

Adonis Ecology Ltd.

Preliminary Ecological Appraisal of Land off Mill Road, Wyverstone, Suffolk to Support a Planning Application

Project Ref: 1243

Prepared on behalf of:

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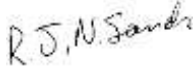
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The findings outlined within this report and the data we have provided are to our knowledge true, and express our bona fide professional opinions. This report has been prepared and provided in accordance with the Chartered Institute for Ecology and Environmental Management (CIEEM) Code of Professional Conduct and the British Standard BS 42020:2013 which provides a code of practice for biodiversity in planning and development (BSI, 2013). This standard also recommends compliance with CIEEM Guidelines for Preliminary Ecological Appraisals (CIEEM, 2013) and Guidelines for Ecological Report Writing (CIEEM, 2017) which includes model formats for Preliminary Ecological Appraisal and Ecological Impact Assessment.

As far as the author and report checker are aware, the only differences that occur in this report from the recommended layouts are:

- to enable greater clarity and reduce repetition (e.g. the report author is listed once on the quality assurance page in this report rather than on the front page, quality assurance page and introduction as in the CIEEM model formats);
- where there are inconsistencies in the guideline documents (e.g. the list of what should be included in the summary of an ecological report highlighted in the CIEEM Guidelines for Ecological Report Writing is different to that shown in the model formats in the same document); and
- to retain a proportionate approach in accordance with BS 42020:2013.

No method of assessment can completely remove the possibility of obtaining partially imprecise or incomplete information. Therefore, we cannot guarantee that this assessment completely defines the degree or extent of the occurrence of various species or habitats on the site, or the effectiveness of recommended actions as described in the report. In addition, as the ecological situation of a site is dynamic, this assessment pertains only to the conditions noted during the site visit. Therefore, to achieve the objectives of assessment as stated in this report, the conclusions are based on the information that was available during the time of the assessment and within the limits prescribed by our client in the agreement.

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0 SUMMARY

- 0.1 Adonis Ecology Ltd. was commissioned by Spinnaker Capital Management Ltd. to undertake a Preliminary Ecological Appraisal (PEA) of land off Mill Road, Wyverstone, Stowmarket, Suffolk, IP14 4SE, Grid Reference TM 033 674. It was understood that it is proposed to construct a single residential dwelling on the site, with associated access, parking and garden areas.
- 0.2 A desk study was undertaken, in addition to an extended Phase 1 Habitat survey which was conducted on the 9th of October 2019. The site was checked for preferred habitat types, and signs or evidence of protected species and NERC Act 2006 Section 41 species and habitats.
- 0.3 The proposed works were considered to pose a potentially significant risk of impact on the following protected and/or Section 41 species/species groups:
- low risk of indirect impact to foraging and/or commuting bats from additional lighting on site;
 - moderate risk of harm to likely low numbers of great crested newts *Triturus cristatus* that may breed in nearby ponds and could use terrestrial habitats on site;
 - low risk of harm to individual badgers *Meles meles*, reptiles, hedgehogs *Erinaceous europaeus*, brown hares *Lepus europaeus* and common toads *Bufo bufo* during site clearance works;
 - very low risk of harm to common and Section 41 nesting birds if any reduction of the hedgerow on site or surrounding trees is undertaken during the bird nesting season (taken to be March to end August).
- 0.4 To confirm presence/likely absence of great crested newts in the local area, and thereby the likelihood of great crested newts occurring on the proposed development site, further surveys for great crested newts should be undertaken of nearby ponds. If great crested newts are confirmed in the area, a Natural England European Protected Species Licence (EPSL) would be required to allow the works to proceed lawfully.
- 0.5 Lighting precautions are outlined to reduce risk of impact to potentially roosting, foraging and/or commuting bats that may occur on or adjacent to the site. Further impact avoidance measures are outlined for reptiles, hedgehogs, brown hares and common toads, though these may need adapting to fit with any measures outlined for great crested newts following the further surveys.
- 0.6 Overall, the site was considered to be of low value for wildlife at a local level, but with some potential for great crested newts to be present as well as low numbers of other protected and/or Section 41 species. With the further surveys for great crested newts completed and any impact avoidance, mitigation and/or compensation measures designed and implemented under a Natural England EPSL as required, and the other impact avoidance measures outlined in this report completed, it was considered the proposed development could proceed with minimal risk of impact to protected or Section 41 species, Section 41 habitats or the local biodiversity. Further, there was considered to be some scope to enhance the site to the benefit of local wildlife.

1 INTRODUCTION

1.1 Background

1.1.1 Adonis Ecology Ltd. was commissioned by Spinnaker Capital Management Ltd. to undertake a Preliminary Ecological Appraisal (PEA) of land off Mill Road, Wyverstone, Stowmarket, Suffolk, IP14 4SE, Grid Reference TM 033 674.

Development Description

1.1.2 The plan used to determine the boundaries of the site and the likely impacts from the proposed development was "Proposed detached dwelling", Drawing No. 19/08/0201 which was produced by Architectural Building Design Services.

1.1.3 The site was approximately 0.12ha in size and consisted of an area of rough grassland with ruderal species, as well as a boundary hedgerow on the southern side. It was understood that it is proposed to build a detached dwelling on the site with an associated driveway/parking area and a garden. This will result in approximately 45% of the habitats on site being lost, with the remainder likely to be removed/disturbed for the creation of the soft-landscaping on the site.

1.1.4 It was further understood that the Local Planning Authority (LPA) are expected to require a PEA to accompany the planning application for the site.

Aim and Objectives

1.1.5 The aim of this report is to determine the potential impacts of the proposed development of the site on significant local biodiversity, taking into account the species and habitats that may be affected, positively or negatively, and the potential for impact avoidance, mitigation and enhancement measures on the site.

1.1.6 To achieve this aim, the report has the following objectives:

- to identify and describe potentially significant ecological impact risks relevant to planning associated with the proposed development;
- to identify ways in which any significant risk of deleterious impacts could be avoided, wherever reasonably possible;
- for any significant ecological risks that could not reasonably be avoided, to describe surveys that would be required to confirm presence/absence and severity of impact, and outline likely mitigation options;
- to identify and describe ways in which the proposed development could enhance local biodiversity.

1.2 Planning Policy and Legislation

1.2.1 Planning policy and guidance considered for this report included:

- National Planning Policy Framework (NPPF);
- National Planning Practice Guidance (NPPG) – Natural Environment.

1.2.2 Legislation considered for this report included:

- Protection of Badgers Act 1992;
- Wildlife and Countryside Act 1981, as amended;
- Countryside and Rights of Way Act 2000;
- Natural Environment and Rural Communities (NERC) Act 2006;
- Conservation of Habitat and Species Regulations 2017, as amended.

1.2.3 Key considerations from the NPPF and NPPG related to ecology and development include that impacts on legally protected species and habitats, as well as NERC Act (2006) Section 41 species and habitats are a material consideration for individual planning consents (MHCLG, 2019).

1.2.4 The NPPF also promotes the enhancement of natural and local environments through planning, and encourages a move towards securing measurable net gains for biodiversity (MHCLG, 2019).

2 METHODOLOGY

2.1 Desk Study

2.1.1 On behalf of Adonis Ecology Ltd., Suffolk Biodiversity Information Service (SBIS) undertook a search for records of protected, Section 41 and rare species, as well as statutory and non-statutory wildlife sites within 2km of the proposed development site.

2.1.2 Ordnance Survey maps, Google Earth and the Multi-agency Geographic Information for the Countryside (MAGIC) interactive map were used to locate ponds within a 500m radius of the site, as well as to assess the general surroundings of the site. The MAGIC map was also used to determine whether the site falls within any impact risk zones of nearby statutory wildlife sites, and to determine the closest Natura 2000 site to the proposed development where this falls further than 2km from the site.

