Ecological Assessment
Faunal Presence – Absence
Updated 2020

Land to rear

Tower End
Kelvedon Road
Tiptree
Colchester
Essex

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Site Surveyors
Mr Patrick McKenna
Mr John Dobson

Final Report 10th November 2020

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Company Director

Contents

1. Summary

1.1 Eco-Planning UK Ltd received instruction to complete an initial outline ecological assessment in January 2019 across an area of land to the rear of Tower End, Kelvedon Road, Tiptree in Essex.

1.2 The assessment and report (Appendix 1) were subsequently part of a planning application that was submitted to the Local Planning Authority, seeking planning consent for development within the survey area.

1.3 From the original on-site ecological assessments it was determined that: -

- To the rear of Tower End are 3 x water bodies they all have amphibian potential and will require suiatble amphibian survey effort.

- Most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had an un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

- DEFRA/Natural England and Bug Life's standing advice in relation to invertebrates, semi-natural vegetation and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission. Such a scoping study – spring/summer 2019 is required for this site.

- A single linear field (Ponys Farm/Colt Farm) that leads into the central section of the site from the main Kelvedon Road has received no recent management – grazing, mowing etc. This habitat has localised reptile potential that requires further survey efforts. To the east is a larger open single pasture - again regularly grazed with limited successional mixed habitat. There are occasional spoil heaps of mixed materials with scrub cover – they are not connected and have limited conservation/reptile potential.

- There are a number of buildings within the wider site that will be removed as part of the proposed development. The state of repair of the these buildings varies as does their associated bat roost potential. A bat roost absence must not be assumed, any building or maturing tree that will be removed as part of the proposed development must be suitably surveyed/assessed in relation to a bat roost presence or absence.

1.4 Eco-Planning UK Ltd received subsequent instruction to complete all the presence/absence faunal surveys highlighted in the original preliminary ecological assessment/report through the spring/summer 2019.

1.5 The various presence/absence surveys determined that:

- There is no existing bat roost within any of the buildings on site. There are no field signs of any past bat roost presence. No further building bat roost assessment or comment is required.

- For any future tree removal, a suitable bat roost assessment will be first required – with a subsequent suitable presence or absence survey for any medium/high value roost feature identified.

- There is a small population of Common Lizards along the central hedgerow on site. These reptiles will require suitable retention mitigation as part of any planning approval.

- The site has no invertebrate presence that would warrant further survey effort. No further invertebrate survey efforts are required.

- A Great Crested Newt presence was recorded in pond 3 within the proposed development site.

1.6 All of the above survey detail was presented in the relevant Presence/Absence report (Appendix 2) and submitted to the local planning authority as part of the wider planning application in 2019 for the survey site.

1.7 The original Preliminary Ecological Assessment and subsequent presence or absence surveys along with the associated report met in full all ecological/conservation related issues that required consideration as part of the planning application process for the site at that time.

1.8 There has now been more than a 12 - month gap between the original ecological survey efforts and the recent design revisions to the on-going existing planning application. Eco-planning Uk Ltd have therefore received instruction to return to site and update the ecological assessment and where and if necessary, repeat any relevant faunal survey efforts.

1.9 The updated ecological assessment and relevant faunal survey efforts where undertaken/completed on the 28th October 2020 - a dry bright sunny day with no limitations for assessment or survey efforts.

1.10 The updated assessment/survey determined that:

- There has been no change in the sites and adjacent areas conservation designations or any associated implications since the 2019 survey efforts/report.

- The planning applicant for this site continues to fully support the direct conservation action associated with the R.A.M.S. payment that will be required to be paid to the local authority to mitigate for any off-site recreational disturbance to the relevant Natura 2000 sites.

- The ecological survey area continues to be the same proposed development site to the rear of Tower End, Kelvedon Road, Tiptree in Essex

- There has been no change in use or structure in any part of the site since the Preliminary Ecological Assessments in 2019. The wider site continues to be several existing and former grazing paddocks of various sizes and management regimes.

- There has been very little change in habitat quality in relation to the 3 x water bodies to the north of the site - their value as an amphibian habitat remains the same.

- A possible new single pond construction will not be sufficient mitigation for the 3-x pond loss. For this site it would be most appropriate to join a district level licensing scheme designed to protect/enhance Great Crested Newt wider populations. In Essex County the scheme is Natural England -led.

- The main field units continue to have significant mainly continous hedgerow boundary features with maturing individual trees. They have received no management since the original survey efforts. These hedgerow/tree features continue to be important wildlife corridors for foraging/commuting bats and nesting birds. There retention protection and enhancement would be an essential part of the sites development.

- The reptile habitats are similar to those recorded on site in 2019. It is not likely that a new reptile population will have established within the last 12 months. No further reptile presence or absence survey efforts are required.

- The small Common Lizard population will require suitable mitigation for a successful retention on site - with the protection, enhancement and expansion of existing reptile suitable habitats.

- There has been no change in habitat type since the 2019 invertebrate survey efforts that would warrant further invertebrate survey or mitigation as part of this planning application procedure.

- No evidence of any existing or past bat roost was found in any building on site. None of the trees identified for removal as part of the proposed development had any potential roost feature that required further bat roost survey efforts.

- With no evidence of any bat roosts on site a European Protected Species Licence will not be required for this project.

1.11 The original and updated ecological survey efforts along with the associated reports meet in full all ecological/conservation related issues that could require consideration as part of the planning application process for this site.

1.12 Furthermore the potential developer has addressed all his legal wildlife responsibilities and requirements in relation to due diligence as part of the planning application process.

2. Introduction

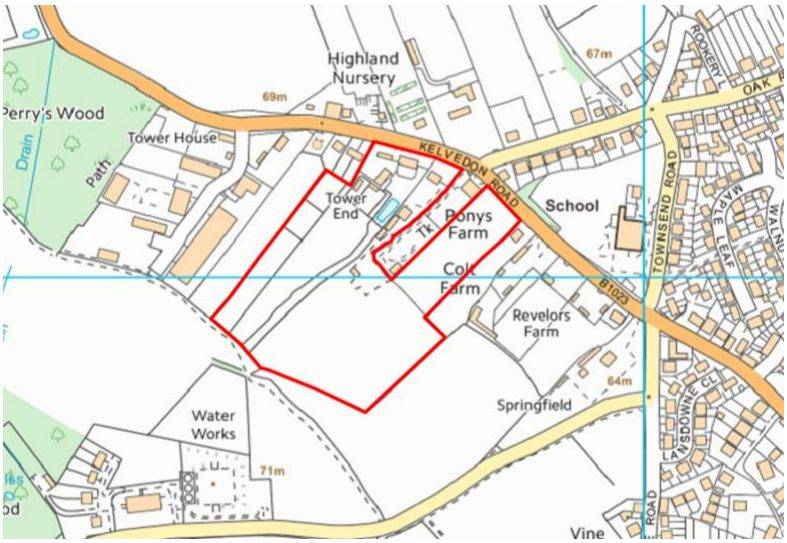
2.1 The revised National Planning Policy Framework (July 2018/June 2019) still requires that on-site biodiversity/conservation is given full consideration at the time of a planning development application submission.

2.2 The Local Planning Authority are therefore acting in a reasonable and responsible manner under the legislation by requesting that the planning applicant for this potential development site completes a suitable ecological assessment and prepares/submits a subsequent report, if the Authority believes a habitat or species could be threatened by the proposed development.

2.3 The original ecological assessment, the subsequent presence – absence survey efforts, and this up-dated assessment/survey along with the associated reports meet all relevant conservation requirements and answer all relevant associated wildlife concerns the local planning authority may have in relation to this proposed development site.

3. Site Assessment

3.1 The ecological survey area continues to be the same proposed development site to the rear of Tower End, Kelvedon Road, Tiptree in Essex (Drawing 1 - red boundary).



Drawing 1

3.2 There has been no change in use or structure in any part of the site since the Preliminary Ecological Assessments in 2019.

3.3 The wider site continues to be several existing and former grazing paddocks of various sizes and management regimes.

3.4 To the rear of Tower End the paddocks remain fenced and in constant equine use (Photographs 1-2). There continues to be no successional habitats within the paddocks and their conservation/biodiversity value remains low.

3.5 To the east of these enclosed paddocks is a larger open single pasture (Photograph 3). It has again been regularly grazed with limited successional mixed habitat. The spoil heaps of mixed materials with scrub cover are still present and have not increased in size or number.

Photograph 1

Photograph 2

Photograph 3

Photograph 4

Photograph 5

Photograph 6

3.6 To the rear of Tower End there continue to be 3 x water bodies (Photographs 4-6). There has been very little chane in their water levels or value as an amphibian habitat.

3.7 The main field units continue to have significant mainly continous hedgerow boundary features with maturing individual trees (Photographs 7-9). They have received no management since the original survey efforts. To the east the Blackthorn hedge that had spread onto the adjacent pasture forming a band of scrub from the original hedge line is still present.

Photograph 7

Photograph 8

Photograph 9 **Photograph 10**

3.8 These hedgerow/tree features continue to be important wildlife corridors for foraging/commuting bats and nesting birds. There retention protection and enhancement would be an essential part of the sites development.

3.9 The single linear field (Ponys Farm/Colt Farm) that leads into the central section of the site from the main Kelvedon Road has received no recent management – grazing mowing since the previous survey efforts. Natural succession continues with scrub/young trees establishing and spreading into the site. The grass sward continues to have structure with only a few open areas remaining (Photograph 10).

3.10` The buildings – residential/stables/offices/church within the wider site that will be removed as part of the proposed development are still present.

4. Planning Policy and Site Status

4.1 The direction to protect sites with a designated conservation status including Local Wildlife Sites has continued in the revised National Planning Policy Framework July 2018/2019. Local Planning Authorities are still required to set criteria-based policies against which proposals for any development, on or affecting protected wildlife or geodiversity sites or landscape areas, will be judged. Planning policies should identify and map components of local ecological networks including the hierarchy of international, national, and locally designated sites of importance for biodiversity.

4.2 With such extensive legislative/planning policy protection of biodiversity and designated conservation sites against development it is essential to first establish the status of any site where any ecological related assessment is being made if it is, as in this case, in relation to a proposed planning application.

4.3 A search for any type of conservation designations for the proposed development site and the immediate adjacent areas was completed in the Preliminary Ecological Assessment (Appendix 1) and determined that:

4.4 No part of the proposed development site has any type of statutory or non-statutory conservation designation.

4.5 The proposed development site however is within a zone of influence for Tiptree Heath Site of Special Scientific Interest to the south west and Abberton reservoir to the east. The proposed development will not reduce the size or conservation status of these designated sites nor affect their management regimes or future ecological potential.

4.6 The proposed development site is within a zone of influence for the Black Water RAMSAR site to the south-east and the Abberton Reservoir RAMSAR site to the east. The proposed development will not reduce the size or conservation status of these designated sites nor affect their management regimes or future ecological potential. The proposed development area does not create new access to these Natura 2000 sites.

4.7 However the proposed development being within the “zone of influence” could have some minor recreational/disturbance impact alone or when considered alongside other new developments within the same zone of

influence for these Natura 2000 Sites and so be subject to a Habitat Regulations Assessment (H.R.A.).

4.8 Natural England now advise that a suitable contribution to the emerging Recreational Disturbance Avoidance and Mitigation Strategy (.R.A.M.S) from relevant planning applicants would enable the local authority to be able to reach a conclusion of "no likely significant effect" - and addressing the need for the suggested H.R.A.

4.9 This type of direct contribution will help ensure that the delivery of the R.A.M.S. remains viable and fit for purpose.

4.10 There is a Priority Habitat Deciduous Woodland to the south west and Ancient Semi-Natural Woodland to the west. The proposed development will not reduce the size or conservation status of these habitats nor affect their management regimes or future ecological potential.

4.11 There has been no change in the above conservation designations and associated implications since the 2019 survey efforts/report.

4.12 The planning applicant for this site continues to fully supports the direct conservation action highlighted above and will discuss the R.A.M.S. payment required with the local authority.

5. Planning Policy and Wildlife Legislation

5.1 Regardless of any planning policy or guideline change certain species are legally protected and any type of development that would injure, kill, ill-treat or intentionally damage or destroy any protected species or place of shelter would be a criminal act.

5.2 However some species that do not receive statutory full protection under existing ranges of legislation continue to be identified as requiring conservation action as species of principal importance in the revised National Planning Policy Framework:

- Promote the preservation, restoration and re-creation of priority habitats and the protection of priority species populations…. linked to national and local targets.

- When determining planning applications local planning authorities should aim to conserve and enhance biodiversity.

- To achieve this conservation action/protection planning authorities are instructed to refuse planning applications that cause harm to these species or their habitats if no suitable mitigation has been identified.

5.3 With legal responsibilities and new planning framework implications it remains essential that any ecological assessment of any development site, including the area of this report, must determine the possible presence or absence of any protected species as part of the development process.

5.4 Without this assessment the potential developer would be unable to demonstrate due diligence in his legal wildlife responsibilities.

5.5 Furthermore the local planning officer will not have been provided with sufficient information to be able to determine if the new ecological based requirements of their relevant planning application for the site are being met in full.

5.6 It would however be unreasonable to survey for every protected floral/faunal species. The likelihood of a protected species being present is based on the habitat type and condition as described in the original Site Assessment and relevant species records within a 2 kilometre radius – as provided in the Preliminary Ecological Assessment report Appendix 1).

