section 5.0.

Limitations

3.16 The conclusions in this report are based on the best information available during the reported period of survey.

3.17 Ecological surveys provide only a 'snapshot' of the site in time, and many species, such as bats and badgers, are capable of colonising a site in a very short space of time. Lack of evidence of a species at the time of survey can only allow conclusion of the *likely* absence of this species, since no level of survey effort is capable of proving absence beyond doubt.

3.18 The survey was undertaken at a time of year when some plant species are not present above ground, or are simply not easily recorded; however an overall assessment of the flora communities present at the time of survey has been used to assess the likelihood of the unrecorded presence of any plant species of conservation importance.

3.19 Whilst best efforts have been made to identify all water bodies within 250m of the site, it is not always possible to record all garden ponds using Ordnance Survey maps and aerial photography. Additional search effort with respect to garden ponds is likely to be disproportionate, as many garden ponds have limited suitability for great crested newts, and it is a common constraint associated with all Ecological Assessments.

Geographic Context

3.20 Where applicable, the importance of each ecological feature has been considered in a geographic context as follows:

- International and European
- National
- Regional
- Metropolitan, County, vice-county or other local authority-wide area
- River Basin District
- Estuarine system/Coastal cell
- Local (further categorized into District, Borough or Parish)
- Site

Assessment of Impacts and Effects

3.21 The following definitions are used for the terms 'impact' and 'effect' in accordance with CIEEM (2018) guidelines:



- Impact – actions resulting in changes to an ecological feature
- Effect – outcome to an ecological feature from an impact

3.22 The importance of any ecological feature has been determined via the site surveys detailed in this report. Note that species and habitats afforded legal protection are, by default, always considered within the EclA assessment process to be 'important'.

3.23 Potential impacts of the proposals on any such features have been assessed based on the client proposals for the site, and following a review of all phases of the project. Impacts are assessed through consideration of the extent, magnitude, duration, reversibility, timing and frequency of works which may result in likely 'significant' impacts to any ecological features present. The route through which impacts may occur (direct, indirect, secondary or cumulative) has also been considered. Positive impacts are assessed as well as negative ones.

3.24 The results of the surveys have been used to identify any potentially significant impacts in the absence of any avoidance, mitigation or compensation measures. Any such appropriate measures have then been proposed where necessary.

Characterisation of Ecological Impacts

3.25 When considering ecological impacts and effects, the following characteristics have been considered:

- positive or negative
- extent
- magnitude
- duration
- frequency and timing
- reversibility

3.26 Where various characteristics have not been specifically referred to in this report, they have been considered insignificant or irrelevant to that specific feature.

3.27 A 'significant effect' is defined within the current CIEEM guidelines (2018) as: *"an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local."*



- 3.28 Where a significant effect is predicted, this requires assessment and reporting in order to provide the decision maker with sufficient information to determine the environmental consequences of a project. A significant effect can be either positive or negative, and its extent will determine the requirement of conditions, restrictions or monitoring works.
- 3.29 The current CIEEM guidelines (2018) also state that: *“After assessing the impacts of the proposal, all attempts should be made to avoid and mitigate ecological impacts. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts should be undertaken to determine the significance of their effects on ecological features. Any residual impacts that will result in effects that are significant, and the proposed compensatory measures, will be the factors considered against ecological objectives (legislation and policy) in determining the outcome of the application.”*
- 3.30 This report has taken into account the factors detailed above for each important ecological feature in the absence of mitigation. Recommendations have then been made with respect to avoidance / mitigation / compensation / enhancement as necessary, and an assessment of the residual impacts after such measures has been made.

Mitigation Hierarchy

- 3.31 In order to minimise the likelihood of any significant negative residual effects on environmental features, this assessment has followed the mitigation hierarchy (listed below in order of preference):
- Avoidance – measures that avoid harm to ecological features, both spatially and temporally;
 - Mitigation – avoidance or minimisation of negative effects through appropriate timing of works, or the provision of mitigation measures within the scheme design which can be guaranteed by condition or similar;
 - Compensation – measures taken to offset residual effects which result in the loss of, or permanent damage to, ecological features despite mitigation;
 - Enhancement – measures to provide net benefits for biodiversity, either by improved management of existing features, or the provision of new features, and over and above that which is required to mitigate / compensate for an impact. Delivery should be secured via planning condition or similar.