2.1.3 These results were then combined with the findings of the site survey in order to assess the risk of ecology issues relevant to planning occurring on site.

2.2 Site Survey

Habitats, Plants and Surroundings

2.2.1 The site was visited on the 9th of October 2019 to survey for ecology issues. This included the following:

- a Phase 1 Habitat Assessment recording dominant and higher plant species present on site, and a survey for Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and other non-native, invasive plant species as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended);
- an assessment of the suitability of habitats present on site for widespread reptiles, bats, great crested newts *Triturus cristatus* and other protected or Section 41 species;
- an assessment of the habitats surrounding the site and in the local area;
- a direct survey for evidence of protected species as far as possible within seasonal constraints, e.g. for bats and badgers *Meles meles*.

Survey Constraints

2.2.2 The survey was undertaken outside of the peak time of year to survey the ecological value of a site, which is taken to be between April and September, though it was considered that sufficient plant species would be visible and could be identified at this time of year to determine habitat types on site, and to assess the likely value of these habitats for local wildlife. However, some early spring flowering species in particular may not have been visible above ground or identifiable to species level.

2.3 Protected Species

Bats – Survey Methodology

2.3.1 A Preliminary Roost Assessment (PRA) was conducted in daylight, on the trees on and adjacent to the site, during the site visit on the 9th of October 2019. The assessment was conducted by an ecologist who holds a Natural England Level 2 Class licence for bats (2015-15636-CLS-CLS).

2.3.2 The bat survey methods followed Natural England Bat Mitigation Guidelines (Natural England, 2004) and Bat Conservation Trust (BCT) Good Practice Guidelines (Collins, 2016) and therefore considerations were:

- the availability of access points of a size large enough to allow entry of bats to roosts;
- the presence and suitability as roosts of cracks, crevices, holes, dense ivy *Hedera helix* covering and other places;
- signs of bat activity or presence.

2.3.3 Definite signs of bat activity were taken to be:

- the bats themselves;
- droppings;
- dead bats;
- audible bat squeaks;
- scratch marks;
- urine splatter.

2.3.4 Signs of possible bat presence were taken to be:

- grease marks;
- moth and butterfly wings.

2.3.5 Trees were checked externally for any gaps, holes, cracks or crevices suitable for roosting bats, as well as any signs or evidence of bats, in accordance with Natural England (2004) and BCT (Collins, 2016) guidelines.

2.3.6 The suitability of places to roost was assessed based upon potential for access and lack of cobwebs and dirt.

2.3.7 Inspection survey is a suitable method at any time of year for determining presence or likely absence of bats, according to Natural England guidelines (English Nature, 2004).

Badgers

2.3.8 The badger assessment, also conducted during the site visit consisted of a thorough search of the proposed development site for signs and evidence of badgers and badger setts.

2.3.9 Definite signs of badger activity were taken to be:

- badgers themselves;
- badger latrines;
- badger paw prints;
- badger hairs.

2.3.10 Signs of possible badger presence were taken to be:

- well trampled animal paths;
- snuffle holes;
- small piles of dry grass and similar on paths;

- any further signs.

Great Crested Newt Assessment

2.3.11 Ponds and lakes near the site that could be accessed or seen from the road or other public areas were checked for suitability and likelihood of presence of great crested newts by applying the Habitat Suitability Index (HSI) assessment as developed by Oldham *et al.* (2000). The assessment was based on factors which may influence the likely presence of breeding great crested newts including for example:

- potential for excessive shading;
- presence of fish;
- suitability of pond vegetation;
- pollution or other degradation;
- local habitat context within the landscape.

2.3.12 The assessment was undertaken by a holder of a Natural England Level 1 Class Licence (2016-21724-CLS-CLS). The site itself was checked at the same time for terrestrial habitats and features suitable for foraging and sheltering great crested newts.

Nesting Bird Assessment

2.3.13 A nesting bird assessment was also undertaken during the site visit. Considerations were:

- the presence and suitability of places as nest/roost sites;
- signs of past nesting bird activity or presence.

2.3.14 Definite signs of nesting bird activity were taken to be:

- old “nests”;
- eggshells.

2.3.15 Trees and shrubs on site were assessed for suitability as nesting sites, and signs and evidence of old nests were searched for.

3 RESULTS AND EVALUATION

3.1 Site Location and Description

Site Location and Description

3.1.1 The site was located off Mill Road, a small country lane in a rural location, approximately 340m to the south of Wyverstone Street and 790m to the

southwest of Wyverstone, both of which were small villages, and approximately 8.8km to the north of the centre of Stowmarket (Google Earth, 2019).

- 3.1.2 The site was approximately 0.12ha in size and consisted of an area of rough grassland with ruderal species, as well as a boundary hedgerow on the southern side.

3.2 The Surroundings

Description of Site Surroundings

- 3.2.1 The site was bordered by the quiet, single track Mill Road to the south, beyond which was a farmstead containing some residential and agricultural buildings, as well as a garden area containing some rough grassland and mature trees. Immediately to the east was a pond surrounded by trees and hedgerows. This included a mature field maple *Acer campestre* tree at the northern edge of the site and a mature poplar *Populus* sp. at the southern edge of the site, both of which were considered to have very low potential for roosting bats. To the north was an area of short, regularly mown grassland containing another pond and some caravans. To the west was a well-maintained garden containing garden beds, occasional trees and a further pond, which included a loose row of mature willow *Salix* spp. trees close to the site boundary. None were considered to have any potential for roosting bats.

- 3.2.2 Approximately 100m to the east was a small group of further residential properties with small garden areas. Starting approximately 300m to the north of the site were residential properties of the small village of Wyverstone Street, with further paddocks/grassland fields in between, surrounded by mature hedgerows. A small woodland copse was present approximately 165m to the northeast of the site associated with Winchester House, with further small grassland fields beyond and the residential area of the small village of Wyverstone starting approximately 740m to the northeast of the site. Approximately 310m to the east of the site was an old moat which was surrounded by a small area of trees and rough grassland. To the southwest of the site were further agricultural and residential areas with some mature trees, with a small field of tall rough grassland approximately 170m to the southwest of the site. Further out, the landscape was dominated by large arable fields with occasional hedgerows (Google Earth, 2019 and Promap. 2019).

Waterbodies within 500m

- 3.2.3 The 1:10000 Ordnance Survey map provided by Promap showed a total of 22 ponds within 500m of the site, of which 15 were within 250m of the site and six were within 100m of the site. There were also a low number of drains highlighted within 500m of the site, the closest of which was approximately 80m to the east of the site.
- 3.2.4 Three of the ponds (Ponds 1-3: see Figure 1 in Appendix 1) within 100m of the site were accessed to conduct HSI assessments. Pond 1 immediately adjacent to the site (see Photograph 1 in Appendix 2) scored 0.69 indicating the pond was of 'average' suitability for breeding great crested newts. Ponds

2 and 3 scored 0.62 and 0.55 respectively, indicating they were ‘average’ and ‘below average’ in suitability for breeding great crested newts respectively. Full results of the HSI assessments can be seen in Table 5 in Appendix 3.

3.2.5 Pond 4 could not be seen properly from Mill Road but the area that could be seen appeared to be dry. Ponds 5 and 6 could not be seen at all from Mill Road.