5.7 The original Site Assessment identified that the wider site had 3 x water bodies with some amphibian potential.

5.8 Great Crested Newts and their habitat receive full protection under the Wildlife and Countryside Act 1981 Schedule 5, and are a European Protected Species listed in Annex IV (a) of the Habitats Directive (The Conservation Regulations1994 Schedule 2).

5.9 It is a criminal act to kill, injure or disturb any Great Crested Newt or its associated habitat.

5.10 The Smooth and Palmate Newt do not benefit from any development related protection.

5.11 The Common Frog receives no protection from development.

5.12 The Common Toad as a BAP species requires consideration during any development process.

5.13 Any development of this site if Great Crested Newts were found to be present in the sites relevant aquatic habitats could be a deliberate and unreasonable act, i.e. an offence could have been committed if no provision had been made within the development area to mitigate for any possible Great Crested Newt presence.

5.14 The Habitat Suitability Index – for Great Crested Newts was calculated for each pond and a subsequent E-D.N.A. presence or absence survey completed (Appendix 2).

5.15 The wider sites buildings will be removed as part of the proposed development. These buildings vary in condition/state of repair and subsequently so does their bat roost potential. They are all, however, in a semi-rural wider location that contains water bodies and mature hedge lines that could provide bat foraging and dispersal opportunities.

5.16 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 1st April 2010, these Regulations, together with subsequent amendments,

were consolidated into the Conservation of Habitats and Species Regulations 2010.

5.17 European protected animal species and their breeding sites or resting places are protected under Regulation 39. 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.

5.18 The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. Now, a person will commit an offence only if he deliberately disturbs such animals in a way as to be likely to significantly 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. However, please note that 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.

5.19 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*'.

5.20 Section 9 of the National Planning Policy Framework 2012 (NPPF) states that '*the planning system should contribute to and enhance the natural and local environment by…. minimising impacts on biodiversity and providing net gains in biodiversity where possible.*'

5.21 With such legislative protection and high conservation value a bat roost assessment was undertaken in 2019 for all relevant buildings (Appendix 2).

5.22 The Preliminary Ecological Assessment identified areas of successional rank grassland/scrub habitat within the site which had developed in the absence of any recent management regime / grazing / mowing etc. This area was identified as having reptile potential.

5.23 Slow Worm, Common Lizard and Grass Snake are all protected under Schedule 5 of the Wildlife and Countryside Act (1981 and amendments) against killing, injury and sale. However, it must be noted that their habitat is not protected, only the individual animal.

5.24 Any development of this site if any reptile population was identified as being present would be a deliberate and unreasonable act, i.e. an offence would have been committed if no provision had been made.

5.25 A reptile presence or absence survey was therefore undertaken through reptile suitable habitats within the wider survey site that could be impacted upon by the proposed development.

5.26 Most of the wider site was identified as an improved grazing pasture that had retained/developed some localised semi improved characteristics with bare ground areas and had an un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

5.27 DEFRA/Natural England and Bug Life's standing advice in relation to invertebrates, semi-natural vegetation and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission. Such a scoping study – spring/summer 2019 was undertaken – Appendix 2.

6. Amphibian Assessment

6.1 The two adjacent water bodies and a wet ditch identified within the proposed development area had some amphibian potential that was quantified – 2019 - using the Habitat Suitability Index methodology (Oldham *et al* 2000) which scores a habitats suitability in relation to a possible amphibian presence (Appendix 2).

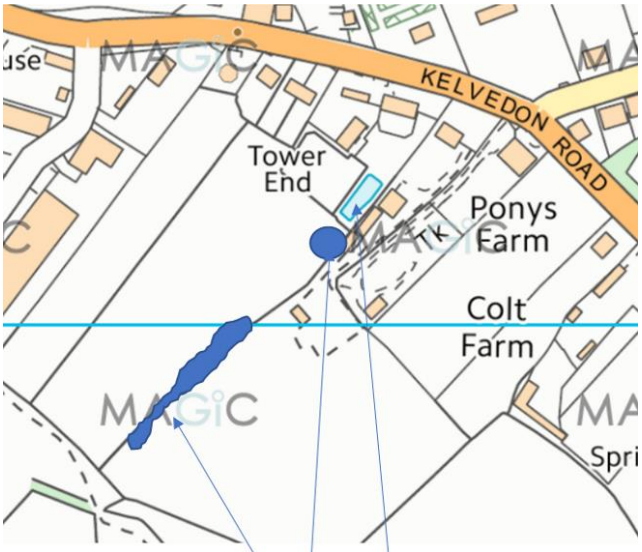
H.S.I Scores:

Pond 1 – 0.64 - Average

Pond 2 – 0.42 - Poor

Pond 3 – 0.7 - Good

6.2 There had been no change in any of the 3 x ponds habitat characteristics that warranted a repeated H.S.I. scoring effort.



6.3 A presence or absence Great Crested Newt E-D.N.A. survey for all 3 x ponds had been completed spring 2019 – Appendix 2.

6.4 For ponds 1 and 2 the laboratory results were negative – there was no Great Crested Newt presence.

6.5 However, for pond 3 a Great Crested Newt presence is recorded, although the single replicant suggests a small presence.

6.6 The proposed development (Drawing 1) will require the removal of the three existing ponds. There is potential to create a new pond on site within the proposed open space to rear west of the site.

Drawing 1

6.7 The new single pond will not be sufficient mitigation for the loss of 3 ponds.

6.8 For this site it would be most appropriate to join a district level licensing scheme designed to protect/enhance Great Crested Newt wider populations. In Essex County the scheme is Natural England -led.

6.9 The basic process is to complete an enquiry form and submit to Natural England along with the enquiry fee - £804.

6.10 Natural England will assess the information in the enquiry document – and send an Impact Assessment and Conservation Payment Certificate document.

6.11 The planning applicant will accept the terms and conditions – sign/date and return to Natural England – who will in turn sign and return.

6.12 A first stage payment is then made by the applicant to an amount that is determined by Natural England.

6.13 The countersigned agreement will need to be submitted in due course as part of the planning application process.

6.14 When planning consent is achieved an application for a GCN district level licence needs to be submitted to Natural England – that includes the required "reasoned statement".

6.15 At present an E-D.N.A. G.C.N presence or absence was determined in 2019. There has not been any subsequent multiple visit mixed methodology survey effort to determine population size. It is possible that this information would be required by Natural England as part of the general licence application process.

6.16 The relevant approved survey efforts can be undertaken in spring 2021.

7. Reptile Survey

7.1 The original Site Assessment (Appendix 1) identified a significant area of mixed successional vegetation in an un-managed area of the wider site that had some reptile potential.

Survey Technique

7.2 Two complimentary but different survey techniques were used in all possible reptile habitats throughout the sites to determine a reptile presence or absence (Appendix 2).

Survey Results

20 May 2019 - 1 x adult Common Lizard

22 May 2019 - No reptile of any species

24 May 2019 - 1 x adult Common Lizard

26 May 2019 - 1 x adult Common Lizard

28 May 2019 - 2 x adult Common Lizard

30 May 2019 - 1 x adult Common Lizard

2 June 2019 - 2 x adult Common Lizard

7.3 A small population of Common Lizards was recorded along the central gappy mixed scrub with occasional tree vegetation (Photograph 1).

7.4 This small Common Lizard population will require suitable mitigation for a successful retention on site - with the protection, enhancement and expansion of existing reptile suitable habitats.

7.5 The habitats on site are similar to those recorded in 2019, a new reptile population establishing within the last 12 months is not likely, no further reptile presence or absence survey efforts are required.

Location of Common Lizards

Photograph 1

8. Invertebrate Assessment.

8.1 The Preliminary Ecological Assessment (Appendix 1) determined that most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had an un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

8.2 Defra/Natural England and Bug Life's standing advice in relation to invertebrates, semi-natural vegetation and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission.

8.3 Such a scoping study was completed on the 14th May 2019 by our contacts at Colin Plant Associates (UK) (Appendix 2).

8.4 The scoping study determined that "*the invertebrate ecology of the site is unlikely to attain a value that exceeds that of the general background level expected within the Colchester area…. not of the opinion that additional survey work would alter this conclusion and no such further work is recommended".*

8.5 There has been no change in habitat type since the 2019 invertebrate survey that would warrant further invertebrate survey effort or mitigation as part of this planning application procedure.

9. Bat Roost Assessment

9.1 The bat roost assessments completed in 2019 (Appendix 2) for all buildings across the wider site determined that:

- There is no evidence of any existing or past bat presence in the buildings on this site.

- With no evidence of bats at the site, a European Protected Species Licence will not be required for this project.

9.2 However it was stated that the 2019 survey records the bat status of the buildings at the time of the survey. With more than a 12 - month gap since the original bat assessment an assumption of a continued bat absence must not be made. The bat roost survey/assessment of all buildings on site was therefore repeated October 28th, 2020.

Building Roost – Survey Methods

9.3 The building bat roost inspections were completed by a suitably licenced, experienced bat ecologist – licence number 2015-15258-CLS-CLS – 28th October 2020.

9.4 The exterior surfaces of all relevant buildings were examined for any field signs of use as bat roosts, such as the presence of droppings on walls, windows or staining around roost entrances.

9.5 The use of a crevice by a colony of bats produces droppings on brickwork and adjacent surfaces close to the crevice, together with an accumulation of droppings beneath the roost entrance. However, upon examination, many surfaces will have one or two droppings, randomly placed, caused by bats seeking out new roost sites.

9.6 The internal survey was conducted using a powerful torch. The internal roof-space of the buildings was searched for evidence of roosting, the floor areas for droppings and any beams/timbers for crevices and staining indicative of the presence of roosting bats.

9.7 An Xtend & Climb Pro Ladder and a ProVision 300 endoscope was available to inspect crevices in brickwork and around beams.

9.8 This survey effort/report was compiled in accordance with the Bat Conservation Trust's *Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines.*

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

9.9 However, the first page of all three editions includes the following: *The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.*

Survey Results

Tower End

9.10 This is a detached bungalow with a slate roof lined with a membrane and white, rendered walls. The property was re-roofed around ten years ago. Access to the roof void was via two loft hatches. The roof was of a cluttered, trussed construction and lacked a conventional ridge beam, a type of roof that is usually unsuitable for roof-dwelling species of bats that prefer a large volume in which to fly prior to emergence. No evidence of their presence was found on the floor of the loft, along the internal eaves of the building or on items stored within the loft. Externally, there was a tight seal along the eaves and gables, and to the roof slates. There was also no evidence such as droppings or staining on the white, rendered walls where the presence of bats would have been readily apparent.

Southern elevation. Note tight seal to roof slates

Note lack of evidence of bats on loft insulation

Note lack of evidence of bats on floor of loft

Note lack of evidence of bats on floor of loft

The Annexe

9.11 This is a detached bungalow with a slate roof lined with a membrane and white, rendered walls. The property was re-roofed around ten years ago. Access to the roof void was via a loft hatch. The roof had a shallow-pitched loft with a floor to ridge height of c. 1m. The roof was of a cluttered, trussed construction and lacked a conventional ridge beam, a type and size of roof that is usually unsuitable for roof-dwelling species of bats that prefer a large volume in which to fly prior to emergence. No evidence of their presence was found on the floor of the loft, along the internal eaves of the building or on items stored within the loft. Externally, there was a tight seal along the eaves and gables, and to the roof slates. There was also no evidence such as droppings or staining on the white, rendered walls where the presence of bats would have been readily apparent.

Northern elevation

Southern elevation. Note tight seal to roof slates

Note shallow-pitched roof void

The Stables

9.12 Aligned NE-SW, this is a single-storey, block-built, detached building with a shingled roof. The building is divided along its length, with four stable bays to the south-east and three secure units to the north-west. The building was constructed around fifteen years ago. The shallow-pitched roof void has a trussed construction and lacks a ridge beam. No evidence of bats was found in the roof void or on the white-painted walls.

South-eastern elevation of the stables

Note lack of evidence of bats in roof void of stables

The interior of the stables had no features that might be occupied by bats

The Garage

9.13 This building is of similar construction to others, with a shallow-pitched, trussed and shingled roof. The walls are weather-boarded. The interior is open to the roof, receives regular disturbance and has three strip lights fitted to allow evening working. No evidence of bats was found on items stored in the building. Externally, there was a tight seal to the eaves, gables, roof shingles and weather-boarded walls.

North-eastern and south-eastern (gabled) elevations

Interior of the garage. Note lack of features that might be occupied by bats

The Office

9.14 Aligned NE-SW, this is a functional, single-storey, open plan building with felted shingles on the roof and boarded walls. There was a tight seal to the walls and roof and no features that might offer potential roosting places for bats.

North-eastern (gabled) and south-eastern elevations

The Stables on Pony's Farm

9.15 Located on adjacent land, this is a 4-bay, block-built stables with a tile and felted roof. The interior receives daylight illumination via half-doors and missing windows, conditions in which bats seek out dark areas or crevices in which to roost. The lack of such features in the walls and roof beams meant that this structure was unsuitable as a roosting place for bats.

South-eastern and south-western (gabled) elevations

Interior of stable bay

'The Chapel'

9.16 This is a single-storey, detached building with a corrugated asbestos roof and white, boarded walls. The shallow-pitched loft was examined from a hatch and found to have no evidence of bats.

South-eastern elevation of 'The Chapel'

Note lack of evidence of bats in shallow-pitched loft

The Workshop

9.17 Also located on adjacent land, this is a block-built building with a corrugated asbestos roof and cladding to the walls. The interior is open to the roof, receives daily disturbance and artificial illumination via transparent panels in the roof. Strip lights are fitted to allow evening use. In such conditions, bats seek out dark areas or crevices in which to roost and the lack of such features meant that this building was unsuitable as a roosting place for bats. No evidence of their presence was associated with this building.