Legislation and Policy

- 3.32 Specific reference has been made to the individual legal protection of the species detailed within this report, however additional information with respect to other relevant legislation and planning policy is provided in section 8.0.



3.33 The legislation of particular relevance within the body of this report is the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). The former confers legal protection to 'European' Protected Species against both disturbance and harm, and extends to the full protection of their habitats. This legislation also provides legal protection for a number of internationally designated sites within the UK, and remains in place following Brexit.

3.34 The Wildlife and Countryside Act 1981 (as amended) is UK specific, and generally only provides protection against direct harm to individuals of a species.



4.0 RESULTS (Baseline Conditions)

Site Summary

4.1 The site comprises a small area of soft fruit farm with closely mown improved grassland between the rows of fruit bushes and across the field margins. A small area of fallow land is present in the western corner, and a mature, leggy hedgerow grows along the south western site boundary.

Desk Study: Statutory Designated Sites

4.2 Natural England's MAGIC website indicates that there are no UK statutory designated sites of national importance located within 2km of the site boundary.

4.3 One statutory designated site of international importance is located within a 5km radius of the site - the Stour and Orwell Estuaries SPA and Ramsar site at 1.3km north. The reasons for designation are summarised in Table 1 below.

4.4 The MAGIC IRZ search tool identified '*Residential development of 50 units or more*' or '*Any residential development of 10 houses outside existing settlements / urban areas*' as requiring consultation with Natural England. This is not applicable to the proposals, which comprise up to nine residential dwellings. The search tool also highlighted that '*For new residential development in this area, consideration is required in terms of the emerging Essex Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS).*'

Table 1: Statutory designated sites within applicable search radii

Site	Designation	Distance from site	Citation
Stour and Orwell Estuaries	SPA	5km north	<p>Qualification under Article 4.1 of the Birds Directive for internationally important populations of Annex 1 bird species:</p> <p>Breeding Avocet <i>Recurvirostra avosetta</i></p> <p>Qualification under Article 4.2 of the Birds Directive for internationally important numbers of migratory species not listed in Annex 1:</p> <p>Over-wintering Pintail <i>Anas acuta</i>, Dark bellied brent goose <i>Branta bernicla bernicla</i>, Grey Plover <i>Pluvialis squatarola</i>, Dunlin <i>Calidris alpina alpina</i>, Red knot <i>Calidris canutus</i>, Black-tailed Godwit <i>Limosa limosa islandica</i> and Redshank <i>Tringa tetanus</i>.</p> <p>Common redshank on passage.</p> <p>Qualification under Article 4.2 of the Birds Directive as an internationally important assemblage of birds: The SPA regularly supports over 20,000 waterfowl</p>



Site	Designation	Distance from site	Citation
Stour and Orwell Estuaries	Ramsar, SSSI	5km north	<p>A complexity of estuarine habitats and coastal grazing marsh.</p> <p>Qualified under Ramsar Criterion 2, 5 and 6:</p> <p>2) Invertebrate fauna, including at least five British Red Data Book species and seven nationally scarce plants</p> <p>5) Bird assemblages (overwintering) of international importance</p> <p>6) Bird species / populations at levels of international importance</p>

Desk Study: Non-Statutory Designated Sites

- 4.5 There are no Local Wildlife Sites located within influencing distance of the site.

Habitats

Invasive species

- 4.6 No aerial evidence of Japanese knotweed *Fallopia japonica* was recorded within the site or the immediately adjacent areas at the time of survey.

Water bodies

- 4.7 No water bodies are present on site. Aerial photographs and Ordnance Survey maps at 1:10,000 scale did not highlight the presence of any water bodies within 250m of the site boundaries.

Improved grassland

- 4.8 A wide 6-8m margin of closely mown improved grassland runs around all margins of the wider field, and is present along the south western field boundary, between the soft fruit bushes and the boundary hedge. It supports common and widespread species including Yorkshire fog *Holcus lanata*, cocksfoot *Dactylis glomerata* and rough meadow grass *Poa trivialis*, with scattered daisy *Bellis perennis*, yarrow *Achillea millefolium*, ribwort plantain *Plantago lanceolata*, doves foot cranes bill *Geranium molle* and creeping buttercup *Ranunculus repens*. The vegetation was short at the time of survey, and appears to be regularly mown around the field edges and between the rows of fruit bushes.