3.2.6 Six of the ponds between 100m and 250m from the site were also accessed during the survey visit (Ponds 7, 9, 12, 13, 14 and 15: see Figure 1 in Appendix 1). HSI assessments were conducted on Ponds 7 and 9 with the ponds scoring 0.57 and 0.54 respectively (see Table 5 in Appendix 3), indicating they were both ‘below average’ in suitability for breeding great crested newts. Pond 7 had been fairly recently created, was extended further in the last two years, and appeared to have had very recent work undertaken, the pond being largely bare and silted up (see Photograph 2 in Appendix 2). No HSI assessments were conducted on Ponds 12 – 15 as Pond 12 was dry and appeared unlikely to regularly hold water, Pond 13 had been removed and Pond 15 held approximately 2cm of water and also appeared as though it would rarely hold sufficient water for breeding great crested newts. Pond 14 appeared to consist of a filtration bed, which had approximately 1m high, plastic lined vertical walls (see Photograph 3 in Appendix 2) and was considered unsuitable as a breeding site for great crested newts. The other ponds within 500m of the site could not be accessed or seen from any public place during the survey visit.

Woodlands within 500m

3.2.7 In addition to the small woodland copse approximately 165m to the northeast of the site, there was another small woodland copse approximately 450m to the north of the site. No other woodland occurred within 500m of the site and the closest larger area of woodland to the site was approximately 5km to the north (Google Earth, 2019).

Table 1: Key Habitat Features Surrounding Land off Mill Road, Wyverstone

Feature	Value
Percentage deciduous tree cover within 500m of site	2%
Percentage non-illuminated tree/tall shrub cover (over 4m) within 50m of the site	15%
Number of non-illuminated tree/tall shrub lines within 50m of the site	4
Distance to nearest medium-large pond, lake, river or open stream	0m to pond
Percentage of rough grassland within 500m of the site	20%
Degree to which surrounding 500m is built up (rural, suburban, urban)	Rural

Statutory Designated Sites

3.2.8 There were no statutory wildlife sites within 2km of the proposed development site (SBIS, 2019), the closest being The Gardens, Great Ashfield Site of Special Scientific Interest (SSSI) which lies approximately 3.45km to the east

of the proposed development site. The closest Natura 2000 site to the proposed development site was the Waveney & Little Ouse Valley Fens Special Area for Conservation (SAC) which lay approximately 11.2km to the north of the site (MAGIC, 2019).

- 3.2.9 The site falls within Impact Risk Zones of the above and other sites, but there was no requirement for the Local Planning Authority (LPA) to consult Natural England on residential developments in this location (MAGIC, 2019).

Non-Statutory Designated Sites

- 3.2.10 There were no non-statutory wildlife sites within 2km of the proposed development site (SBIS, 2019).

3.3 Habitats and Significant Species Signs on Site

- 3.3.1 A Phase 1 Habitat plan showing the habitats on site and highlighting the key features found in the area of impact is provided in Figure 2 in Appendix 1.

- 3.3.2 The majority of the proposed development site consisted of rough grassland with some ruderal species to a height of approximately 1m (see Photograph 4 in Appendix 2). The grassland had a low amount of tussocks, some small depressions, cracks and animal holes and a very small amount of thatch. The grassland was species-poor, at approximately 6 species per m², and containing frequent bent *Agrostis* sp., cock's-foot *Dactylis glomerata*, common ragwort *Jacobaea vulgaris* and false oat grass *Arrhenatherum elatius*.

- 3.3.3 A narrow strip (approximately 3m wide) to the east of the site was shorter (5-10cm in height), contained no tussocks and had no obvious ground cracks or holes (see Photograph 5 in Appendix 2). Species present were similar to those in the remainder of the site, but included frequent bristly ox-tongue *Helminthotheca elatius*, creeping thistle *Cirsium arvense* and white clover *Trifolium repens*.

- 3.3.4 Along the northern edge of the site was a recently planted hedgerow, to a height of approximately 60cm (see Photograph 6 in Appendix 2). The species appeared predominantly native, but many individual plants appeared to have died.

- 3.3.5 Close to the entrance of the site at the southeast corner, was another fairly recently planted hornbeam *Carpinus betulus* hedgerow to a height of approximately 1m, which was significantly grown over with bramble *Rubus fruticosus* agg. in many places (see Photograph 7 in Appendix 2). Finally, the southern boundary of the site consisted of a native species hedgerow to approximately 6m in height (see Photograph 7 in Appendix 2). Woody species included ash *Fraxinus excelsior*, elder *Sambucus nigra*, elm *Ulmus* sp. and hawthorn *Crataegus monogyna*, with other species including bramble and hedge bindweed *Calystegia sepium*, with ground flora being dominated by ivy.

- 3.3.6 No specific signs or evidence of any protected or Section 41 species were found within the area of impact and there were no Schedule 9, non-native, invasive plant species.

3.4 Evaluation – Species and Habitats

3.4.1 Tables 2 and 3 below summarise the site evaluation for protected and Section 41 species. The following explains each column:

- **Species or Species Group:** the protected species or group of protected species being assessed. Some species and species groups in Table 2 are also Section 41 species. Only those species where the relevant legislation is limited to Section 41 are included in Table 3.
- **Species present in data search:** summarises relevant findings for that species or species group from the data search.
- **Signs found:** indicates whether signs of that protected species or species group were found in the zone of influence during the survey visit or visits.
- **Connectivity of site to other suitable habitat:** indicates, for that species or species group, the relative degree to which the site is considered to be connected to suitable habitat, taking into account the quantity, suitability and distance of nearby suitable habitat. Habitat out to 500m from the site is taken into account when considering this connectivity.
- **Estimated zone of influence carrying capacity:** indicates the estimated size of population the zone of influence could potentially support (i.e. the size of population that could be affected by the proposed works), given the suitability of habitat and the quantity of suitable habitat found during the survey visit and desk study. A high level would indicate the zone of influence could support a relatively large population for the local area.
- **Likelihood of presence in zone of influence:** how likely individuals of the species are to occur with the zone of influence (area of potential impact), taking into account the findings of the data search, signs found on site (where there would be a reasonable likelihood of finding of finding signs, if the species was present, in the survey visits undertaken), connectivity to other suitable habitat, and site carrying capacity (as smaller populations due to a lower site carrying capacity would be more likely to have gone extinct or failed to establish). The zone of influence may include only parts of the site and/or may extend off site, depending upon the scale and form of development and the ecology of the species concerned.

3.4.2 Where the likelihood of presence of any species or species group was considered to be greater than negligible (highlighted in red), the legislation surrounding such species and the risk are detailed in the following section. Where it is considered species are unlikely to be present on site but further explanation was considered necessary, this is highlighted in green and also detailed in the following section.

Table 2: Evaluation of Protected Species Likelihood on Land off Mill Road, Wyverstone

Species or species group	Species present in data search	Signs found	Connectivity of site to other suitable habitat	Estimated zone of influence carrying capacity	Likelihood of presence in zone of influence
Roosting bats – trees	Common pipistrelle, soprano pipistrelle, brown long-eared, noctule, Daubenton's. Natterer's and barbastelle	None*	Moderate	Very Low	Very Low
Foraging/ commuting bats		N/A		Moderate	Moderate
Badger setts	Yes	None	Moderate	Negligible	Negligible
Badger foraging/ dispersing		None		Low	Low
Dormouse	No	None*	Negligible	Negligible	Negligible
Otter	Yes	None	Low	Negligible	Negligible
Water vole	No	None	Low	Negligible	Negligible
White-clawed crayfish	No	None*	Low	Negligible	Negligible
Great crested newts - breeding	Two records from 2018, closest approximately 1.3km to the southeast	None*	Moderate	Negligible	Negligible
Great crested newts – dispersing and refuges		None*		Low	Moderate (of low numbers)
Reptiles	Grass snake and slow-worm	None*	Low	Low	Low
Schedule 1 nesting birds	Barn owl, black redstart, fieldfare, green sandpiper, hen harrier, hobby, kingfisher merlin, peregrine, red kite and redwing	None	Low	Negligible	Negligible
Common nesting birds	Numerous	None	High	Very Low	Very Low
Protected plants/fungi	No	None	Low	Negligible	Negligible
Protected invertebrates	No	None*	Low	Negligible	Negligible
Other protected species relevant to development	No	None*	None	None	None

* Denotes where signs and evidence are unlikely to be found in a single survey visit, even if species present.