The Workshop

The interior of the workshop

The interior of the workshop had no features that might be occupied by bats

Main Accommodation and Link Accommodation

9.18 These are single-storey buildings providing three-roomed accommodation for travelers. One has a shallow-pitched roof and lacks a loft, and the second has a sloping, felted roof. Both have tightly sealed and boarded walls that lack features that might be occupied by bats.

The link accommodation

North-eastern elevation of the main accommodation

South-western elevation of the main accommodation

9.19 No evidence of their presence was found at this site.

Discussion

9.20 Bats are inquisitive, highly mobile animals, which constantly investigate their surroundings, evaluating good feeding areas and potential roosting opportunities. Where suitable habitat such as woodland, woodland edge or sheltered pasture occurs, bats will travel up to several kilometres to take advantage of this resource. To reach favoured sites, small bats will follow linear landscape features such as hedgerows, streams and lanes etc. The absence of such features can make an otherwise suitable site inaccessible to bats. In addition, new roosts will become established in such areas - examples being the rapid colonisation of artificial roost boxes placed in conifer forests or the occupation of new houses by nursery colonies of pipistrelle bats within a year or two of their completion.

9.21 Since there was no evidence of bats at the site, a European Protected Species Licence will not be required for this project.

9.22 Although no evidence of bats was found, it is probable that bats from nearby roosts will forage across the site and in the gardens of adjacent properties. This behaviour would be expected to continue after any building work has been completed and therefore it is considered that the planning proposal for this site will not have a detrimental effect on the local bat population.

Review of existing records of bats in the area

Since the early 1980s, the Essex Bat Group has monitored the status and distribution of bats in this area. Records occurring within a 2km radius of the site are as follows:

TL888187	12 Aug 2010	Common Pipistrelle recorded foraging
TL876152	12 Aug 2010	Common Pipistrelle recorded foraging
TL898165	03 Nov 1987	Brown Long-eared Bat found by member of public
TL895179	12 Aug 2010	Common Pipistrelle recorded foraging
TL896189	14 Feb 2014	Brown Long-eared Bat roost in building
TL896189	19 Apr 2013	Brown Long-eared Bat roost in building
TL882152	12 Aug 2010	Common Pipistrelle recorded foraging
TL876169	12 Aug 2010	Common Pipistrelle recorded foraging
TL880170	12 Aug 2010	Common Pipistrelle recorded foraging
TL894183	12 Aug 2010	Soprano Pipistrelle recorded foraging

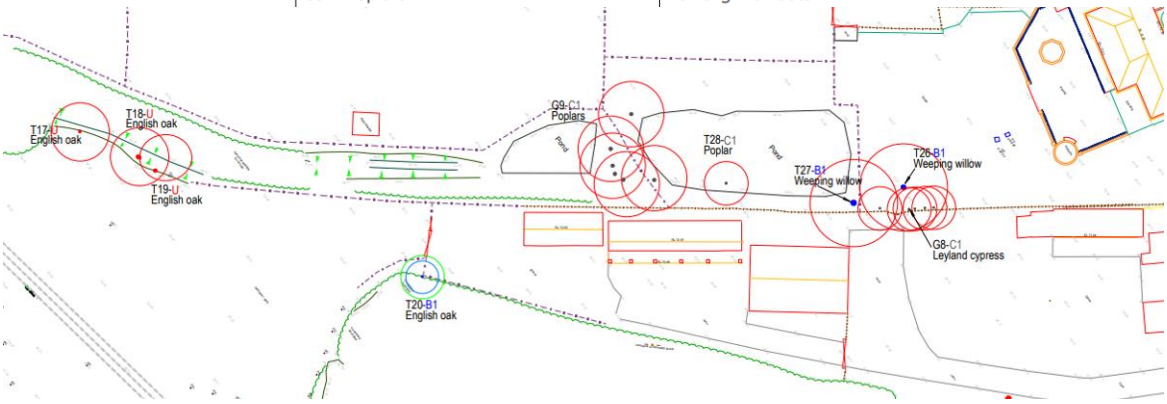
Tree Roost – Survey Methods

9.23 Eco-Planning UK Ltd have been informed that the field boundary hedgerows and associated trees will all be retained/protected/enhanced as part of the proposed development.

9.24 However individual trees will be removed from within the central vegetation boundary that divides the site into its two respective areas (Drawing 1).

9.25 The trees for removal areas per the table below and located as per Drawing 1

Tree Number & Species	Tree Works
T1 – Weeping willow	Fell & grind roots
T17 – Oak	Fell & grind roots
T18 – Oak	Fell & grind roots
T19 – Oak	Fell & grind roots
T26 – Weeping willow	Fell & grind roots
T27 – Weeping willow	Fell & grind roots
T28 - Poplar	Fell & grind roots
T35 – Smoke bush	Fell & grind roots
T38 – Cherry	Fell & grind roots
T39 – June berry	Fell & grind roots
G8 – Leyland cypress	Fell & grind roots
G9 - Poplars	Fell & grind roots



Drawing 1

9.26 For each of these trees an appropriate tree feature/bat roost assessment was completed on October 28th, 2020 - following the broad advice as given in:

Bat Conservation Trust's Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines.
Ref: Collins, J. (ed.) (2016) (3rd edition). The Bat Conservation Trust, London.

9.27 Each removal tree was inspected from ground level to identify any Potential Roost Feature (P.R.F.) that could be used as a bat roost site.

9.28 These features, as per the guidelines, include:

- woodpecker holes;
- rot holes;
- hazard beams;
- other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
- partially detached platey bark;
- knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- cankers (caused by localised bark death) in which cavities have developed;
- other hollows or cavities, including butt-rots;
- double-leaders forming compression forks with included bark and potential cavities;
- gaps between overlapping stems or branches;
- partially detached ivy with stem diameters in excess of 50mm;
- bat, bird or dormouse boxes.

9.29 For any possible Roost Feature, its suitability or likelihood as being a possible bat roost will be identified as being negligible - low, medium or high as per the suitability guidelines below - Table 1.

9.30 At the same time as the visual assessment of the feature, observations were made to determine if there was any bat activity field signs - droppings, staining, scratch marks – or indeed any obvious bat presence that does not require invasive techniques to determine.

9.31 Before any individual tree was inspected its location and associated habitats were assessed:

- Is the tree a stand-alone feature – does it have good connectivity with potential bat foraging areas.
- Is it part of a possible bat dispersal route.
- Is it at present illuminated or disturbed at night.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.[c]	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Table 1

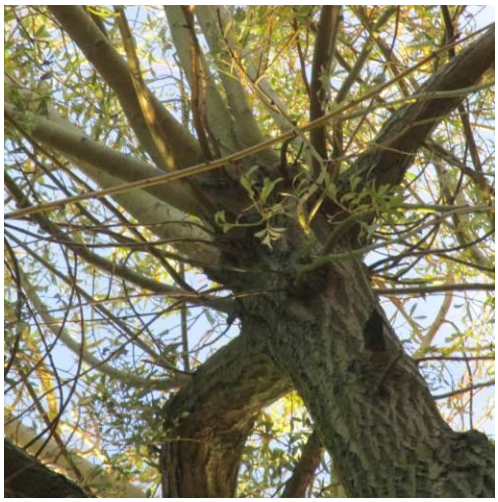
Survey Results

9.32 The willows (Photograph 1) all had evidence of regular management with regrowth from reduction heads cut every 6th year. The heads were all healthy with little decay or any type of cavity (Photograph 2). Wound healing on removed limbs again was healthy with the callous growth showing no signs of any decay cavity or bark loss (Photograph 3). The willow had no Potential Roost Feature (P.R.F.) that required further bat roost survey efforts.

9.33 The poplars (Photograph 4) had been reduced about 7 years previously, the regrowth from the reduction points has been vigorous. Although there is some included bark (Photograph 5) there are no associated acute fork fractures suitable for a bat roost. The poplars had no P.R.F.'s that required further bat roost survey efforts

Photograph 1

Photograph 3



Photograph 2

Photograph 4

Photograph 5

9.34 The conifers (Photograph 6) were young trees with no P.R.F's to assess.

Photograph 6

9.35 The three oaks were all young trees that had died recently/suddenly (cause not known). There was a single wound at about 1.2 metres on the first of the 3 x trees (Photograph 8.). The wound had no associated cavity crack or crevice – no P.R.F. The trees had no other P.R.F.'s that required any assessment - no bat roost survey efforts are required.

Photograph 7

Photograph 8

10. Conclusion

10.1 An updated ecological assessment with relevant faunal survey efforts were undertaken/completed on the 28th October 2020.

10.2 There has been no change in the sites and adjacent areas conservation designation/status or any associated implications since the 2019 survey efforts/report. The planning applicant for this site continues to fully support the direct conservation action associated with the R.A.M.S. payment that will be required to the local authority to mitigate for any off-site recreational disturbance to the relevant Natura 2000 sites.

10.3 The ecological survey area continues to be the same proposed development site to the rear of Tower End, Kelvedon Road, Tiptree in Essex. There has been no change in use or structure in any part of the site since the Preliminary Ecological Assessments in 2019. The wider site continues to be several existing and former grazing paddocks of various sizes and management regimes.

10.4 There has been very little change in habitat quality in relation to the 3 x water bodies to the north of the site - their value as an amphibian habitat remains the same.

10.5 A possible new single pond construction will not be sufficient mitigation for the 3-x pond loss. For this site it would be most appropriate to join a district level licensing scheme designed to protect/enhance Great Crested Newt wider populations. In Essex County the scheme is Natural England -led.

10.6 The main field units continue to have significant mainly continous hedgerow boundary features with maturing individual trees. They have received no management since the original survey efforts. These hedgerow/tree features continue to be important wildlife corridors for foraging/commuting bats and nesting birds. There retention protection and enhancement would be an essential part of the sites development.

10.7 The reptile habitats are similar to those recorded on site in 2019. It is not likely that a new reptile population will have established within the last 12 months. No further reptile presence or absence survey efforts are required.

10.8 The small Common Lizard population will require suitable mitigation for a successful retention on site - with the protection, enhancement and expansion of existing reptile suitable habitats.

10.9 There has been no change in habitat type since the 2019 invertebrate survey efforts that would warrant further invertebrate survey effort or mitigation as part of this planning application procedure.

10.10 No evidence of any existing or past bat roost was found in any building on site. None of the trees identified for removal as part of the proposed development had any potential roost feature that required further bat roost survey efforts.

10.11 With no evidence of any bat roosts on site a European Protected Species Licence will not be required for this project.

10.12 The original and updated ecological survey efforts along with the associated reports meet in full all ecological/conservation related issues that could require consideration as part of the planning application process for this site.

10.13 Furthermore the potential developer has addressed all his legal wildlife responsibilities and requirements in relation to due diligence as part of the planning application process.

Preliminary Ecological Assessment

Land to rear

Tower End
Kelvedon Road
Tiptree
Colchester
Essex

Eco - Planning UK

Preliminary Ecological Assessment

Land to rear
Tower End
Kelvedon Road
Tiptree
Colchester
Essex

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Final Report 27th January 2019

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Contents

Appendices

1. Summary

1.1 Eco-Planning UK Ltd received instruction to complete an initial outline ecological assessment across an area to the rear of Tower End, Kelvedon Road, Tiptree in Essex.

1.2 The assessment and this subsequent report are to be part of a planning application that is to be submitted to the Local Planning Authority, seeking planning consent for development within the survey area.

1.3 The initial ecological assessments were completed on the 25th January 2019.

1.4 From the on-site ecological assessments and desk top study it was determined that: -

- No part of the proposed development site has any type of statutory or non-statutory conservation designation.

- The proposed development site however is within a zone of influence for Tiptree Heath Site of Special Scientific Interest to the south west and Abberton reservoir to the east. The proposed development will not reduce the size or conservation status of these designated sites nor affect their management regimes or future ecological potential.

- The proposed development site is within a zone of influence for the Black Water RAMSAR site to the south-east and the Abberton Reservoir RAMSAR site to the east. The proposed development will not reduce the size or conservation status of these designated sites nor affect their management regimes or future ecological potential. The proposed development area does not create new access to these Natura 2000 sites.

- However the proposed development being within the "zone of influence" could have some minor recreational/disturbance impact alone or when considered alongside other new developments within the same zone of influence for these Natura 2000 Sites and so be subject to a Habitat Regulations Assessment (H.R.A.).

- Natural England now advise that a suitable contribution to the emerging Recreational Disturbance Avoidance and Mitigation Strategy (.R.A.M.S) from relevant planning applicants would enable the local authority to be able to reach a conclusion of "no likely significant effect" - and addressing the need for the suggested H.R.A.

- This type of direct contribution will help ensure that the delivery of the R.A.M.S. remains viable and fit for purpose.

- The planning applicant for this site fully supports this direct conservation action and will discuss the R.A.M.S. payment required with the local authority.

- There is a Priority Habitat Deciduous Woodland to the south west and Ancient Semi-Natural Woodland to the west. The proposed development will not reduce the size or conservation status of these habitats nor affect their management regimes or future ecological potential.

- The wider site comprises several existing and former grazing paddocks of various sizes and management regimes. To the rear of Tower End the paddocks are fenced and in constant equine use with no successional habitats - their conservation/biodiversity value is low.

- To the east is a larger open single pasture - again regularly grazed with limited successional mixed habitat. There are occasional spoil heaps of mixed materials with scrub cover – they are not connected and have limited conservation/reptile potential.