Farmed fruit

- 4.9 The site lies in the western corner of a larger field, all of which is in soft fruit production (currants). The fruit bushes grow in regular rows of c.1.5m wide bare earth, with mown grass strips between.



Native, species poor hedgerow

4.10 The south western site boundary is marked by a mature, leggy and regularly managed hedgerow. It is dominated by hawthorn *Crataegus monogyna*, with some blackthorn *Prunus spinosa*, bramble *Rubus fruticosus* agg. and ivy *Hedera helix*. The hedge is associated with a seasonally wet ditch on the field side, supporting willowherb *Epilobium* sp., nettle *Urtica dioica*, bramble, ivy, moss and occasional snowdrops *Galanthus nivalis*.

4.11 A single, multi-stemmed semi-mature ash tree *Fraxinus excelsior* grows at the very northern end of the hedge.

Ephemeral / short perennial vegetation

4.12 A small area (c.0.05ha) of the western corner of the field is fallow, with sparse vegetation cover and typical ephemeral vegetation present including bristly oxtongue *Helminthotheca echioides*, wild oat *Avena fatua*, red dead nettle *Lamium purpureum*, groundsel *Senecio vulgaris*, scentless mayweed *Tripleurospermum inodorum*, chickweed *Stellaria media*, creeping thistle *Cirsium arvense*, doves foot cranesbill, willowherb and occasional cocksfoot.



Photo 1: Western half of site, viewed from south western boundary



Photo 2: View across site, south to north between rows of fruit bushes



Photo 3: Offsite trees and shrubs along northern site boundary



Photo 4: Small corner of fallow land with sparse ephemeral / short perennial vegetation cover





Photo 5: Narrow hedge and seasonally wet ditch along south western boundary, viewed from site



Photo 6: Hedgerow along south western site boundary, viewed from road

Bats

- 4.13 The desk study identified four bat EPSM licences within 5km of the site, at 1.5km north for a non-breeding roost of common *Pipistrellus pipistrellus* and brown long-eared bat *Plecotus auritus* dating from 2009; two licences at 3.3km east for non-breeding roosts of common pipistrelle and brown long-eared bat dating from 2015, and common pipistrelle, soprano pipistrelle *P. pygmaeus*, brown long-eared bat and noctule *Nyctalus noctula* dating from 2009; and at 2.2km south east for non-breeding roosts of common pipistrelle, soprano pipistrelle, brown long-eared bat and natterer's *Myotis nattereri* dating from 2014.
- 4.14 The author is aware of the presence of various other bat species within 5km of the site including nathusius pipistrelle *P. nathusii*, daubenton's *Myotis daubentonii*, and barbastelle bat *Barbastella barbastellus*.

Bats - roosting

- 4.15 There are no buildings present on site, and with a wide margin of trees between the site and offsite existing residential dwellings to the north, no nearby buildings will be affected by the proposals.
- 4.16 The semi-mature ash tree present at the northern end of the hedgerow is not suitable for roosting bats, and there are no other trees present on site. The suitability of the immediately adjacent offsite trees in a mature garden to the north – including weeping willow *Salix babylonica* and young oak *Quercus* sp. – was not fully assessed for roosting bats due to lack of access, but no potential roost features were noted to be present on the site side. No offsite trees will be directly affected by the proposals, however it may be necessary to avoid works within the root protection zone and / or use no-dig construction methods as required.



Bats – commuting / foraging

- 4.17 The site provides a small area of low quality potential bat foraging habitat, with the over-managed hedgerow to the north west unlikely to provide a resource of significant value to local bat populations. It may serve as a commuting route, however it is not the only feature providing connectivity into the wider landscape from the north western corner of the site.
- 4.18 The fruit bushes are likely to be of some value to invertebrates, and therefore potentially foraging bats, however there is very little other potential invertebrate habitat of note on site, and as a managed crop the value of the fruit bushes to foraging bats will be limited.