Table 3: Evaluation of Section 41 Species Likelihood on Land off Mill Road, Wyverstone

Species or species group	Species present in data search	Signs found	Connectivity of site to other suitable habitat	Estimated zone of influence carrying capacity	Likelihood of presence in zone of influence
Hedgehog	Yes	None*	High	Very Low	Low
Brown hare	Yes	None	Low	Very Low	Very Low
Polecat	Yes	None*	Very Low	Negligible	Negligible
Harvest mouse	No	None*	Low	Negligible	Negligible
Common toad	Yes	None*	High	Low	Moderate (of low numbers)
Section 41 plants and fungi	No	None	Low	Negligible	Negligible
Section 41 breeding birds	Cuckoo, grasshopper warbler, grey partridge, house sparrow, lapwing, reed bunting, skylark, spotted flycatcher, turtle dove and yellowhammer	None	Moderate	Negligible	Very Low
Section 41 invertebrates	No	None*	Low	Negligible	Negligible
Section 41 fish	No	None*	None	Negligible	Negligible
Other Section 41 species	No	None	None	None	None

*Denotes where signs and evidence are unlikely to be found in a single survey visit, even if species present.

3.4.3 Table 4 below lists the Section 41 habitats that are most likely to be encountered inland in lowland England, their occurrence on site and the amount of each habitat considered likely to be impacted by the proposed development. Habitats on site were assessed against JNCC criteria for UK BAP habitats (JNCC, 2016), which are those habitats listed for Section 41.

Table 4: Section 41 Habitats and Amounts Expected to be Impacted by Proposed Development of Land off Mill Road, Wyverstone

Section 41 Habitats	Approximate Amount on site (ha unless otherwise stated)	Comments	Likely amount of impact (ha/m)
Rivers	0	No similar habitat on site	0
Ponds	0	No similar habitat on site. Adjacent pond will not be directly impacted by works	0
Eutrophic Standing Waters	0	No similar habitat on site	0
Arable Field Margins	0	No similar habitat on site	0
Hedgerows	25m	Southern boundary hedgerow considered to meet Section 41 criteria.	0

Section 41 Habitats	Approximate Amount on site (ha unless otherwise stated)	Comments	Likely amount of impact (ha/m)
Traditional Orchards	0	No similar habitat on site	0
Wood Pasture & Parkland	0	No similar habitat on site	0
Lowland Beech & Yew Woodland	0	No similar habitat on site	0
Wet Woodland	0	No similar habitat on site	0
Lowland Mixed Deciduous Woodland	0	No similar habitat on site	0
Lowland Dry Acid Grassland	0	Grassland on site lacked acid grassland indicator species	0
Lowland Calcareous Grassland	0	Grassland on site lacked calcareous grassland indicator species	0
Lowland Meadows	0	Grassland on site species poor and lacked sufficient unimproved neutral grassland indicator species	0
Coastal and Flood Plain Grazing Marsh	0	No similar habitat on site	0
Lowland Heathland	0	No similar habitat on site	0
Purple Moor-grass and Rush Pastures	0	No similar habitat on site	0
Lowland Fens	0	No similar habitat on site	0
Reedbeds	0	No similar habitat on site	0
Lowland Raised Bog	0	No similar habitat on site	0
Open Mosaic Habitats on Previously Developed Land	0	No similar habitat on site	0

3.5 Overall Ecological Value of the Site

3.5.1 Overall, the site was considered to be of likely low value for wildlife at a local level, with the predominant value coming from the site's rural location and the number of surrounding ponds and potential of the site as terrestrial habitat for great crested newts. This can also be seen from evaluation of the site using the criteria as set out in Table 6 in Appendix 3.

4 LEGISLATION AND IMPACT RISK ASSESSMENT

4.1 Bats

Summary of Relevant Legislation

4.1.1 Bats are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), as well as the Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000. Offences

likely to be relevant to development are to:

- deliberately capture, injure or kill a bat;
- deliberately disturb a bat in a way that would affect its ability to survive, breed, rear young, hibernate or migrate or significantly affect the local distribution or abundance of the species;
- damage or destroy a roost;
- intentionally or recklessly disturb a bat at a roost;
- intentionally or recklessly obstruct access to a roost.

Roosting Bats: Trees – Impact Risk

- 4.1.2 There was a low number of trees adjacent to the site which were considered to have very low potential for roosting bats, but these will not be impacted by the proposed development. Therefore, the risk of direct impact to any bats or bat roosts that may occur in these trees were considered to be negligible. However, there was considered to be a low risk of indirect impact to roosting bats from any additional lighting on the site. Impact avoidance measures outlined in Section 5 of this report should be undertaken to reduce this risk of impact to negligible.

Foraging and Commuting Bats – Impact Risk

- 4.1.3 The grassland to be directly impacted by the works was considered to have only low intrinsic value for foraging and/or commuting bats, with the low-species richness grassland considered likely to give rise to only low quantities of insects upon which bats feed. Therefore, it was considered the loss of the grassland habitat on site would pose a negligible risk of impact to foraging and/or commuting bats. However, the mature hedgerow on site was considered to provide a very small amount of moderate value foraging and commuting habitat for bats, and the adjacent trees and pond and nearby ponds would provide further moderate to high value foraging grounds for bats. Therefore, it was considered highly likely that low numbers of bats would regularly forage on or around the site and any additional lighting on site, either during works or post-development, would pose a moderate risk of indirect impact to likely low numbers of potentially foraging and/or commuting bats. Therefore, impact avoidance measures outlined in Section 5 of this report should be undertaken to reduce this risk to negligible.

4.2 Badgers

Summary of Relevant Legislation

- 4.2.1 Badgers are not considered rare but are protected, along with their setts, under the Protection of Badgers Act 1992, and Schedule 6 of the Wildlife and Countryside Act (1981) as amended for animal welfare reasons. The following are offences under the Protection of Badgers Act 1992:

- wilfully kill, injure, take or attempt to kill, injure, possess or take a badger;
- cruelly ill-treat a badger;
- dig for a badger;
- disturb a badger while it is occupying a sett, or cause a dog to enter a sett;
- interfere with a badger sett by e.g. damaging, destroying or obstructing a sett or any part of it.

4.2.2 The Protection of Badgers Act 1992 defines a badger sett as “any structure or place which displays signs indicating current use by a badger” (OPSI, 2007).

4.2.3 More recent guidance (Natural England, 2009) states that badgers are relatively tolerant of moderate levels of disturbance, however, any activity that is likely to cause interference (such as damaging a sett tunnel or chamber or obstructing access to a sett entrance) will require a licence.

Impact Assessment

4.2.4 There were no badger setts on site or in the nearby surroundings and the risk of impact to any badger sett was considered to be negligible.

4.2.5 However, the nearby fields, hedgerows and wooded areas were considered likely to provide potential habitat for badgers to build setts and the hedgerows in the surroundings were considered to provide potential for badgers to commute through the countryside. Therefore, as there were also records of badgers in the local area (SBIS, 2019) it was considered possible that badgers may occur in the local area. Given the small area of the site, it was considered highly unlikely the loss of habitats from the site would impact any local badger clan. However, it was considered the proposed works on site would pose a low risk of harm to badgers and the general precautions outlined in Section 5.3 should be completed to reduce this risk to negligible.