- To the rear of Tower End are 3 x water bodies they all have amphibian potential and will require suiatble amphibian survey effort.

- Most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had a un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

- DEFRA/Natural England and Bug Life's standing advice in relation to invertebrates - semi-natural vegetation - and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission. Such a scoping study – spring/summer2019 is required for this site.

- The main field units have significant mainly continous hedgerow boundary fetaures with maturing individual trees.These hedgerow/tree features will be important wildlife corridors for foraging/commuting bats and nesting birds. There retention protection and enhancement would be an essential part of the sites development. Any proposed removal would first require a full spring-summer-autumn bat and bird survey/monitoring assessment to detremine removal impacts and associated mitigations.

- A single linear field (Ponys Farm/Colt Farm) that leads into the central section of the site from the main Kelvedon Road has received no recent management – grazing mowing etc. This habitat has localised reptile potential that requires further survey efforts. There are a number of reptile or possible amphibian exclsuion fences in the developmnetg site adajcent to this survey area.

- There are a number of buildings within the wider site that will be removed as part of the proposed development. The state of repair of the these buildings varies as does their associated bat roost potential. A bat roost absence must not be assumed, any building or maturing tree that will be removed as part of the proposed development must be suitably surveyed/assessed in relation to a bat roost presence or absence.

1.5 The on-site ecological assessment with the required further faunal survey efforts when completed will with this report meet in full all ecological/conservation related issues that could require consideration as part of the planning application process for this site.

1.6 Furthermore the potential developer will have addressed all his legal wildlife responsibilities and requirements in relation to due diligence as part of the planning application process.

2. Introduction

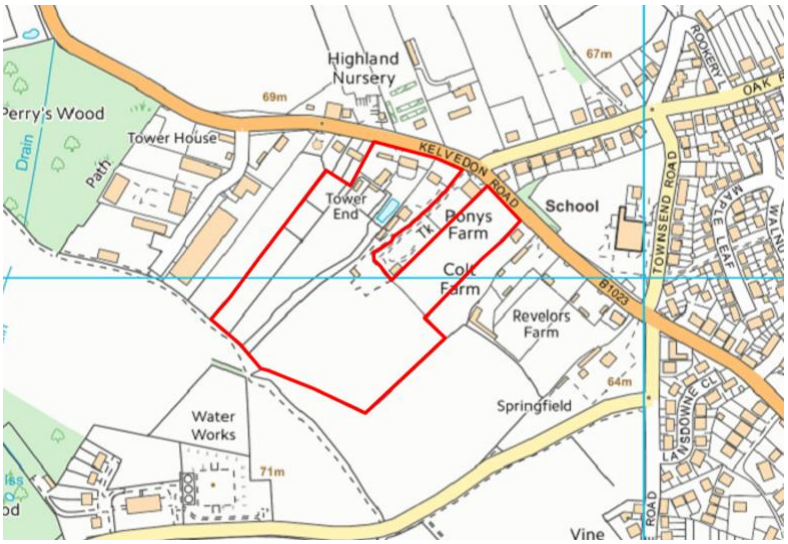
2.1 The revised National Planning Policy Framework (July 2018) still requires that on-site biodiversity/conservation is given full consideration at the time of a planning development application submission.

2.2 The Local Planning Authority are therefore acting in a reasonable and responsible manner under the legislation by requesting that the planning applicant for this potential development site completes a suitable ecological assessment and prepares/submits a subsequent report, if the Authority believes a habitat or species could be threatened by the proposed development.

2.3 The Preliminary Ecological Assessment, along with this report and subsequent faunal surveys when completed will meet all relevant conservation requirements and answers relevant associated wildlife concerns the local planning authority may have in relation to this proposed development site.

3. Site Assessment

3.1 The proposed development site is an area of land to the rear of Tower End Kelvedon Road, Tiptree in Essex (Drawing 1 - red boundary).



Drawing 1

3.2 To the north is the traffic busy B1023 Kelvedon Road with existing development beyond. To the west a narrow single paddock to the rear of a property fronting onto the Kelvedon Road and the Tower House industrial site beyond. To the east a recently approved development site that extends to the Tiptree urban area beyond. To the south an industrial water works and associated grounds (Photograph 1).

3.3 The wider site comprises several existing and former grazing paddocks of various sizes and management regimes.

3.4 To the rear of Tower End the paddocks are fenced and in constant equine use (Photographs 2-3). There are no successional habitats within the paddocks and their conservation/biodiversity value is low.

3.5 To the east of these enclosed paddocks is a larger open single pasture (Photograph 4). They again have been regularly grazed with limited successional mixed habitat. There are occasional spoil heaps of mixed materials with scrub cover (Photograph 5) – they are not connected and have limited conservation/reptile potential.

Photograph 1

Photograph 2

Photograph 3

Photograph 4 **Photograph 5**

3.6 To the rear of Tower End are 3 x water bodies. The first is an attractive aquatic habitat (Photograph 6), no fish were evident but had been present in the past. Wildfowl were present (Mallard and Moor Hen). Adjacent to this pond is the second water body (Photograph 7) very little open water was visible with emergent aquatic vegetation throughout.

Photograph 6 **Photograph 7**

3.7 The third pond is a linear feature (Photograph 8) created by the sites present owner to help drain excess rainfall and potential flooding from the first pond. The sides of this drain have been embanked and are now dominated by natural Blackthorn regeneration which restricts access. All 3 x aqutic habitats have amphibian potential and will require suiatble amphibian survey effort.

3.8 The main field units have significant mainly continous hedgerow boundary fetaures with maturing individual trees (Photographs 9-12). They have received little recent management, however there are few gaps along their length. To

the east the Blackthorn hedge has spread onto the adjacent pasture forming a band of scrub from the original hedge line.

Photograph 8

Photograph 9

Photograph 10

Photograph 11

Photograph 12

3.9 These hedgerow/tree features will be important wildlife corridors for foraging/commuting bats and nesting birds. There retention protection and enhancement would be an essential part of the sites development. Any proposed removal would first require a full spring-summer-autumn bat and bird survey/monitoring assessment to detremine removal impacts and associated mitigations.

3.10 A single linear field (Ponys Farm/Colt Farm) that leads into the central section of the site from the main Kelvedon Road has received no recent management – grazing mowing etc. Natural succession has allowed scrub/young trees to establish and begin spreading into the site. The grass sward now has significant structure with only a few open areas remaining (Photographs 13 -14).

3.11 This habitat has localised reptile potential that requires further survey efforts. (There are a number of reptile or possible amphibian exclsuion fences in the developmnetg site adajcent to this survey area Photograph 15).

Photograph 13

Photograph 14

Photograph 15

3.12 There are a number of buildings – residential/stables/offices/church within the (Photographs 16-19) wider site that will be removed as part of the proposed development.

3.13 The state of repair of the these buildings varies as does their associated bat roost potential. However, all are within an open habitat with suitable bat foraging and dispersal features. A bat roost absence must not be assumed, any building or maturing tree that will be removed as part of the proposed development must be suitably surveyed/assessed in relation to a bat roost presence or absence.

Photograph 16

Photograph 17

Photograph 18

Photograph 19

4. Planning Policy and Site Status

4.1 The direction to protect sites with a designated conservation status including Local Wildlife Sites has continued in the revised National Planning Policy Framework July 2018. Local Planning Authorities are still required to set criteria based policies against which proposals for any development, on or affecting protected wildlife or geodiversity sites or landscape areas, will be judged. Planning policies should identify and map components of local ecological networks including the hierarchy of international, national and locally designated sites of importance for biodiversity.

4.2 With such extensive legislative/planning policy protection of biodiversity and designated conservation sites against development it is essential to first establish the status of any site where any ecological related assessment is being made if it is, as in this case, in relation to a proposed planning application.

4.3 A search for any type of conservation designations for the proposed development site and the immediate adjacent areas was completed and is represented in Appendices 1 - 3.

4.4 Appendix 1 shows the position/boundaries of any conservation area with Statutory Designation in or adjacent to the proposed development site.

4.5 Appendix 2 shows the position/boundaries of any conservation area with Non-Statutory Designation in or adjacent to the proposed development site.

4.6 Appendix 3 shows the position/boundaries of any habitat registered on the Habitat Inventory as Priority Habitat in or adjacent to the proposed development area.

4.7 No part of the proposed development site has any type of statutory or non-statutory conservation designation.

4.8 The proposed development site however is within a zone of influence for Tiptree Heath Site of Special Scientific Interest to the south west and Abberton reservoir to the east. The proposed development will not reduce the size or conservation status of these designated sites nor affect their management regimes or future ecological potential.

4.9 The proposed development site is within a zone of influence for the Black Water RAMSAR site to the south-east and the Abberton Reservoir RAMSAR site to the east. The proposed development will not reduce the size or

conservation status of these designated sites nor affect their management regimes or future ecological potential. The proposed development area does not create new access to these Natura 2000 sites.

4.10 However the proposed development being within the "zone of influence" could have some minor recreational/disturbance impact alone or when considered alongside other new developments within the same zone of influence for these Natura 2000 Sites and so be subject to a Habitat Regulations Assessment (H.R.A.).

4.11 Natural England now advise that a suitable contribution to the emerging Recreational Disturbance Avoidance and Mitigation Strategy (.R.A.M.S) from relevant planning applicants would enable the local authority to be able to reach a conclusion of "no likely significant effect" - and addressing the need for the suggested H.R.A.

4.12 This type of direct contribution will help ensure that the delivery of the R.A.M.S. remains viable and fit for purpose.

4.13 The planning applicant for this site fully supports this direct conservation action and will discuss the R.A.M.S. payment required with the local authority.

4.14 There is a Priority Habitat Deciduous Woodland to the south west and Ancient Semi-Natural Woodland to the west. The proposed development will not reduce the size or conservation status of these habitats nor affect their management regimes or future ecological potential.

5. Planning Policy and Wildlife Legislation

5.1 Regardless of any planning policy or guideline change certain species are legally protected and any type of development that would injure, kill, ill-treat or intentionally damage or destroy any protected species or place of shelter would be a criminal act.

5.2 However some species that do not receive statutory full protection under existing ranges of legislation continue to be identified as requiring conservation action as species of principal importance in the revised National Planning Policy Framework:

- Promote the preservation, restoration and re-creation of priority habitats and the protection of priority species populations…. linked to national and local targets.

- When determining planning applications local planning authorities should aim to conserve and enhance biodiversity….

- To achieve this conservation action/protection planning authorities are instructed to refuse planning applications that cause harm to these species or their habitats if no suitable mitigation has been identified.

5.3 With legal responsibilities and new planning framework implications it remains essential that any ecological assessment of any development site, including the area of this report, must determine the possible presence or absence of any protected species as part of the development process.

5.4 Without this assessment the potential developer would be unable to demonstrate due diligence in his legal wildlife responsibilities.

5.5 Furthermore the local planning officer will not have been provided with sufficient information to be able to determine if the new ecological based requirements of their relevant planning application for the site are being met in full.

5.6 It would however be unreasonable to survey for every protected floral/faunal species. The likelihood of a protected species being present is based on the habitat type and condition, and any relevant species record within a 2 kilometre radius – Appendix 4 - Species data.

5.7 The Site Assessment identified that the wider site has 3 x water bodies with some amphibian potential.

5.8 Great Crested Newts and their habitat receive full protection under the Wildlife and Countryside Act 1981 Schedule 5, and are a European Protected Species listed in Annex IV (a) of the Habitats Directive (The Conservation Regulations1994 Schedule 2).

5.9 It is a criminal act to kill, injure or disturb any Great Crested Newt or its associated habitat.

5.10 The Smooth and Palmate Newt do not benefit from any development related protection.

5.11 The Common Frog receives no protection from development.

5.12 The Common Toad as a BAP species requires consideration during any development process.

5.13 Any development of this site if Great Crested Newts were found to be present in the sites relevant aquatic habitats could be a deliberate and unreasonable act, i.e. an offence could have been committed if no provision had been made within the development area to mitigate for any possible Great Crested Newt presence.

5.14 It is therefore essential to determine a Great Crested Newt presence or absence for all three ponds before development begins.

5.16 The wider sites buildings will be removed as part of the proposed development. These buildings vary in condition/state of repair and subsequently their bat roost potential. They are all however in a semi rural wider location that contains water bodies and mature hedge lines that could provide bat foraging and dispersal opportunities. There are numerous recent bat records within a 2 kilometre radius of the site (Appendix 4 Species Data).

5.17 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 1st April 2010, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2010.

5.18 European protected animal species and their breeding sites or resting places are protected under Regulation 39. 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.

5.19 The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. Now, a person will commit an offence only if he deliberately disturbs such animals in a way as to be likely to significantly 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. However, please note that 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.

5.20 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*'.

5.21 Section 9 of the National Planning Policy Framework 2012 (NPPF) states that '*the planning system should contribute to and enhance the natural and local environment by ….minimising impacts on biodiversity and providing net gains in biodiversity where possible.*'

5.22 With such legislative protection and high conservation value a bat roost assessment is required for all relevant buildings on site and any maturing tree that requires removal to allow the proposed development.

5.23 There is a significant area of successional rank grassland/scrub habitat within the site were that has developed in the absence of any recent management regime - grazing – mowing etc. This area has reptile potential. There are reptile records within a 2 kilometre distance of the survey site – (Appendix 4 Species Data).

5.24 Slow Worm, Common Lizard and Grass Snake are all protected under Schedule 5 of the Wildlife and Countryside Act (1981 and amendments) against killing, injury and sale. However, it must be noted that their habitat is not protected, only the individual animal.