Amphibians

- 4.19 The MAGIC search highlighted one great crested newt (GCN) record from pond survey data at approximately 2.3km north east of the site, and two at 4.1km east of the site. MAGIC did not highlight any GCN EPSM licences within 5km of the site.
- 4.20 Due to the highly managed nature of the land around and between the fruit bushes, the site provides very little potential GCN habitat. No water bodies were identified within 250m of the site, and the likelihood of GCN being present on site is therefore negligible.
- 4.21 Natural England's rapid risk assessment tool (Natural England, 2015) indicates that for the loss / damage of up to 5ha of newt habitat over 250m from a GCN pond the notional probability of an offence is Green i.e. 'highly unlikely', with a probability score of 0.04. Given that the site measures less than 1ha, the presence of any ponds beyond 250m of the site is not considered to be of significant relevance to the proposals, and any such ponds were not considered as part of this assessment.

Reptiles

- 4.22 The site provides negligible potential reptile habitat, with the vegetation being regularly mown or bare. The small area of fallow land in the north western corner of the site does not provide sufficient vegetation cover to support reptiles.

Birds

- 4.23 The boundary hedgerows and tree provide opportunities for nesting birds, with the fruit bushes also of some limited suitability for nesting birds. The small area of fallow land in the northern corner of the site is located in very close proximity to a mature hedgerow and offsite mature trees, and is unlikely to be used by ground nesting birds due to the perceived threat of predation from potential predators using the nearby trees and shrubs. Nests were noted in the leggy hawthorn hedge growing along the north western site boundary.



Badger

- 4.24 No evidence of badger was recorded on or within 30m of the site. No setts, footprints, hairs, latrines, snuffle holes or scratching indicative of the presence of badgers was recorded as far as could be observed.

Water vole and Otter

- 4.25 There are no features on or immediately adjacent the site which provide suitable habitat for water voles or otters.

Dormice

- 4.26 The MAGIC data search highlighted the presence of two dormouse EPMS licences at c.4.5km to the north east of the site, dating from 2014 and 2015. However, the site itself supports very limited potential dormouse habitat, and is not connected to any areas of offsite habitat of sufficient extent to support a viable population of dormice.

Invertebrates

- 4.27 The site is considered likely to support common and widespread invertebrate species typical of the habitats present. The site does not provide any deadwood habitats suitable for stag beetle *Lucanus cervus*.

Other Legally Protected Species

- 4.28 Due to a lack of suitable habitats the site is not considered likely to support any other legally protected species.

Species of Principal Importance

- 4.29 The site provides some potential foraging opportunities for hedgehog *Erinaceus europaeus*, starling *Sturnus vulgaris* and dunnock *Prunella modularis*.



5.0 CONCLUSIONS AND RECOMMENDATIONS

Designated Sites

- 5.1 The proposals are not considered to be detrimental to any LoWS. No further survey or mitigation is recommended.
- 5.2 There no statutory designated sites of national importance within 2km of the site, and the small scale proposals are unlikely to have any adverse impact upon any sites beyond a 2km distance. No further works are necessary.
- 5.3 Whilst the proposals are very unlikely to have any direct adverse impact upon any national or international statutory designated sites, the site lies within the Zone of Influence for the internationally designated Stour and Orwell Estuaries SPA and Ramsar site.
- 5.4 All internationally designated sites are fully protected by the Conservation of Habitats and Species Regulations 2017 (as amended). Any new development must avoid having a significant adverse effect on the ecological features for which an SPA/SAC/Ramsar site was designated. Any such effect must be considered in combination with potential effects from other developments within influencing distance of the designated sites. Due to the local topography, small scale of the development, surrounding habitats and distance from the Stour and Orwell Estuaries, this development proposal is very unlikely to have a direct significant adverse effect upon this site. It is however, likely to contribute to cumulative impacts associated with increased visitor pressure.
- 5.5 A financial contribution to the Essex RAMS is required in order to ensure that there will be 'no likely significant effect' on the Stour and Orwell Estuaries. A per house tariff has been adopted, and this should be secured via the necessary means (Section 106 Agreement, Unilateral Undertaking etc) as an adequate mitigation measure.
- 5.6 The RAMS will work towards a range of locally appropriate and effective mitigation measures to ensure that increased visitor numbers will not have an adverse impact upon any European designated site within the immediate region.

Amphibians

- 5.7 Great crested newts (GCNs) and their habitats are fully protected under the Conservation of Habitats and Species Regulations 2017 (as amended), and by the Wildlife and Countryside Act 1981 (as amended).
- 5.8 Potential effects: negligible.
- 5.9 Mitigation measures: none.
- 5.10 Residual effects: negligible.