4.3 Herpetofauna

Great Crested Newts – Relevant Legislation

4.3.1 Great crested newts are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), as well as the Wildlife and Countryside Act 1981 as amended by the Countryside Rights of Way Act 2000. Offences likely to be relevant to development are to:

- damage or destroy a breeding site or resting place;
- intentionally or deliberately capture or kill;
- intentionally injure;

- deliberately disturb, or intentionally or recklessly disturb in a place of shelter or protection;
- intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection.

Great Crested Newts – Impact Risk

- 4.3.2 There were six ponds within 100m of the site, two of which, including the pond adjacent to the site, were considered to be of average suitability for breeding great crested newts, with a total of 22 ponds indicated on the Ordnance Survey map within 500m of the site. Although the closest record of great crested newts to the site was 1.3km from the site (SBIS, 2019), it was considered that, given the number of ponds in the local area, and as at least some of the ponds were considered suitable for breeding great crested newts, that a population of great crested newts could occur in the local area.
- 4.3.3 The taller grassland and the hedgerow on site were considered to provide a small amount of low to moderate value potential habitat for sheltering, traversing and foraging great crested newts. Therefore, it was considered possible that if a population of great crested newts was present in the local area, they could occur in terrestrial habitats on the site, and could be at risk of impact from the proposed development.
- 4.3.4 A rapid risk assessment (Natural England, 2019), taking into account the size of the entire site and assuming great crested newts were breeding in at least one of the ponds within 100m of the site, gave the result of '0.5 – Offence Likely'. Even if only half the site was taken into account (the approximate area to be lost to the building and areas of hardstanding), the result was '0.3 – Offence Likely'. Therefore, it was considered that if breeding great crested newts occurred in any of the ponds within 100m of the site, there would be a moderate risk of impact to likely low numbers of great crested newts from the proposed development. However, a rapid risk assessment taking into account the entire site and assuming breeding great crested newts only occurred in ponds more than 100m from the site gave the result of '0.1 – Offence Highly Unlikely'.
- 4.3.5 Therefore, further surveys as outlined in Section 5 of this report should be undertaken of the six ponds within 100m of the site, and any ponds up to 250m away that have good ecological connections to the site, to confirm presence or likely absence of great crested newts in the local area. As the risk of impact to great crested newts occurring on the site from ponds more than 100m from the site was considered to be very low, it was considered that it would not be necessary to survey ponds between 100m and 250m from the site that were not ecologically linked to the site. The results of the surveys should be used to design appropriate impact avoidance, mitigation and/or compensation measures to reduce risk of impact to great crested newts from the proposed development to negligible. If impacts to great crested newts can not be avoided, a Natural England European Protected Species Licence (EPSL) would be required to allow the works on site to be undertaken lawfully. Please note, no clearance works or management of the site (different to any already

undertaken regularly) should be undertaken before these surveys have been completed unless approved by an ecologist, and then only in line with any recommendations subsequently provided.

Reptiles – Relevant Legislation

- 4.3.6 Widespread reptile species, adder *Vipera berus*, common lizard *Zootoca vivipara*, grass snake *Natrix natrix* and slow-worm *Anguis fragilis* are protected under the Wildlife and Countryside Act 1981 from intentional killing and injuring. They are also all Section 41 species.

Reptiles – Impact Risk

- 4.3.7 The tall grassland on site was considered to provide a small amount of low value sheltering, basking and foraging habitat for widespread reptile species, with the hedgerow providing a very small amount of further potential sheltering habitat for reptiles. However, the short grassland to the north and the garden to the west of the site which was also dominated by short grassland, the shaded pond to the east of the site and the road to the south of the site were considered to provide very little potential habitat for reptiles, and the likelihood of reptiles occurring on the site was considered to be very low. Given the low value of the surroundings and the low value of the habitats on site, it was considered that even if reptiles were present on the site, the number of individuals would be very low and the risk of impact to any local population of reptiles from the proposed development was considered to be negligible. However, impact avoidance measures are outlined in Section 5 of this report to reduce any risk of impact to reptiles to negligible. Please note, these recommendations may need adapting to fit with any requirements for great crested newts on the site and no site clearance should be undertaken prior to the great crested newt surveys being completed unless approved by an ecologist.

4.4 Nesting Birds

Summary of Relevant Legislation

- 4.4.1 Wild birds are protected under the Wildlife and Countryside Act 1981 and, with certain exceptions (where certain species are causing a public health risk), it is an offence to intentionally:
- kill or injure any wild bird;
 - take, damage or destroy the nest of any wild bird while it is in use or being built;
 - take or destroy the egg of any wild bird.

Impact Assessment

- 4.4.2 The southern boundary hedgerow and short section of bramble covered hornbeam hedgerow were considered to provide a very small amount of potential nesting habitat for common bird species on the site. It was

understood the southern boundary hedgerow will be retained within the proposed development. However, it was considered that any cutting back of these hedgerows, or any surrounding trees (if required), if undertaken during the bird nesting season (taken to be March to end August), would pose a low risk of harm to likely very low numbers of common nesting birds. Therefore, impact avoidance measures outlined in Section 5 of this report should be undertaken to reduce this risk of impact to negligible.

4.5 Section 41 Species

Summary of Relevant Legislation

- 4.5.1 Hedgehogs *Erinaceus europaeus*, brown hares *Lepus europaeus* and common toads *Bufo bufo* are NERC Act 2006 Section 41 species as are a number of bird species. The local conservation of any Section 41 species is a material consideration for any planning application.

Impact Assessment – Hedgehogs, Brown Hares and Common Toads

- 4.5.2 The taller grassland habitat was considered to provide a small amount of suitable habitat for foraging hedgehogs, and foraging and sheltering brown hares and common toads. However, given the very small area of the site, and as the surrounding habitats provided similar suitable habitat, it was considered the loss of the habitats on site would pose a negligible risk of impact to any local populations of these species. However, impact avoidance measures outlined in Section 5 of this report should be undertaken to reduce any risk of harm to individuals of these species which may occur on site.

Impact Assessment – Section 41 Nesting Birds

- 4.5.3 The southern boundary hedgerow and short section of bramble covered hornbeam hedgerow were considered to provide a very small amount of potential nesting habitat for Section 41 bird species on the site. Given the very small amount of habitat on site, and as the southern boundary hedgerow will be retained within the proposed development, it was considered the risk of impact to any local population of Section 41 bird species would be negligible. Further, the impact avoidance measures outlined for common nesting birds would reduce any risk of impact to individual Section 41 nesting birds which may occur on the site to negligible

4.6 Designated Sites

Statutory Designated Sites

- 4.6.1 Given the significant distance of any statutory wildlife sites to the proposed development site (over 3.4km from the site), the small scale of the proposed development (single residential dwelling), and as there was no requirement for the Local Planning Authority (LPA) to consult Natural England on the type of development proposed for this site, the risk of impact to the interest features of any statutory wildlife sites from the proposed development was considered to be negligible.

Non-Statutory Designated Sites

- 4.6.2 As there were no non-statutory wildlife sites within 2km of the proposed development site, it was considered highly unlikely that the proposed development works would impact on the interest features of any non-statutory wildlife sites.