5.25 Any development of this site if any reptile population was identified as being present would be a deliberate and unreasonable act, i.e. an offence would have been committed if no provision had been made.

5.27 A reptile presence or absence survey is therefore required in relation to all reptile suitable habitats within the wider survey site that could be impacted upon by the proposed development.

5.28 Most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had a un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

5.29 DEFRA/Natural England and Bug Life's standing advice in relation to invertebrates - semi-natural vegetation - and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission. Such a scoping study – spring/summer2019 is required for this site.

6. Amphibian Assessment

6.1 Two adjacent water bodies and a wet ditch were identified within the proposed development area that have some amphibian potential.

6.2 This potential needs to be quantified using the Habitat Suitability Index methodology (Oldham *et al* 2000) which scores a habitats suitability in relation to a possible amphibian presence.

6.3 This scoring technique uses 10 different habitat criteria scoring indices depending on amphibian suitability. An overall calculation of suitability from the 10 individual results is completed as a geometric mean of the ten suitability indices, on an approximate scale from 0-1 (see below).

H.S.I. score criteria

Scoring criteria	Comments	HSI score
Geographic location		
Pond area		
Permanence		
Water quality		
Shade		
Fowl		
Fish		
No of ponds within 1km (not separated by a major barrier).		
Quality of terrestrial habitat		
Macrophyte cover		
	HSI Score	

Categorisation of HSI scores
Lee Brady has developed a system for using HSI scores to define pond suitability for great crested newts on a categorical scale:

HSI		Pond suitability
< 0.5	=	poor
0.5-0.59	=	below average
0.6-0.69	=	average
0.7-0.79	=	good
> 0.8	=	excellent

6.4 Following the spring H.S.I. assessment any water body that has a score of average or above a Great Crested Newt presence or absence survey is usually required.

6.5 For this site an initial presence or absence Great Crested Newt E-D.N.A. survey will be completed following the H.S.I. scoring in April 2019.

6.6 The E-D.N.A. technique uses a courier delivered kit into which samples from each water body are placed into a sterile solution that preserves potential D.N.A.

6.7 These samples are returned via the courier to the supplying laboratory that can then identify at the genetic level – does the pond from which the samples were taken contain a Great Crested Newt – a definitive 'yes' or 'no'.

6.8 For a confirmed 'no' presence - no further Great Crested Newt related works would be required.

6.9 For a confirmed 'yes' presence – a multiple visit mixed methodology survey effort would be required April- Late May 2019 to determine population size and to help guide a possible licenced mitigation for the protected amphibians.

6.10 The possible licence from Natural England would be required if part of the proposed development negatively impacted upon any Great Crested Newt/population, its breeding site or access to or from, a resting place/hibernation site or damaged, fragmented, restricted access to viable terrestrial habitat.

6.11 The use of the appropriate licence does not prevent ecological impact, it simply "legalises/approves" what is a negative action. Mitigation by suitable design to remove ecological impact is always the most appropriate option in relation to conservation constraints.

7. Reptile Survey

7.1 The Site Assessment identified a significant area of mixed successional vegetation in an-unmanaged area of the wider site that has some reptile potential.

Survey Technique

7.2 Two complimentary but different survey techniques will be used in all possible reptile habitats throughout the sites to determine a reptile presence or absence, distribution and abundance.

Direct observation

7.3 The experienced reptile recorder on each survey visit will walk slowly with care, avoiding vegetation disturbance, along the relevant habitat areas, ensuring that no shadow was cast upon or adjacent to the survey site.

7.4 All vegetation/open ground will be scanned for up to 4-5 metres ahead for any reptile presence during each direct observation survey.

7.5 Close focus binoculars will be available/used to provide detailed information on any possibly partially obscured observation.

7.6 For any possible reptile disturbances the same location will be re-surveyed 10-15 minutes later after the potential disturbance when the animal possibly returns.

Artificial basking/refugia tiles

7.7 Artificial refugia (Photograph 1) will be carefully placed in the potential reptile habitats throughout the proposed development site at 10 metre centres.

7.8 The refugia will be placed several weeks before the relevant presence or absence surveys begins to ensure that they are settled in and were familiar to any reptile present.

7.9 The refugia will be a mix of roofing felt; corrugated metal and plywood sheets, all cut to 75 cm wide squares.

7.10 These refugia provide basking areas on which reptiles can warm themselves in the early morning sun, seek refuge from predators and gain shelter from adverse weather conditions.

Photograph 1

7.11 All the refugia will be inspected during each of the subsequent 7 x separate survey assessments. At the same time as the artificial refugia inspections, surveys amongst any timber/brash piles were also completed.

7.12 During each survey inspection the refugia tiles will be lifted from one side, with any reptile recorded and the tile placed back in the same position.

7.13 Each inspection will be completed on warm sunny mornings when there has been no overnight rain.

7.14 Following the 7 x survey efforts during suitable conditions a presence or absence can be determined.

8. Invertebrate Assessment.

8.1 The Site Assessment determined that most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had a un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

8.2 Defra/Natural England and Bug Life's standing advice in relation to invertebrates - semi-natural vegetation - and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission.

8.3 Such a scoping study – spring/summer2019 is required for this site.

8.4 The purpose of the scoping invertebrate assessment would be to identify if a more detailed survey is required based upon invertebrate species of conservation interest being present or features or habitats with significant value to invertebrates that would be impacted upon by the proposed development.

8.5 Of particular concern would be the potential for the site to support Species of Principal Importance in England, as defined within Section 41 of the *Natural Environment and Rural Communities (NERC) Act* 2006, although species included in other conservation categories would need to be also considered .

9. Bat Roost Assessment

Building Roost – Survey Methods

9.1 All building roost inspections will be completed by a suitably licenced, experienced bat ecologist.

9.2 The exterior surfaces of all relevant buildings will be examined for any field signs of use as bat roosts, such as the presence of droppings on walls, windows or staining around roost entrances.

9.3 The use of a crevice by a colony of bats produces droppings on brickwork and adjacent surfaces close to the crevice, together with an accumulation of droppings beneath the roost entrance. However, upon examination, many surfaces will have one or two droppings, randomly placed, caused by bats seeking out new roost sites.

9.4 The internal survey will be conducted using a powerful torch. The internal roof space of the buildings will be searched for evidence of roosting, the floor areas for droppings and any beams/timbers for crevices and staining indicative of the presence of roosting bats.

9.5 An Xtend & Climb Pro Ladder and a ProVision 300 endoscope will be available to inspect crevices in brickwork and around beams.

9.6 Any roost to be closed will require detailed licenced mitigation following further survey efforts that will depend on the species present, roost type and number of bats present.

Tree Roost – Survey Methods

9.7 Any tree feature/bat roost assessment will be completed following the broad advice as given in:

Bat Conservation Trust's Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines.
Ref: Collins, J. (ed.) (2016) (3rd edition). The Bat Conservation Trust, London.

9.8 However, it must be noted that the first page of all three editions includes the following:

The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.

9.9 Any tree that requires removal as part of the proposed development will be inspected from ground level to identify any Potential Roost Feature (P.R.F.) that could be used as a bat roost site.

9.10 These features, as per the guide lines, include:

- woodpecker holes;
- rot holes;
- hazard beams;
- other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
- partially detached platey bark;
- knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- cankers (caused by localised bark death) in which cavities have developed;
- other hollows or cavities, including butt-rots;
- double-leaders forming compression forks with included bark and potential cavities;
- gaps between overlapping stems or branches;
- partially detached ivy with stem diameters in excess of 50mm;
- bat, bird or dormouse boxes.

9.11 For any possible Roost Feature, its suitability or likelihood as being a possible bat roost will be identified as being negligible - low, medium or high as per the suitability guidelines below.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.[c]	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

9.12 At the same time as the visual assessment of the feature, observations will be made to determine if there are any bat activity field signs - droppings, staining, scratch marks – or indeed any obvious bat presence that does not require invasive techniques to determine.

9.13 Before any individual tree is inspected its location and associated habitats will be assessed:

- Is the tree a stand-alone feature – does it have good connectivity with potential bat foraging areas.
- Is it part of a possible bat dispersal route.
- Is it at present illuminated or disturbed at night.

9.14 Any bat roost within a tree identified for removal will require detailed licenced mitigation following further survey efforts that will depend on the species present, roost type and number of bats present.

10. Conclusion

10.1 No part of the proposed development site has any type of statutory or non-statutory conservation designation.

10.2 The proposed development site however is within a zone of influence for Tiptree Heath Site of Special Scientific Interest to the south west and Abberton reservoir to the east. The proposed development will not reduce the size or conservation status of these designated sites nor affect their management regimes or future ecological potential.

10.3 The proposed development site is within a zone of influence for the Black Water RAMSAR site to the south-east and the Abberton Reservoir RAMSAR site to the east. The proposed development will not reduce the size or conservation status of these designated sites nor affect their management regimes or future ecological potential. The proposed development area does not create new access to these Natura 2000 sites.

10.4 However the proposed development being within the "zone of influence" could have some minor recreational/disturbance impact alone or when considered alongside other new developments within the same zone of influence for these Natura 2000 Sites and so be subject to a Habitat Regulations Assessment (H.R.A.).

10.5 Natural England now advise that a suitable contribution to the emerging Recreational Disturbance Avoidance and Mitigation Strategy (.R.A.M.S) from relevant planning applicants would enable the local authority to be able to reach a conclusion of "no likely significant effect" - and addressing the need for the suggested H.R.A.

10.6 This type of direct contribution will help ensure that the delivery of the R.A.M.S. remains viable and fit for purpose.

10.7 The planning applicant for this site fully supports this direct conservation action and will discuss the R.A.M.S. payment required with the local authority.

10.8 There is a Priority Habitat Deciduous Woodland to the south west and Ancient Semi-Natural Woodland to the west. The proposed development will not reduce the size or conservation status of these habitats nor affect their management regimes or future ecological potential.

10.9 The wider site comprises several existing and former grazing paddocks of various sizes and management regimes. To the rear of Tower End the paddocks are fenced and in constant equine use with no successional habitats - their conservation/biodiversity value is low.

10.10 To the east is a larger open single pasture - again regularly grazed with limited successional mixed habitat. There are occasional spoil heaps of mixed materials with scrub cover – they are not connected and have limited conservation/reptile potential.

10.11 To the rear of Tower End are 3 x water bodies they all have amphibian potential and will require suiatble amphibian survey effort.

10.12 The main field units have significant mainly continous hedgerow boundary fetaures with maturing individual trees.These hedgerow/tree features will be important wildlife corridors for foraging/commuting bats and nesting birds. There retention protection and enhancement would be an essential part of the sites development. Any proposed removal would first require a full spring-summer-autumn bat and bird survey/monitoring assessment to detremine removal impacts and associated mitigations.

10.13 A single linear field (Ponys Farm/Colt Farm) that leads into the central section of the site from the main Kelvedon Road has received no recent management – grazing mowing etc. This habitat has localised reptile potential that requires further survey efforts. There are a number of reptile or possible amphibian exclsuion fences in the developmnetg site adajcent to this survey area.

10.14 There are a number of buildings within the wider site that will be removed as part of the proposed development. The state of repair of the these buildings varies as does their associated bat roost potential. A bat roost absence must not be assumed, any building or maturing tree that will be removed as part of the proposed development must be suitably surveyed/assessed in relation to a bat roost presence or absence.

10.15 Most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had a un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

10.16 DEFRA/Natural England and Bug Life's standing advice in relation to invertebrates - semi-natural vegetation - and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate

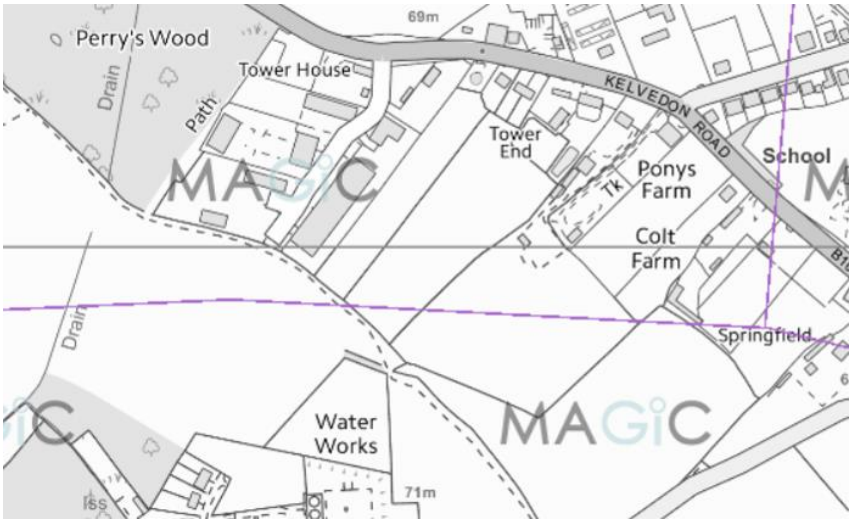
ecologist as part of the planning application submission. Such a scoping study – spring/summer2019 is required for this site.