Reptiles

- 5.11 All Essex reptile species are protected against harm under the Wildlife and Countryside Act 1981 (as amended).
- 5.12 Potential effects: negligible.
- 5.13 Mitigation measures: none.
- 5.14 Residual effects: negligible.

Birds

- 5.15 Breeding birds and their nests are protected under the Wildlife and Countryside Act 1981 (as amended).
- 5.16 Potential effects: the hedge, trees and to a much lesser degree the soft fruit bushes provide potential nesting habitat and the disturbance and destruction of an active nest could have a negative effect on some bird species at the site level. There will be some loss of low quality grassland foraging habitat used by species such as starling, although the impacts are unlikely to be significant in the context of the surrounding environment.
- 5.17 Mitigation measures: ideally removal of woody nesting habitat would commence during October to February inclusive to avoid the bird nesting season. If this is not possible, immediately prior to commencement of works a check for nesting birds should be undertaken by a suitably experienced ecologist. Any active nests will need to be left in situ until the young have left the nest.
- 5.18 Residual effects: following implementation of the mitigation and enhancement measures detailed in section 6.0 – the planting of species rich boundary hedgerows, the provision of three woodstone nest boxes for house sparrows *Passer domesticus* and two long-lasting woodstone, open fronted nest boxes for wrens and robins – overall no significant adverse effect is predicted on bird species at any level in the medium to long term, and a minor enhancement for house sparrows may result.

Bats

- 5.19 All species of bat are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and by the Wildlife and Countryside Act 1981 (as amended). In summary, this makes it an offence to harm or disturb a bat; damage or destroy a roost; and obstruct access to a roost (whether or not bats are present at the time).
- 5.20 Potential effects on roosting bats: none.
- 5.21 Mitigation measures for roosting bats: none.



- 5.22 Potential effects on commuting / foraging bats: in the absence of mitigation negligible impacts are predicted with respect to foraging and commuting bats as the site provides very small areas of potential foraging habitat, however the effects on some bat species – particularly brown long-eared bats – using the hedge line to the west and offsite trees to the north could be greater where inappropriate lighting is installed on site.
- 5.23 Mitigation measures for commuting / foraging bats: a bat friendly lighting scheme should be implemented to avoid lighting the site boundaries or any enhancement features at night. Lighting within the new development should be minimal – ideally limited to a small front porch light and located as close to the ground as possible. Any additional external lighting should be motion sensitive and use hoods, cowls, louvres and shields to direct light to the ground.
- 5.24 Residual effects: a minor enhancement of the site for roosting bats could be achieved via the installation of three artificial roosting features built into houses and / or outbuildings, as detailed in Section 6.0.

Badger

- 5.25 Badgers and their setts are afforded protection under the Protection of Badgers Act 1992 (as amended). This legislation includes protection against damage to badger setts and against interference and disturbance of badgers whilst they are occupying a sett. Badgers are, however, a common and widespread species not of conservation concern.
- 5.26 Potential effects: none. No evidence of badgers was found on site or immediately adjacent, as far as could be viewed.
- 5.27 Mitigation measures: none.
- 5.28 Residual effects: none.

Otters

- 5.29 Otters and their habitats are fully protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and by the Wildlife and Countryside Act 1981 (as amended).
- 5.30 Potential effects: none.
- 5.31 Mitigation measures: none.
- 5.32 Residual effects: none.



Water Voles

- 5.33 Water voles and their habitats are fully protected by the Wildlife and Countryside Act 1981 (as amended).
- 5.34 Potential effects: none.
- 5.35 Mitigation measures: none.
- 5.36 Residual effects: none.

Dormice

- 5.37 Dormice and their habitats are fully protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and by the Wildlife and Countryside Act 1981 (as amended).
- 5.38 Potential effects: negligible.
- 5.39 Mitigation measures: none.
- 5.40 Residual effects: negligible.

Invertebrates

- 5.41 Potential effects: negligible.
- 5.42 Mitigation measures: none.
- 5.43 Residual effects: negligible, subject to the implementation of the mitigation / enhancement planting detailed in Section 6.0.

Other Legally Protected or Notable Species

- 5.44 The proposed development is not anticipated to impact on any other legally protected species, therefore no mitigation measures are recommended.
- 5.45 Mitigation and enhancement measures will provide artificial nesting features suitable for house sparrow (a Species of Principal Importance in England), wren and robin, and roosting features for a range of crevice dwelling bats, many of which are also SPIE. Starling *Sturnus vulgaris*, another SPIE, have not been targeted due to potential conflict with the adjoining fruit farm.
- 5.46 The measures detailed in section 6.0 can be secured via planning condition.