5 RECOMMENDATIONS

5.1 Further Surveys

Great Crested Newts

- 5.1.1 To determine which ponds should be subject to great crested newt presence/absence surveys, Habitat Suitability Index (HSI) assessments should be undertaken on the three ponds which were not accessed that lie within 100m of the site, as well as those that are considered to be ecologically linked to the site between 100m and 250m from the site (Ponds 4-6 and Ponds 9-11; see Figure 1 in Appendix 1). Ponds 1-3, plus any of Ponds 4-6 or 9-11 which are found to have more than 'poor' potential for breeding great crested newts based on the HSI assessments should then be subject to presence/absence surveys.
- 5.1.2 Presence/absence surveys should be conducted between mid-March and mid-June, with at least half of the survey visits within the peak survey season of mid-April to mid-May. Surveys should follow Natural England (2001) guidelines and should therefore consist of four survey visits, with three methods (chosen from bottle trapping, torching, netting and egg searching) to be used to assess numbers of great crested newts present within the ponds. An additional two survey visits should be undertaken on any pond found to support great crested newts to gain a population estimate.
- 5.1.3 Given that great crested newts were considered likely to occur in the local area environmental DNA (eDNA) surveys are not recommended because, if presence was confirmed from the eDNA assessments as expected, a population size class estimate using the same survey methodology as outlined above would still be required and the eDNA assessment would have led to extra delay and expense.
- 5.1.4 If great crested newts are confirmed in nearby ponds, the results of the surveys should be used to design appropriate and proportionate measures to minimise the risk of harm to great crested newts to negligible, and the measures should be outlined in a Natural England EPSL application, which would need to be obtained to allow the works on site to proceed lawfully. Please note, it is not possible to submit an EPSL application unless full planning consent has been awarded for the site. Further, no site clearance works, nor any management works different to those already undertaken regularly on the site, should be undertaken before these surveys have been completed unless approved by an ecologist, and then only in line with any recommendations subsequently provided.

- 5.1.5 It was considered that, given the small size of the site and extent of garden area being provided to the north of the site, that replacement habitat sufficient to compensate for the loss of the small area to be lost from the site could be provided on the site, including provision of a hibernacula and a wide hedgerow to the north of the garden.

Other Species

- 5.1.6 It was considered that no further surveys for any other protected or Section 41 species were necessary, as with the impact avoidance measures undertaken as outlined in this report, the risk of impact to any protected and/or Section 41 species was considered to be negligible.

Validity of PEA

- 5.1.7 If site works do not commence for more than 18 months from the date of the survey undertaken for this report, the ecology of the site should be re-assessed as the ecological situation may have changed in the intervening time.

5.2 Impact Avoidance Measures

- 5.2.1 It is recommended that, if the Local Planning Authority are minded to grant planning consent, the impact avoidance measures described below be conditioned.

Roosting Bats in Trees and Foraging/Commuting Bats

- 5.2.2 In order to reduce the risk of indirect disturbance to bats potentially roosting in trees adjacent to the site and that are likely to be foraging and/or commuting on site, both during and post-development, sensitive lighting of the site should be used and the guidelines below should be followed:

- minimise lighting on site so far as possible;
- use hoods or directional lighting to avoid light directed at the adjacent pond, hedgerows, trees or the sky;
- have external lighting on as short a timer as possible so that lights are turned off when not in use.

- 5.2.3 Further, it is recommended that where possible, warm spectrum LED lights (ideally less than 2700K) are used, as LED bulbs produce the least amount of UV light possible. Lighting should also feature peak wavelengths higher than 550nm to avoid the light components that are most disturbing to bats. The brightness of the lamps should also be kept as low as feasibly possible, with significant impacts shown on bats at 3.6 lux, with bats shown to peak in foraging levels at 0.45 lux. Lighting should also be kept at as low a height level as possible, using low level bollards or down lights where possible. Lighting which emit an ultraviolet component or that have a blue spectral content have high attraction effects on insects and should be avoided (ILP, 2018).

- 5.2.4 It is also recommended that the development works should not take place between sunset and sunrise between April and September (the main season of bat activity), and any security or spot lighting required should be kept to a minimum, and where possible be placed on a short timer to reduce the extent of lighting on site during development.

Widespread Reptiles, Hedgehogs, Brown Hares and Common Toads

- 5.2.5 The following impact avoidance measures should not be undertaken until the further surveys for great crested newts have been completed, and may need adapting to fit with any recommendations made for great crested newts on the site:
- the tall grassland should be cleared between March and mid-October when most animals are active, avoiding June or July if possible as this would be when hedgehogs and brown hares would be most likely to have young;
 - the grassland should be strimmed in two stages, either by an ecologist or with an ecologist present, in weather considered to be suitable for reptiles to be active (above 10°C, dry and with little wind). The first cut should be to approximately 10-15cm in height, with the second cut to ground level. Any cut vegetation should be raked up and cleared from the site after each cut. If any reptiles or other animals are found during the works, the ecologist should capture the animal(s) and place them in a sheltered part of the site which will not be impacted by the proposed works on site;
 - both stages of clearance should be undertaken carefully, using strimmers, and all cut vegetation should be raked up and removed from the site immediately to avoid creating potentially higher value habitat for these species on the site.

Common and Section 41 Nesting Birds

- 5.2.6 Where possible, the cutting back of any trees, shrubs or bramble scrub should be undertaken between September and end February. If it is necessary to undertake any such works outside of this time, the vegetation should be checked by an ecologist for active bird nests no more than seven days before works begin. If any occupied nest is found, works that could disturb the nesting birds should be postponed until an ecologist confirms the nest is not longer in use.

5.3 General Precautions

- 5.3.1 To prevent risk of harm to badgers, reptiles, hedgehogs, brown hares, common toads or any other small animals that may be present on site, the following general precautions should be undertaken:
- any trenches or holes which will be left overnight should either be fully covered, or have a wooden plank placed in them in such a way that

any wildlife that falls in can climb out safely. Alternatively, one end of the trench should be sloped or stepped to allow animals to climb out;

- materials brought to the site for the construction works should be kept off the ground on pallets, so as to prevent small animals seeking refuge within them and coming into harm's way;
- rubbish and waste should be removed off site immediately or placed in a skip, to prevent small animals using the waste as a refuge, and thus coming into harm's way.

5.4 Enhancement Suggestions

5.4.1 It was considered that there was scope within the proposals to provide biodiversity enhancements. The following are actions that could be undertaken to enhance aspects of the biodiversity of the site, which are not considered to be necessary for mitigation or compensation of impacts, and are in addition to measures proposed or that may be required for great crested newts, for avoidance, mitigation or compensation of impacts as outlined above.

Flower-rich Amenity Grassland Planting

5.4.2 Lawn areas on site could be enhanced to the benefit of local wildlife by creating species-rich lawns. This would either be achieved by seeding with a flowering lawn mix (such as the WFG20-Species Rich Lawn mix by Germinal), or by using species-rich turf on the site (such as the Species Rich Lawn Turf by Wildflower Turf).

Native Tree and Shrub Planting

5.4.3 Increasing the proportion of the site given over to native vegetation such as shrubs and/or trees would likely benefit wildlife. As practical, native trees and shrubs could be planted in appropriate areas on site; combined with the existing trees and shrubs, these would increase the structural diversity of the site and attract a greater number and diversity of animal species. The planting of nectar rich species would particularly benefit native invertebrates. A list of native tree species which could be used can be found in Table 7 in Appendix 3. If possible, trees and shrubs of local provenance should be sourced, as these have a better chance of thriving. For bio-security purposes, only UK-grown species should be planted. A list of native plant suppliers can be found on the Flora Locale website at: <http://www.floralocale.org>.

Bird Boxes

5.4.4 The addition of bird boxes in appropriate areas on the new building or retained trees on site would benefit nesting birds. The boxes should be installed above 2m, out of the reach of predatory cats, and should not be in direct sunlight, to avoid nestlings overheating and dying. There are a wide variety of bird boxes available. Alternatively, boxes are available which can be incorporated into walls and/or soffits to reduce accidental damage and visual impact. The following nest boxes were considered to be appropriate for the site, or alternative boxes should be approved by an ecologist:

- 1 x Eco Small Bird Box (25mm) from the Nestbox Company suitable for blue tits *Cyanistes caeruleus*.
- 1 x Eco Small Bird Box (32mm) from the Nestbox Company suitable for great tits *Parus major* and coal tits *Periparus ater*.