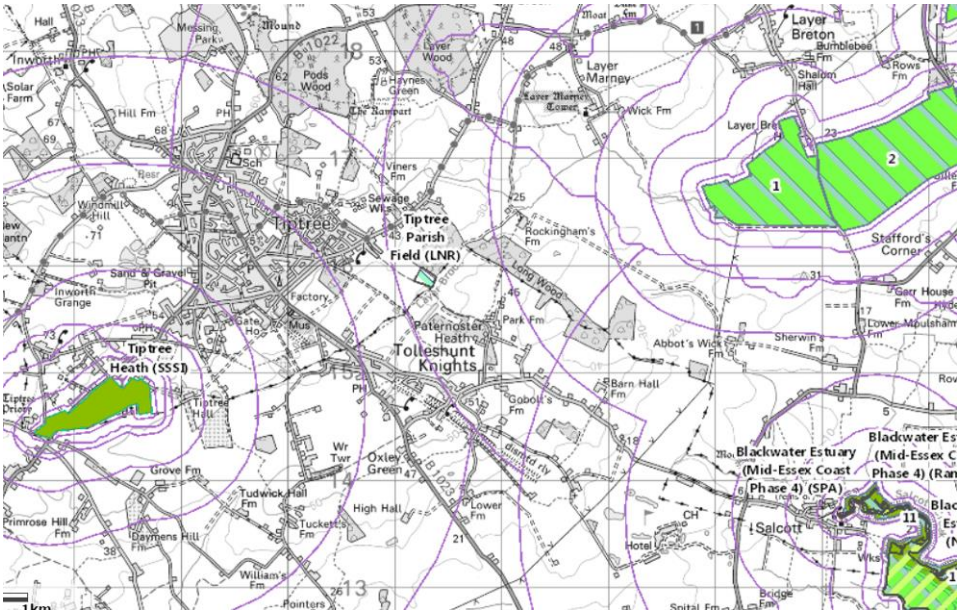
10.17 The on-site ecological assessment with the required further faunal survey efforts when completed will with this report meet in full all ecological/conservation related issues that could require consideration as part of the planning application process for this site.

10.18 Furthermore the potential developer will have addressed all his legal wildlife responsibilities and requirements in relation to due diligence as part of the planning application process.

Appendix 1

Statutory Conservation Designated Sites





Sites of Special Scientific Interest Units (England)	
Name	TIPTREE HEATH
Reference	1064517
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1005109
Hectares	24.57
Hyperlink	http://designatedsites.naturaler

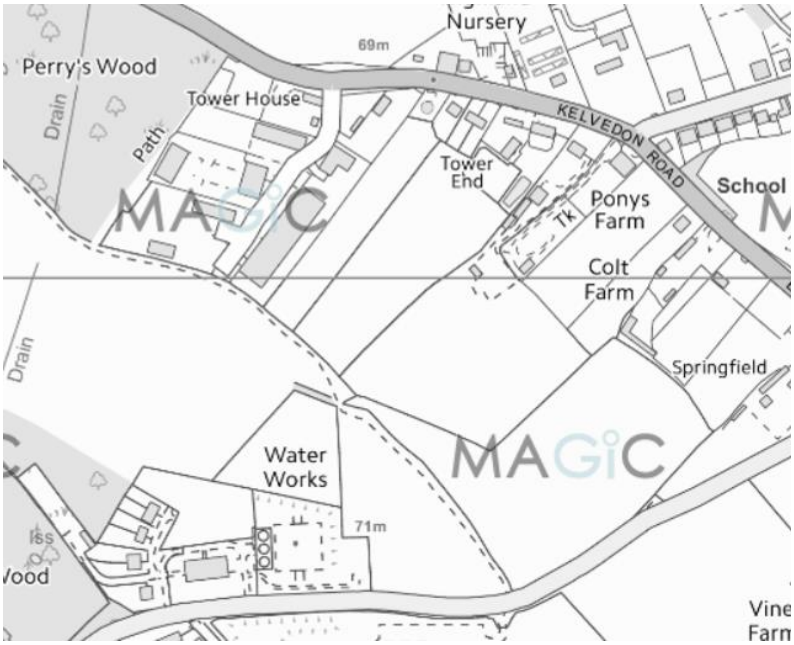
Ramsar Sites (England)	
Name	ABBERTON RESERVOIR
Reference	UK11001
Hectares	718.31

Sites of Special Scientific Interest Units (England)	
Name	ABBERTON RESERVOIR
Reference	1064186
Site Unit Condition	FAVOURABLE
Citation	1004607
Hectares	66.72
Hyperlink	http://designatedsites.natur

Ramsar Sites (England)	
Name	BLACKWATER ESTUARY (MID-ESSEX COAST PHASE 4)
Reference	UK11007
Hectares	4403.41

Appendix 2

Non-Statutory Designated Sites



Appendix 3

Habitat Inventory

Ancient Woodland (England)	
Wood Name	PERRYS WOOD
Theme Name	Ancient & Semi-Natural Woodland
Theme ID	1116819
Area (Ha)	3.578944

Priority Habitat Inventory - Deciduous Woodland (England)	
Main Habitat Present	Deciduous woodland
Confidence in Main Habitat Classification	Low
Name of 1st Data Source	National Forest Inventory 2014

Ecological Assessment
Presence – Absence

Land to rear

Tower End
Kelvedon Road
Tiptree
Colchester
Essex

Eco - Planning UK

Ecological Assessment
Presence – Absence

Land to rear
Tower End
Kelvedon Road
Tiptree
Colchester
Essex

Project Coordinator
Mrs Fiona Crace

Site Surveyors
Mr Patrick McKenna
Mr John Dobson
Mr Dean Manning
Mr Marcel Ashby

Final Report 18th June 2019

Approved:
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Contents

1. Summary

1.1 Eco-Planning UK Ltd had received instruction to complete an initial outline ecological assessment across an area to the rear of Tower End, Kelvedon Road, Tiptree in Essex.

1.2 The assessment and the subsequent report are to be part of a planning application that is to be submitted to the Local Planning Authority, seeking planning consent for development within the survey area.

1.3 From the original on-site ecological assessments it was determined that: -

- To the rear of Tower End are 3 x water bodies they all have amphibian potential and will require suiatble amphibian survey effort.

- Most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had an un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

- DEFRA/Natural England and Bug Life's standing advice in relation to invertebrates, semi-natural vegetation and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission. Such a scoping study – spring/summer 2019 is required for this site.

- A single linear field (Ponys Farm/Colt Farm) that leads into the central section of the site from the main Kelvedon Road has received no recent management – grazing, mowing etc. This habitat has localised reptile potential that requires further survey efforts. To the east is a larger open single pasture - again regularly grazed with limited successional mixed habitat. There are occasional spoil heaps of mixed materials with scrub cover – they are not connected and have limited conservation/reptile potential.

- There are a number of buildings within the wider site that will be removed as part of the proposed development. The state of repair of the these buildings varies as does their associated bat roost potential. A bat roost absence must not be assumed, any building or maturing tree that will be removed as part of the proposed development must be suitably surveyed/assessed in relation to a bat roost presence or absence.

1.4 Eco-Planning UK Ltd received subsequent instruction to complete all the presence/absence surveys highlighted in the original preliminary ecological assessment/report.

1.5 The various presence/absence surveys determined that:

- There is no existing bat roost within any of the buildings on site. There are no field signs of any past bat roost presence. No further building bat roost assessment or comment is required.

- For any future tree removal, a suitable bat roost assessment will be first required – with a subsequent suitable presence or absence survey for any medium/high value roost feature identified.

- There is a small population of Common Lizards along the central hedgerow on site. These reptiles will require suitable retention mitigation as part of any planning approval.

- The site has no invertebrate presence that would warrant further survey effort. No further invertebrate survey efforts are required.

- A Great Crested Newt presence was recorded in pond 3 within the proposed development site. Following any planning approval further multiple mixed methodology survey effort will be required to determine the Great Crested Newt population size which will be part of a subsequent, required and detailed Great Crested Newt licence application to DEFRA.

1.6 The Preliminary Ecological Assessment, the completed relevant presence or absence survey efforts along with this report meet in full all ecological/conservation related issues that could require consideration as part of the planning application process for this site.

1.6 Furthermore the potential developer has addressed all his legal wildlife responsibilities and requirements in relation to due diligence as part of the planning application process.

2. Introduction

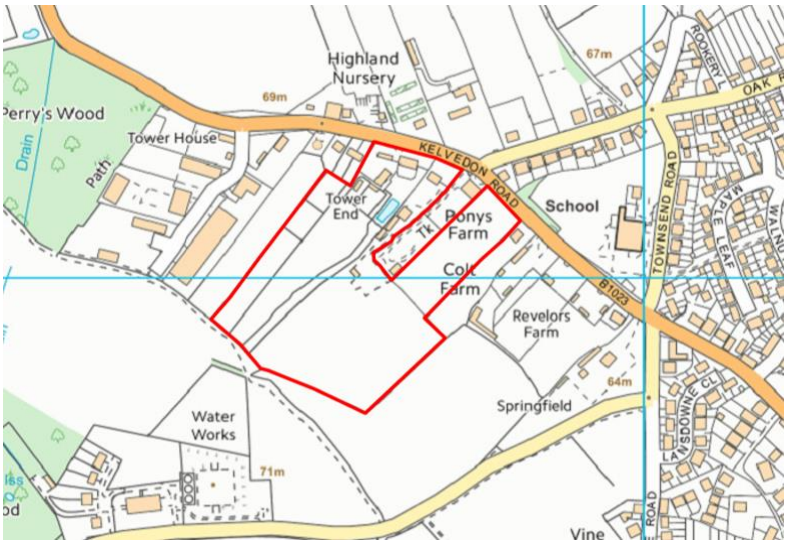
2.1 The revised National Planning Policy Framework (July 2018/June 2019) still requires that on-site biodiversity/conservation is given full consideration at the time of a planning development application submission.

2.2 The Local Planning Authority are therefore acting in a reasonable and responsible manner under the legislation by requesting that the planning applicant for this potential development site completes a suitable ecological assessment and prepares/submits a subsequent report, if the Authority believes a habitat or species could be threatened by the proposed development.

2.3 The Preliminary Ecological Assessment, the subsequent presence – absence survey efforts along with this report meet all relevant conservation requirements and answers relevant associated wildlife concerns the local planning authority may have in relation to this proposed development site.

3. Site Assessment

3.1 The presence / absence survey area continues to be the same proposed development site to the rear of Tower End, Kelvedon Road, Tiptree in Essex (Drawing 1 - red boundary).



Drawing 1

3.2 There has been no change in use or structure in any part of the site since the Preliminary Ecological Assessments.

4. Planning Policy and Wildlife Legislation

4.1 Regardless of any planning policy or guideline change certain species are legally protected and any type of development that would injure, kill, ill-treat or intentionally damage or destroy any protected species or place of shelter would be a criminal act.

4.2 However some species that do not receive statutory full protection under existing ranges of legislation continue to be identified as requiring conservation action as species of principal importance in the revised National Planning Policy Framework:

- Promote the preservation, restoration and re-creation of priority habitats and the protection of priority species populations…. linked to national and local targets.

- When determining planning applications local planning authorities should aim to conserve and enhance biodiversity.

- To achieve this conservation action/protection planning authorities are instructed to refuse planning applications that cause harm to these species or their habitats if no suitable mitigation has been identified.

4.3 With legal responsibilities and new planning framework implications it remains essential that any ecological assessment of any development site, including the area of this report, must determine the possible presence or absence of any protected species as part of the development process.

4.4 Without this assessment the potential developer would be unable to demonstrate due diligence in his legal wildlife responsibilities.

4.5 Furthermore the local planning officer will not have been provided with sufficient information to be able to determine if the new ecological based requirements of their relevant planning application for the site are being met in full.

4.6 It would however be unreasonable to survey for every protected floral/faunal species. The likelihood of a protected species being present is based on the habitat type and condition as described in the Site Assessment and relevant species record within a 2 kilometre radius – as provided in the Preliminary Ecological Assessment report.

4.7 The original Site Assessment identified that the wider site has 3 x water bodies with some amphibian potential.

4.8 Great Crested Newts and their habitat receive full protection under the Wildlife and Countryside Act 1981 Schedule 5, and are a European Protected Species listed in Annex IV (a) of the Habitats Directive (The Conservation Regulations1994 Schedule 2).

4.9 It is a criminal act to kill, injure or disturb any Great Crested Newt or its associated habitat.

4.10 The Smooth and Palmate Newt do not benefit from any development related protection.

4.11 The Common Frog receives no protection from development.

4.12 The Common Toad as a BAP species requires consideration during any development process.

4.13 Any development of this site if Great Crested Newts were found to be present in the sites relevant aquatic habitats could be a deliberate and unreasonable act, i.e. an offence could have been committed if no provision had been made within the development area to mitigate for any possible Great Crested Newt presence.

4.14 It is therefore essential to determine a Great Crested Newt presence or absence for all three ponds before any development begins.

4.15 The wider sites buildings will be removed as part of the proposed development. These buildings vary in condition/state of repair and subsequently their bat roost potential. They are all, however, in a semi-rural wider location that contains water bodies and mature hedge lines that could provide bat foraging and dispersal opportunities.

4.16 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 1st April 2010, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2010.

4.17 European protected animal species and their breeding sites or resting places are protected under Regulation 39. 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.

4.18 The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. Now, a person will commit an offence only if he deliberately disturbs such animals in a way as to be likely to significantly 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. However, please note that 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.

4.19 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*'.

4.20 Section 9 of the National Planning Policy Framework 2012 (NPPF) states that '*the planning system should contribute to and enhance the natural and local environment by…. minimising impacts on biodiversity and providing net gains in biodiversity where possible.*'

4.21 With such legislative protection and high conservation value a bat roost assessment is required for all relevant buildings on site and any maturing tree that requires removal to allow the proposed development.

4.22 There is a significant area of successional rank grassland/scrub habitat within the site which has developed in the absence of any recent management regime / grazing / mowing etc. This area has reptile potential.