6.0 ENHANCEMENT MEASURES

Mitigation & Enhancement Measures

- 6.1 Three long lasting woodstone bird boxes targeting house sparrow should be provided on the new buildings – garage walls are preferable where possible. The boxes should be located at a height of at least 2m, ideally immediately beneath the eaves, and face between north and east. The recommended box type is shown below. (NB. Any alternative boxes to all those shown in Section 6.0 should be agreed with an ecologist).



Woodstone Estella House Sparrow Box

Made of long lasting woodstone; can be built-in or fixed externally

Available from CJ Wildlife

Dimensions 29 x 16 x 21 cm, weight 6kg

- 6.2 Two open fronted long lasting woodstone bird boxes suitable for wrens and robins should be provided in the retained sections of western hedgerow. The boxes should be located at a height of 1-1.5m, and face between north and east. The recommended box type is shown below, and can be fixed with a nail or a strap.



Woodstone Alicante Nest Box

Made of long lasting woodstone; can be fixed with a nail, screw or narrow tree strap

Available from CJ Wildlife

Dimensions 22.5 x 15 x 26cm

- 6.3 The southern and eastern site boundaries should be delineated with native hedging, which could be set against garden fencing where preferred. A species rich mix of at least five of the following should be used - hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, dogwood *Cornus sanguinea*, field maple *Acer campestre*, hazel *Corylus avellana*, guelder rose *Viburnum opulus*, holly *Ilex aquifolium* and spindle *Euonymus europaeus* – planted in double staggered rows and mulched with 75mm of woodchip.
- 6.4 Where close boarded or similar garden fencing is used around the gardens, small (130mm x 130mm) gaps in fencing should be provided to aid hedgehog access into and through gardens which may not otherwise be accessible. One hole in the boundary of each property should be provided. Purpose built hedgehog gravel boards are now available, or can be cut as required.



6.5 Enhancement features for roosting bats should be provided on or built in to three of the new buildings, or fixed to nearby offsite mature trees with the permission of the landowner. The box types should be taken from those detailed below. The boxes should be located at least 3m high, with a 1-2m clear drop beneath the box entrance i.e. clear of all wires, branches etc. They should be located well away from all external lighting features. Where located on buildings, a position close to the eaves is preferable, facing in any direction.

The designs below provide well insulated, long lasting roosting opportunities for a range of crevice dwelling bats. Any other designs should be agreed with an ecologist.



Beaumaris woodstone bat box midi – for installation on building walls or large tree trunks



Chillon woodstone bat box – for building walls or large tree trunks



Habibat Bat Box – to be built in to wall and rendered or weather boarded. Also available faced in red brick



Segovia build-in bat tube – to be built in to wall and the top section boarded or bricked over



7.0 REFERENCES

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8.0 LEGISLATION

The Conservation of Habitats and Species Regulations 2017 (as amended)

- 8.1 The Conservation of Habitats and Species Regulations 2017 (as amended) will soon become the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019). These regulations will continue to provide safeguards for European Protected Sites and Species as listed in the Habitats Directive. As a result, the same provisions remain in place for European protected species, licensing requirements and protected areas after Brexit.
- 8.2 Species protected by the former European legislation includes great crested newt, all UK bat species, dormice and otter. A number of other plant and animal species are also included such as sand lizard, smooth snake and natterjack toad, however these additional species are rare, with restricted geographical ranges and specific habitat types.
- 8.3 Under The Conservation of Habitats and Species Regulations 2017 (as amended) it is an offence to:
- Damage, destroy or obstruct access to an EPS breeding or resting place;
 - Deliberately capture, injure or kill an EPS (including their eggs);
 - Deliberately disturb an EPS, in particular any actions which may impair an animals ability to survive, breed or nurture their young; or their ability to hibernate or migrate; or which may significantly affect the local distribution or abundance of the species to which they belong.
- 8.4 The legislation applies to all stages of amphibian life cycles (eggs, larvae and adult), and to active bat roosts even when they are not occupied at that particular time of year.
- 8.5 Natural England can, under certain circumstances, grant a licence to permit actions which would otherwise be unlawful, subject to the species concerned being maintained at a Favourable Conservation Status and there being a true need for the proposed works to take place.
- 8.6 Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) are also afforded protection under the Conservation of Habitats and Species Regulations 2017 (as amended). Ramsar sites, which are designated under the Convention on Wetlands of International Importance (1971), are afforded the same level of protection as SPAs and SACs via national planning policy.