Bat Boxes

- 5.4.5 The addition of at least three bat boxes on external walls of the new building on site would greatly increase the roosting potential for these European protected species.
- 5.4.6 The Schwegler 1FE Bat Box (fitted with optional back plate) or 2FE Bat Box are recommended for external roosts, or others as approved by an ecologist. These are all suitable for most common bat species, require no maintenance and there are no diseases known to be associated with bat droppings. Each bat box should be positioned at a height of more than 4m above ground level, away from external lighting, and where there is a clear path of flight to the boxes. The three bat boxes should each face a different aspect, preferably with one facing north, one facing southeast and the other facing southwest. This allows the bats to choose the box which provides the most suitable conditions each day.

Bee Boxes/Insect Nesting Aid

- 5.4.7 One Schwegler Clay and Reed Insect Nest could be provided to benefit native bees, or others as approved by an ecologist. The nest box should be installed firmly (not allowed to swing) in sheltered and sunny positions on trees, buildings or fences (above 2m) on site, preferably near to vegetated areas. These nests are designed to attract only harmless insects, including solitary bees which are harmless to humans and pets and are useful pollinators.

6 CONCLUSION

- 6.1 Overall, the site was considered to be of low value for wildlife at a local level, but with some potential for great crested newts to be present as well as low numbers of other protected and/or Section 41 species. With the further surveys for great crested newts completed and any impact avoidance, mitigation and/or compensation measures designed and implemented under a Natural England EPSL, and the other impact avoidance measures outlined in this report completed, it was considered the proposed development could proceed with minimal risk of impact to protected or Section 41 species, Section 41 habitats or the local biodiversity. Further, there was considered to be some scope to enhance the site to the benefit of local wildlife.

7 REFERENCES

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8 APPENDICES

8.1 Appendix 1: Figure

Figure 1: Ponds near Land off Mill Road, Wyverstone. 9th October 2019

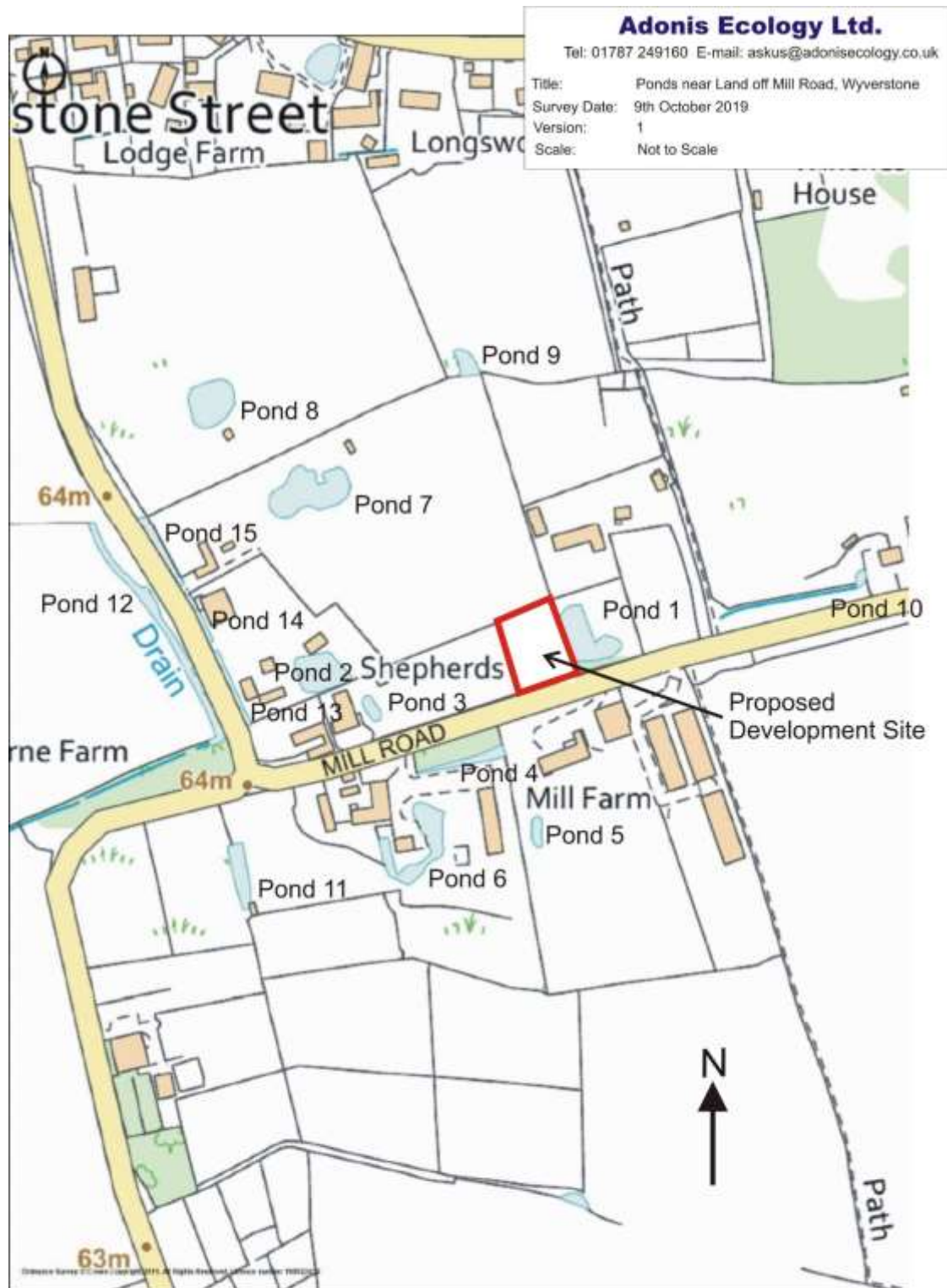
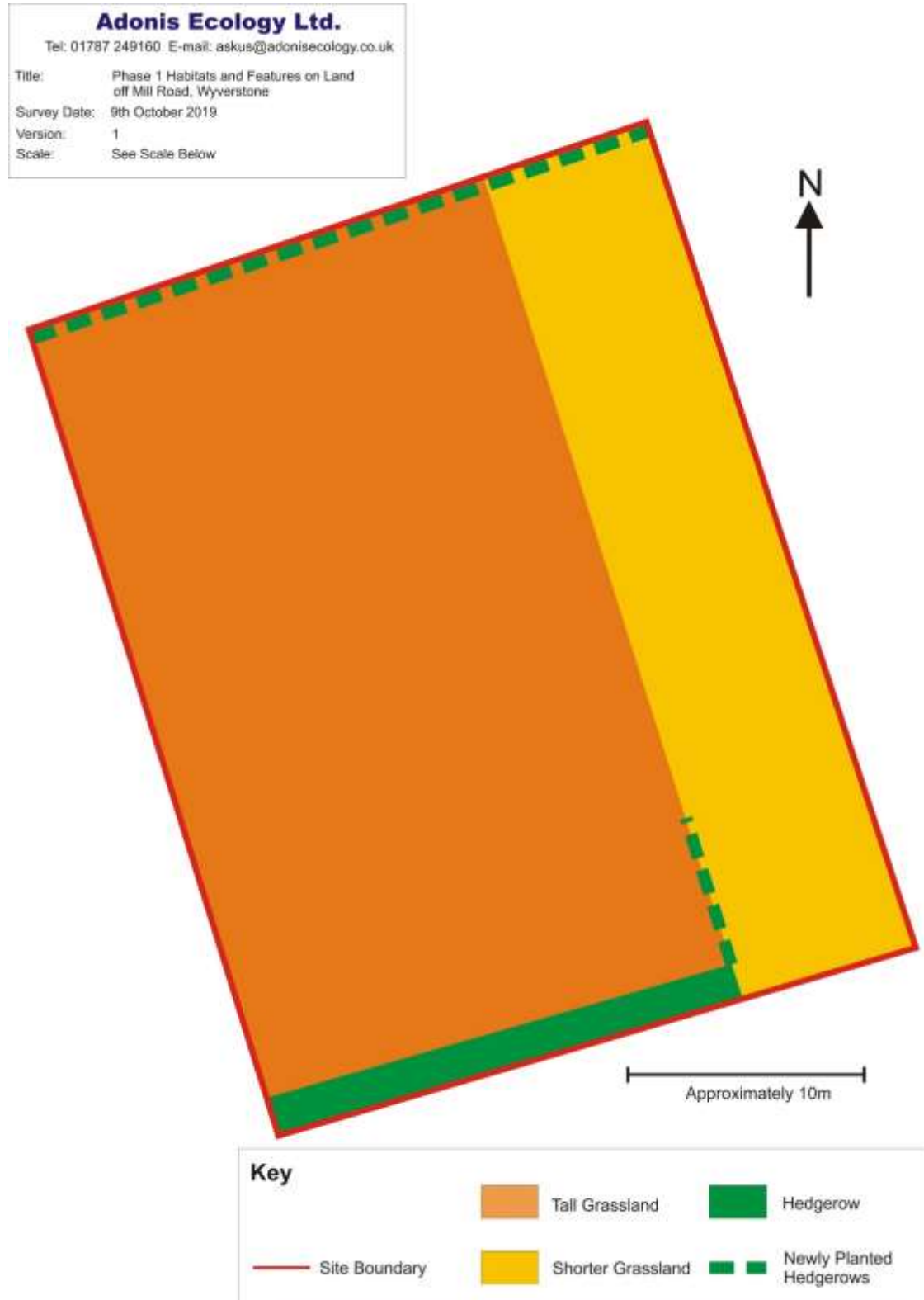