4.23 Slow Worm, Common Lizard and Grass Snake are all protected under Schedule 5 of the Wildlife and Countryside Act (1981 and amendments) against killing, injury and sale. However, it must be noted that their habitat is not protected, only the individual animal.

4.24 Any development of this site if any reptile population was identified as being present would be a deliberate and unreasonable act, i.e. an offence would have been committed if no provision had been made.

4.25 A reptile presence or absence survey is therefore required in relation to all reptile suitable habitats within the wider survey site that could be impacted upon by the proposed development.

4.26 Most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had an un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

4.27 DEFRA/Natural England and Bug Life's standing advice in relation to invertebrates, semi-natural vegetation and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission. Such a scoping study – spring/summer 2019 is required for this site.

5. Amphibian Assessment

5.1 Two adjacent water bodies and a wet ditch were identified within the proposed development area that have some amphibian potential.

5.2 This potential needs to be quantified using the Habitat Suitability Index methodology (Oldham *et al* 2000) which scores a habitats suitability in relation to a possible amphibian presence.

5.3 This scoring technique uses 10 different habitat criteria scoring indices depending on amphibian suitability. An overall calculation of suitability from the 10 individual results is completed as a geometric mean of the ten suitability indices, on an approximate scale from 0-1 (see below).

H.S.I. score criteria

Scoring criteria	**Comments**	**HSI score**
Geographic location		
Pond area		
Permanence		
Water quality		
Shade		
Fowl		
Fish		
No of ponds within 1km (not separated by a major barrier).		
Quality of terrestrial habitat		
Macrophyte cover		
	HSI Score	

Categorisation of HSI scores
Lee Brady has developed a system for using HSI scores to define pond suitability for great crested newts on a categorical scale:

HSI		Pond suitability
< 0.5	=	poor
0.5-0.59	=	below average
0.6-0.69	=	average
0.7-0.79	=	good
> 0.8	=	excellent

H.S.I Scores:

Pond 1 – 0.64 - Average

Pond 2 – 0.42 - Poor

Pond 3 – 0.7 - Good

5.4 Following a H.S.I. assessment, any water body that has a score of average or above a Great Crested Newt presence or absence survey is usually required.

5.5 For this site as 2 x of the ponds were average or above it was decided to complete a presence or absence Great Crested Newt E-D.N.A. survey for all 3 x ponds.

5.6 The E-D.N.A. technique uses a courier delivered kit into which samples from each water body are placed into a sterile solution that preserves potential D.N.A.

5.7 These samples are returned via the courier to the supplying laboratory that can then identify at the genetic level – does the pond from which the samples were taken contain a Great Crested Newt – a definitive 'yes' or 'no'.

5.8 For a confirmed 'no' presence - no further Great Crested Newt related works would be required.

5.9 For a confirmed 'yes' presence - suitable consideration would be required in relation to the protected amphibians.

5.10 The laboratory results - process/associated criteria and checks are explained in full by SureScreen Scientifics, the laboratory responsible for the E-DNA analysis of the 3 x pond water samples taken – Appendix 1.

5.11 It can be seen from the laboratory report that for all 3 x ponds - the samples taken passed the required Sample Integrity Check (SIC), Degradation Check (DR), Inhibition Check (IC) – see Appendix 1.

5.12 For ponds 1 and 2 the laboratory results are negative – there is no Great Crested Newt presence.

5.13 However, for pond 3 a Great Crested Newt presence is recorded, although the single replicant suggests a small presence.

5.14 For the confirmed 'yes' presence in pond 3 – a multiple visit mixed methodology survey effort will be required in spring 2020 to determine population size and to help guide a licenced mitigation for the protected amphibians.

5.15 The licence from Natural England would be required if part of the proposed development negatively impacted upon any Great Crested Newt/population, its breeding site or access to or from, a resting place/hibernation site or damaged, fragmented, restricted access to viable terrestrial habitat.

5.16 The use of the appropriate licence does not prevent ecological impact, it simply "legalises/approves" what is a negative action. Mitigation by suitable design to remove ecological impact is always the most appropriate option in relation to conservation constraints.

6. Reptile Survey

6.1 The Site Assessment identified a significant area of mixed successional vegetation in an un-managed area of the wider site that has some reptile potential.

Survey Technique

6.2 Two complimentary but different survey techniques were used in all possible reptile habitats throughout the sites to determine a reptile presence or absence, distribution and abundance.

Direct observation

6.3 The experienced reptile recorder on each survey visit walked slowly with care, avoiding vegetation disturbance, along/among the relevant habitat areas, ensuring that no shadow was cast upon or adjacent to the survey site.

6.4 All vegetation/open ground was scanned for up to 4-5 metres ahead for any reptile presence during each direct observation survey.

6.5 Close focus binoculars were available/used to provide detailed information on any possibly partially obscured observation.

6.6 For any possible reptile disturbances the same location was re-surveyed 10-15 minutes later after the potential disturbance when the animal possibly could return.

Artificial basking/refugia tiles

6.7 Artificial refugia (Photograph 1) were carefully placed in the potential reptile habitats throughout the proposed development site at 10 metre centres.

6.8 The refugia were placed several weeks before the relevant presence or absence surveys begins to ensure that they are settled in and were familiar to any reptile present.

6.9 The refugia were roofing felt sheets, all cut to 75 cm wide squares.

6.10 These refugia provide basking areas on which reptiles can warm themselves in the early morning sun, seek refuge from predators and gain shelter from adverse weather conditions.

Photograph 1

6.11 All the refugia were inspected during each of the subsequent 7 x separate survey assessments. At the same time as the artificial refugia inspections, surveys amongst any timber/brash piles were also completed.

6.12 During each survey inspection the refugia tiles were lifted from one side, with any reptile recorded and the tile placed back in the same position.

6.13 Each inspection was completed on warm sunny mornings when there had been no overnight rain.

6.14 Following the 7 x survey efforts during suitable conditions a presence or absence can be determined.

Survey Results

20 May 2019 - 1 x adult Common Lizard

22 May 2019 - No reptile of any species

24 May 2019 - 1 x adult Common Lizard

26 May 2019 - 1 x adult Common Lizard

28 May 2019 - 2 x adult Common Lizard

30 May 2019 - 1 x adult Common Lizard

2 June 2019 - 2 x adult Common Lizard

8 x Common Toad occurrences over the 7 separate survey efforts
(believed to be 2 x different animals).

6.15 All of the Common Lizards were recorded along the hedge line (Photograph 1) described as having some limited reptile potential in the Preliminary Ecological Assessment.

Location of Common Lizards

Photograph 1

6.16 The small Common Lizard population on site will require suitable mitigation for a successful retention on site - with the protection, enhancement and expansion of existing reptile suitable habitats.

7. Invertebrate Assessment.

7.1 The Preliminary Ecological Assessment determined that most of the wider site was an improved grazing pasture but had retained/developed some localised semi improved characteristics with bare ground areas and had an un-managed successional area – habitats possibly suitable for specialist invertebrates of conservation value.

7.2 Defra/Natural England and Bug Life's standing advice in relation to invertebrates, semi-natural vegetation and planning development is that a scoping study is required to be completed by a suitably qualified invertebrate ecologist as part of the planning application submission.

7.3 Such a scoping study was completed on the 14th May by our contacts at Colin Plant Associates (UK) - Appendix 2.

7.4 The purpose of the scoping invertebrate assessment was to identify if a more detailed survey is required, based upon invertebrate species of conservation interest being present or features or habitats with significant value to invertebrates that would be impacted upon by the proposed development.

7.5 Of particular concern would be the potential for the site to support Species of Principal Importance in England, as defined within Section 41 of the *Natural Environment and Rural Communities (NERC) Act* 2006, although species included in other conservation categories would need to be also considered.

7.6 The scoping study determined that "*the invertebrate ecology of the site is unlikely to attain a value that exceeds that of the general background level expected within the Colchester area….. not of the opinion that additional survey work would alter this conclusion and no such further work is recommended".*

7.7 No further invertebrate survey effort or mitigation is required for this site as part of the planning application procedure.

8. Bat Roost Assessment

Building Roost – Survey Methods

8.1 The building bat roost inspections were completed by a suitably licenced, experienced bat ecologist – licence number 2015-15258-CLS-CLS.

8.2 The exterior surfaces of all relevant buildings were examined for any field signs of use as bat roosts, such as the presence of droppings on walls, windows or staining around roost entrances.

8.3 The use of a crevice by a colony of bats produces droppings on brickwork and adjacent surfaces close to the crevice, together with an accumulation of droppings beneath the roost entrance. However, upon examination, many surfaces will have one or two droppings, randomly placed, caused by bats seeking out new roost sites.

8.4 The internal survey was conducted using a powerful torch. The internal roof-space of the buildings was searched for evidence of roosting, the floor areas for droppings and any beams/timbers for crevices and staining indicative of the presence of roosting bats.

8.5 An Xtend & Climb Pro Ladder and a ProVision 300 endoscope was available to inspect crevices in brickwork and around beams.

This survey effort/report has been compiled in accordance with the Bat Conservation Trust's *Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines.*

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

However, the first page of all three editions includes the following: *The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.*

Survey Results

8.6 **Tower End -** This is a detached bungalow with a slate roof lined with a membrane and white, rendered walls. The property was re-roofed around eight years ago. Access to the roof void was via two loft hatches. The roof

was of a cluttered, trussed construction and lacked a conventional ridge beam, a type of roof that is usually unsuitable for roof-dwelling species of bats that prefer a large volume in which to fly prior to emergence. No evidence of their presence was found on the floor of the loft, along the internal eaves of the building or on items stored within the loft. Externally, there was a tight seal along the eaves and gables, and also to the roof slates. There was also no evidence, such as droppings or staining on the white, rendered walls, where the presence of bats would have been readily apparent.

Southern elevation

Note lack of evidence of bats on loft insulation

Note lack of evidence of bats on loft insulation

Note lack of evidence of bats on loft insulation

8.7 **The Annexe -** This is a detached bungalow with a slate roof lined with a membrane and white, rendered walls. The property was re-roofed around eight years ago. Access to the roof void was via a loft hatch. The roof had a shallow-pitched loft with a floor to ridge height of c. 1m. The roof was of a cluttered, trussed construction and lacked a conventional ridge beam, a type and size of roof that is usually unsuitable for roof-dwelling species of bats that prefer a large volume in which to fly prior to emergence. No evidence of their presence was found on the floor of the loft, along the internal eaves of the building or on items stored within the loft. Externally, there was a tight seal along the eaves and gables, and also to the roof slates. There was also no evidence, such as droppings or staining on the white, rendered walls, where the presence of bats would have been readily apparent.

Northern elevation. Note tight seal to roof slates

Southern elevation. Note tight seal to roof slates

Note shallow-pitched roof void

8.8 **The Stables -** Aligned NE-SW, this is a single storey, block-built, detached building with a shingled roof. The building is divided along its length, with four stable bays to the south-east and three secure units to the north-west. The building was constructed around thirteen years ago. The shallow-pitched roof void has a trussed construction and lacks a ridge beam. No evidence of bats was found in the roof void or on the white-painted walls.

North-western and north-eastern (gabled) elevations

Note lack of evidence of bats in roof void of stables

8.9 **The Garage -** This building is of similar construction to others, with a shallow-pitched, trussed roof and a shingled roof. The walls are weather-boarded. The interior is open to the roof, receives regular disturbance and has three strip lights fitted to allow evening working. No evidence of bats was found on items stored in the building. Externally, there was a tight seal to the eaves, gables, roof shingles and weather-boarded walls.

North-eastern elevation

Interior of the garage. Note lack of features that might be occupied by bats

8.10 **The Office -** Aligned NE-SW, this is a functional, single storey, open plan building with felted shingles on the roof and boarded walls. There was a tight seal to the walls and roof and no features that might offer potential roosting places for bats.

North-eastern (gabled) and south-eastern elevations

8.11 **The Stables on Pony's Farm -** Located on adjacent land, this is a 4-bay, block-built stables with a tile and felted roof. The interior receives daylight illumination via half-doors and missing windows, conditions which bats seek out are dark areas or crevices in which to roost. The lack of such features in the walls and roof beams meant that this structure was unsuitable as a roosting place for bats.

South-eastern and south-western (gabled) elevations

Interior of stable bay

8.12 **'The Chapel' -** This is a single storey, detached building with a corrugated, asbestos roof and white, boarded walls. The shallow-pitched loft was examined from a hatch and found to have no evidence of bats.

South-eastern elevation of 'The Chapel'

Note lack of evidence of bats in shallow-pitched loft

8.13 **The Workshop -** Also located on adjacent land, this is a block-built building with a corrugated, asbestos roof and cladding to the walls. Although access wasn't achieved, the interior receives daily disturbance and experience at other sites has found that this type of building is entirely functional and lacks roosting opportunities for bats.

The Workshop

8.14 **Main Accommodation and Link Accommodation -** These are single storey buildings providing three-roomed accommodation for travellers. One has a shallow-pitched roof and lacks a loft, and the second has a sloping, felted roof. Both have tightly sealed, boarded walls that lack features that might be occupied by bats.

The link accommodation

North-eastern elevation of the main accommodation

South-western elevation of the main accommodation

8.15 There is no vegetation affected by the project that has crevices, loose bark or woodpecker holes that might be colonised by bats.