The Wildlife and Countryside Act 1981 (as amended)

- 8.7 The Wildlife and Countryside Act 1981 (as amended) provides varied levels of protection for a range of species including those already listed above. Water vole are one of the species not listed under the Conservation of Habitats and Species Regulations 2017 (as amended), but are afforded the highest level of protection under the Wildlife and Countryside Act 1981 (as amended).
- 8.8 It is an offence to intentionally kill, injure or take a water vole, to intentionally or recklessly damage or destroy a structure or place used for shelter and/or protection, to disturb a water vole whilst occupying a structure and/or place used for shelter and protection, or to obstruct access to any structure and/or place used for shelter or protection.
- 8.9 Other species, such as common lizard, slow worm, adder and grass snake, are afforded less protection. For these species it is an offence to intentionally or recklessly kill or injure animals.
- 8.10 All active bird nests, eggs and young are protected against intentional destruction. Schedule 1 listed birds e.g. barn owls, kingfishers, are further protected from intentional and reckless disturbance whilst breeding.
- 8.11 Schedule 9 of The Wildlife and Countryside Act lists plant species for which it is an offence for a person to plant, or otherwise cause to grow in the wild. This includes Japanese Knotweed which, under the Environment Protection Act 1990 (as amended) is classed as 'controlled waste'. If any parts of the plant including stems, leaves and rhizomes are taken off-site they must be disposed of safely at a landfill site licensed to deal with such contaminated waste.
- 8.12 Sites of Species Scientific Interest (SSSI) are afforded protection by the Wildlife and Countryside Act 1981 (as amended).

The Protection of Badgers Act 1992 (as amended)

- 8.13 The Protection of Badgers Act (1992) makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so, and to intentionally or recklessly interfere with a sett.

The Protection of Mammals Act 1996 (as amended)

- 8.14 The Act protects all wild mammals against actions which have the intention of causing unnecessary suffering, including crushing and asphyxiation.



The Natural Environment and Rural Communities Act 2006 (as amended)

- 8.15 Under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 local authorities have an obligation to have regard to the purpose of conserving biodiversity in carrying out their duties. The majority of UK legally protected species are listed under Section 41 the NERC Act.
- 8.16 Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) also requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity' in England (Species of Principal Importance in England – SPIE). The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions.

Statutory Designated Sites

- 8.17 Under the National Parks and Access to the Countryside Act 1949 (as amended), statutory conservation agencies were able to establish National Nature Reserves (NNRs), with provisions for these areas strengthened by the Wildlife and Countryside Act 1981 (as amended). They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them.
- 8.18 Local Nature Reserves (LNRs) can be declared by local authorities after consultation with the relevant statutory nature conservation agency under the National Parks and Access to the Countryside Act 1949 (as amended). LNRs are not subject to legal protection, but are afforded protection against damaging operations via byelaws, and against development via local planning policies.

Non-Statutory Designated Sites

- 8.19 Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINCs), Sites of Nature Conservation Importance (SNCIs) and County Wildlife Sites (CWS) are often designated by the local Wildlife Trust. They are not usually afforded any legal protection, but are recognised in the planning system and given some protection through planning policy.

National Planning Policy Framework (NPPF)

- 8.20 The National Planning Policy Framework (2019) sets out the Government's planning policies for England and how these should be applied. The NPPF must be taken into account when preparing a Local Authority's development plan, and is also a material consideration in planning decisions.



8.21 As well as highlighting the importance of protecting ecologically valuable sites and habitats, the NPPF highlights the duty of local planning authorities (LPA's) to deliver net gains for biodiversity within the planning system. Planning policies and decisions should, as per Paragraph 170d, contribute to and enhance the natural and local environment by:

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

8.22 To protect and enhance biodiversity, policies and plans should, as per Paragraph 174b:

b) 'promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.'

8.23 When determining planning applications, LPA's should apply principles which avoid an adverse effect on natural environments and notable species:

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





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