8.16 No evidence of their presence was found at this site.

Discussion

8.17 Bats are inquisitive, highly mobile animals, which constantly investigate their surroundings, evaluating good feeding areas and potential roosting opportunities. Where suitable habitat such as woodland, woodland edge or sheltered pasture occurs, bats will travel up to several kilometres to take advantage of this resource. To reach favoured sites, small bats will follow linear landscape features such as hedgerows, streams and lanes etc. The absence of such features can make an otherwise suitable site inaccessible to bats. In addition, new roosts will become established in such areas - examples being the rapid colonisation of artificial roost boxes placed in conifer forests or the occupation of new houses by nursery colonies of pipistrelle bats within a year or two of their completion.

8.18 Since there was no evidence of bats at the site, a European Protected Species Licence will not be required for this project.

8.19 Although no evidence of bats was found, it is probable that bats from nearby roosts will forage across the site and in the gardens of adjacent properties. This behaviour would be expected to continue after any building work has been completed and therefore it is considered that the planning proposal for this site will not have a detrimental effect on the local bat population.

8.20 Please note that this survey records the status of the buildings at the time of the survey. However, if more than a year were to elapse before the start of the building work, it is considered unlikely, due to the lack of potential roosting places, that bats would colonise the site during the intervening period.

Review of existing records of bats in the area

Since the early 1980s, the Essex Bat Group has monitored the status and distribution of bats in this area. Records occurring within a 2km radius of the site are as follows:

TL888187	12 Aug 2010	Common Pipistrelle recorded foraging
TL876152	12 Aug 2010	Common Pipistrelle recorded foraging
TL898165	03 Nov 1987	Brown Long-eared Bat found by member of public
TL895179	12 Aug 2010	Common Pipistrelle recorded foraging
TL896189	14 Feb 2014	Brown Long-eared Bat roost in building
TL896189	19 Apr 2013	Brown Long-eared Bat roost in building
TL882152	12 Aug 2010	Common Pipistrelle recorded foraging
TL876169	12 Aug 2010	Common Pipistrelle recorded foraging
TL880170	12 Aug 2010	Common Pipistrelle recorded foraging
TL894183	12 Aug 2010	Soprano Pipistrelle recorded foraging
TL908152	18 Sep 1985	Serotine roost in building

Tree Roost – Survey Methods

8.21 Eco-Planning UK Ltd have been informed that the field boundary hedgerows and associated trees will all be retained/protected/enhanced as part of the proposed development.

8.22 If any tree is to be removed an appropriate tree feature/bat roost assessment will be completed following the broad advice as given in:

Bat Conservation Trust's Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines.
Ref: Collins, J. (ed.) (2016) (3rd edition). The Bat Conservation Trust, London.

8.23 Any tree that requires removal as part of the proposed development will be inspected from ground level to identify any Potential Roost Feature (P.R.F.) that could be used as a bat roost site.

8.24 These features, as per the guidelines, include:

- woodpecker holes;
- rot holes;
- hazard beams;

- other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
- partially detached platey bark;
- knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
- cankers (caused by localised bark death) in which cavities have developed;
- other hollows or cavities, including butt-rots;
- double-leaders forming compression forks with included bark and potential cavities;
- gaps between overlapping stems or branches;
- partially detached ivy with stem diameters in excess of 50mm;
- bat, bird or dormouse boxes.

8.25 For any possible Roost Feature, its suitability or likelihood as being a possible bat roost will be identified as being negligible - low, medium or high as per the suitability guidelines below.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.[c]	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

8.26 At the same time as the visual assessment of the feature, observations will be made to determine if there are any bat activity field signs - droppings, staining, scratch marks – or indeed any obvious bat presence that does not require invasive techniques to determine.

8.27 Before any individual tree is inspected its location and associated habitats will be assessed:

- Is the tree a stand-alone feature – does it have good connectivity with potential bat foraging areas.
- Is it part of a possible bat dispersal route.
- Is it at present illuminated or disturbed at night.

8.28 Any bat roost within a tree identified for removal will require detailed licenced mitigation following further survey efforts that will depend on the species present, roost type and number of bats present.

9. Conclusion

10.1 Eco-Planning UK Ltd received instruction to complete all the relevant ecological presence/absence surveys highlighted in the original Preliminary Ecological Assessment/report for this site.

10.2 The various relevant presence/absence surveys completed May/June 2019 determined that:

- There is no existing bat roost within any of the buildings on site. There are no field signs of any past bat roost presence. No further building bat roost assessment or comment is required.

- For any future tree removal a suitable bat roost assessment will be first required – with a subsequent suitable presence or absence survey for any medium/high roost feature identified.

- There is a small population of Common Lizards along the central hedgerow on site. These reptiles will require suitable retention mitigation as part of any planning approval.

- The site has no invertebrate presence that would warrant further survey effort. No further invertebrate survey efforts are required.

- A Great Crested Newt presence was recorded in pond 3 within the proposed development site. Following any planning approval, further multiple mixed methodology survey efforts will be required to determine the Great Crested Newt population size, which will be part of a subsequent and detailed Great Crested Newt licence application to DEFRA.

10.3 The Preliminary Ecological Assessment, the completed relevant presence or absence survey efforts along with this report meet in full all ecological/conservation related issues that could require consideration as part of the planning application process for this site.

10.4 Furthermore the potential developer has addressed all his legal wildlife responsibilities and requirements in relation to due diligence as part of the planning application process.

Appendix 1

E-DNA Great Crested Newt – presence or absence - Ponds 1 – 3

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS

Date sample received at Laboratory: 17/05/2019
Date Reported: 28/05/2019
Matters Affecting Results:

RESULTS

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
1735	Tiptree Pond 2	n/a	Pass	Pass	Pass	Negative	0
1736	Tiptree Pond 3	n/a	Pass	Pass	Pass	Positive	1
1737	Potash 1	n/a	Pass	Pass	Pass	Negative	0
1738	Tiptree Pond 1	n/a	Pass	Pass	Pass	Negative	0

SUMMARY

When Great Crested Newts (GCN); Triturus cristatus inhabit a pond, they deposit traces of their DNA in the water as evidence of their presence. By sampling the water, we can analyse these small environmental DNA (eDNA) traces to confirm GCN habitation, or establish GCN absence.

The water samples detailed below were submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (Latest Amendments). Details on the sample submission form were used as the unique sample identity.

RESULTS INTERPRETATION

Lab Sample No.- When a kit is made it is given a unique sample number. When the pond samples have been taken and the kit has been received back in to the laboratory, this sample number is tracked throughout the laboratory.

Site Name- Information on the pond.

O/S Reference – Location/co-ordinates of pond.

SIC- Sample Integrity Check. Refers to quality of packaging, absence of tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to results errors. Inspection upon receipt of sample at the laboratory. To check if the Sample is of adequate integrity when received. Pass or Fail.

DC- Degradation Check. Analysis of the spiked DNA marker to see if there has been degradation of the kit since made in the laboratory to sampling to analysis. Pass or Fail.

IC- Inhibition Check- PCR inhibitors can cause false results. Inhibitors are analysed to check the quality of the result. Every effort is made to clean the sample pre-analysis however some inhibitors cannot be extracted. An unacceptable inhibition check will cause an indeterminate sample and must be sampled again.

Result- NEGATIVE means that GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as no evidence of GCN presence. POSITIVE means that GCN eDNA was found at or above the threshold level and the presence of GCN at this location at the time of sampling or in the recent past is confirmed. Positive or Negative.

Positive Replicates- To generate the results all of the tubes from each pond are combined to produce one eDNA extract. Then twelve separate analyses are undertaken. If one or more of these analyses are positive the pond is declared positive for the presence of GCN. It may be assumed that small fractions of positive analyses suggest low level presence but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive.

METHODOLOGY

The laboratory testing adheres to strict guidelines laid down in WC1067 Analytical and Methodological Development for Improved Surveillance of The Great Crested Newt, Version 1.1

The analysis is conducted in two phases. The sample first goes through an extraction process where all six tubes are pooled together to acquire as much eDNA as possible. The pooled sample is then tested via real time PCR (also called q-PCR). This process amplifies select part of DNA allowing it to be detected and measured in 'real time' as the analytical process develops. qPCR combines PCR amplification and detection into a single step. This eliminates the need to detect products using gel electrophoresis. With qPCR, fluorescent dyes specific to the target sequence are used to label PCR products during thermal cycling. The accumulation of fluorescent signals during the exponential phase of the reaction is measured for fast and objective data analysis. The point at which amplification begins (the Ct value) is an indicator of the quality of the sample. True positive controls, negatives and blanks as well as spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared so they act as additional quality control measures.

The primers used in this process are specific to a part of mitochondrial DNA only found in GCN ensuring no DNA from other species present in the water is amplified. The unique sequence appropriate for GCN analysis is quoted in DEFRA WC 1067 and means there should be no detection of closely related species. We have tested our system exhaustively to ensure this is the case in our laboratory. We can offer eDNA analysis for most other species including other newts.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. Kits are manufactured by SureScreen Scientifics to strict quality procedures in a separate building and with separate staff, adopting best practice from WC1067 and

WC1067 Appendix 5. Kits contain a 'spiked' DNA marker used as a quality control tracer (SureScreen patent pending) to ensure any DNA contained in the sampled water has not deteriorated in transit. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd also participate in Natural England's proficiency testing scheme and we also carry out inter-laboratory checks on accuracy of results as part of our quality procedures.

Reported by: Sarah Evans

Approved by: Chris Troth

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30 May 2019

Our Reference: CPA-19108

Land to rear: Tower End, Kelvedon Road, Tiptree, Essex

Preliminary Appraisal of Invertebrate Habitats

Dear Patrick,

Further to your instruction in May 2019, we have now visited the above site; the surveyors on this occasion were Marcel Ashby and Tristan Bantock. This letter is our formal report of that visit.

Statement of impartiality

Please note that this report presents our surveyors' impartial and unbiased opinion on the existing invertebrate ecology of the site at the date of examination. Unless otherwise stated, our findings and any conclusions drawn or recommendations made are independent of the detail of any proposed development to the site and are wholly independent of any third party opinions where these may exist.

If this report contains suggestions or recommendations relating to mitigating losses, these have been made without specific consideration of the details of the proposed development works and are offered on the assumption that the entire area inside the red line would be lost.

Introduction

The site visit was undertaken on 14th May 2019 in bright and sunny conditions. All areas of the site were accessible and were examined.

Purpose of visit

The purpose of the visit was to appraise the invertebrate habitats present on site and to advise whether or not it is likely that the proposed development, a road corridor approximately 300 metres in length, would

have an impact on invertebrate ecology. Of particular concern was the potential for the site to support Species of Principal Importance in England, as defined within Section 41 of the *Natural Environment and Rural Communities (NERC) Act* 2006, although species included in other conservation categories were also considered.

You also asked us to determine the scope of any additional invertebrate survey work required to make a comprehensive site assessment.

Invertebrate habitats present in May 2019

The approximately 5 hectare site is located south of Kelvedon Road and presents as areas of current and former livestock pasture, both of which are bounded by hedgerows.

The western section of the site behind Tower End comprises existing horse paddocks which are currently fertilised and heavily grazed, supporting a minimal grass sward at the time of examination and no successional vegetation. These areas are of negligible value for invertebrates and are not discussed here any further.

To the east of this area, a large field occupies the southern sector of the site. The north-west corner comprises an area of hardstanding and dumped material which is of minimal value to invertebrates. The field has a recent history as mixed livestock pasture and presents as a fairly uniform area of improved grassland. Herbaceous vegetation is very limited in extent and is represented only by stands of stinging nettle, with scattered patches of thistles and docks. A few areas of rushes are apparent close to the eastern margin, where soils retain a wetter influence throughout the year. The general lack of structural variation within the grassland, combined with its low floristic diversity, predicts a species-poor invertebrate assemblage dominated by those with more generalist ecological requirements, which are usually of lower conservation value.

A further linear field is located between the above area and Kelvedon Road. This appears to have received no management and is dominated by dense blackthorn and hawthorn scrub, with few open areas accessible on the day of examination. The grass sward which has developed in these areas is semi-improved and rather rank in nature, offering a limited range of niches for invertebrates.

Several small ponds are present in the western section, to the rear of Tower End. Although the largest supports emergent macrophytes in the form of bulrush stands, the water quality appeared turbid and is likely to be enriched due to the presence of wildfowl and possibly also by nutrient runoff from the adjacent horse pasture. Our expectation is that these aquatic habitats will not contain any invertebrates of conservation significance.

The main field units are bounded by largely continous hedgerows and few gaps are apparent. Along the western boundary of the existing horse paddocks these are rather narrow and dominated by scrubby blackthorn and hawthorn. However, around the southern and western margins of the largest easterly field, these have much more structure and maturing oaks and field maple are also present. These hedges present a range of potential niches for invertebrates and their degree of connectivity also facilitates dispersal throughout the wider landscape.

Sparse stands of elm affected by Dutch Elm disease are also evident here. These are of potential importance for various phytophagous invertebrates including the White-letter Hairstreak butterfly, which is listed as a Section 41 species. It should be stressed that almost all elm-feeding invertebrates, including this species, are able to persist on suckering foliage following dieback.

Conclusions and recommendations

In conclusion, we believe that the invertebrate ecology of this site is unlikely to attain a value that exceeds that of the general background level expected within the Colchester area and that the losses to invertebrate ecology arising from the proposed development are likely to be minimal. We are not of the opinion that additional survey work would alter this conclusion and no such further work is recommended.

However, we do recommend the retention of maturing and mature areas of hedgerow as far as possible. These should be enhanced with native tree species such that the gaps are filled and the hedgerows provide more habitat connectivity at the landscape scale. We would also recommend retention of all stands of elm.

* * *end of formal report* * * *

I hope that you will find this brief report adequate for your client's current needs.

With all best wishes,

Tristan Bantock
Partner