Figure 2: Phase 1 Habitats and Features on Land off Mill Road, Wyverstone. 9th October 2019



8.2 Appendix 2: Photographs

All photographs taken by Stewart Wesley (surveyor) on 9th October 2019

Photograph 1: Pond 1 Adjacent to Land off Mill Road, Wyverstone.



Photograph 2: Pond 7 Near Land off Mill Road, Wyverstone.



Photograph 3: Pond 14 Near Land off Mill Road, Wyverstone.



Photograph 4: Tall Grassland on Land off Mill Road, Wyverstone.



Photograph 5: Shorter Grassland on Land off Mill Road, Wyverstone.



Photograph 6: Newly Planted Hedgerow at Northern Edge of Land off Mill Road, Wyverstone.



Photograph 7: Newly Planted Bramble Covered Hedgerow (Front) and Mature Hedgerow (Rear) at Southern Edge of Land off Mill Road, Wyverstone.



8.3 Appendix 3: Tables

Table 5: Habitat Suitability Index (HSI) Score for Ponds near Land off Mill Road, Wyverstone. 9th October 2019

Habitat Suitability Criteria	Score				
	Pond 1	Pond 2	Pond 3	Pond 7	Pond 9
Map Location	1	1	1	1	1
Pond Area	1	0.35	0.05	1	0.3
Desiccation Rate	1	0.5	0.9	0.5	0.5
Water Quality	0.67	0.67	0.67	0.33	0.67
% Shade	0.6	1	1	1	0.2
Presence of Water Fowl	0.67	0.67	1	0.67	1
Presence of Fish	0.67	0.67	0.67	0.33	1
No. Ponds within 1km	1	1	1	1	1
Terrestrial Habitat Quality	0.33	0.33	0.33	0.33	0.33
% Macrophyte Cover	0.4	0.5	0.4	0.3	0.3
HSI Score Following Calculation	0.69 (Average)	0.62 (Average)	0.55 (Below Average)	0.57 (Below Average)	0.54 (Below Average)

Table 6: Site Evaluation Score for Land off Mill Road, Wyverstone. 9th October 2019

Criteria	Rating/ Value	Example Levels	Score	Site Score
Size/Extent	Very High	>50 hectares	5	
	High	>10 but <50 hectares	4	
	Medium	>3 but <10 hectares	3	
	Low	>1 but <3 hectares	2	
	Very Low	<1 hectare	1	X
Diversity – Species	Very High	150 or more native plant species found/expected on site.	15	
	High	Between 100 – 149 native plant species found/expected on site.	10	
	Medium	Between 60 – 99 native plant species found/expected on site.	6	
	Low	Between 30 – 59 native plant species found/expected on site.	3	X
	Very Low	Less than 30 native plant species found/expected on site.	1	
Diversity – Habitats	Very High	More than 10 habitat types present on site with a mix of terrestrial and aquatic habitats present.	15	
	High	Between 5 – 10 different habitat types on site with a mix of terrestrial and aquatic habitat types.	10	
	Medium	>3 terrestrial habitats on site but either none or very limited aquatic habitat present.	6	
	Low	>2 habitat types present on site but with a predominance of one terrestrial habitat type covering over 60% of the total area and no aquatic habitats.	3	X
	Very Low	Only 1 or 2 habitat types present on site with a predominance of one terrestrial habitat type which covers over 90% of the total area.	1	
Naturalness	Very High	Predominant habitats unmanaged, slow developing and difficult to recreate, such as ancient woodland, species rich hedgerows. If known, land that has been unmanaged for more than 25 years.	10	
	High	Habitats largely unmanaged or traditionally managed in line with historic management of the site, if known, this may include derelict land that has been unmanaged for between 10 and 25 years.	8	
	Medium	Over 40% of the site consisting of natural features as opposed to hardstanding/buildings. Some degree of management may occur on a rotational or at a significantly low level. If known, land that has been derelict and unmanaged for no more than 10 years.	5	X
	Low	Limited area of natural habitats on site and/or these are predominantly well managed/maintained e.g. garden beds, intensively grazed pasture. If known, this may include derelict land that has been unmanaged for no more than 3 years.	3	
	Very Low	Few natural habitats found on site (hardstanding, intensive one crop agricultural land, short cut amenity grassland. If land is derelict/unmanaged, this must have been for no more than one year.	1	
Rare or Exceptional Features	Very High	Species or habitat present in quantity that is considered very rare and important at national and local levels.	20	
	High	Species or habitat present in quantity that is considered rare and of high importance at a local level, e.g. large population of a Section 41 species.	16	
	Medium	Species or habitat present that is considered moderately important at a local level.	10	X
	Low	Species or habitats present in quantity not considered to be particularly rare or important at a local level.	4	
	Very Low	Species or habitats present considered to be widespread and common at both a local and national level or very common at a local level	1	
Fragility	Very High	Habitat unable to be recreated within a reasonable timescale (<50 years) if lost such as ancient woodland/trees, unimproved grassland etc.	10	
	High	Habitat difficult to recreate to the same standard within a	8	

Criteria	Rating/ Value	Example Levels	Score	Site Score
		reasonable timescale (<50 years) such as species-rich hedgerows		
	Medium	Habitats likely to be recreated to the same or close degree of similarity within 25 years such as semi-improved grasslands	5	
	Low	Habitats relatively easy to recreate within 2-10 years such as improved grassland, non species-rich hedgerows	3	X
	Very Low	Habitats easy to recreate and likely to establish within 1-2 years such as amenity grassland.	1	
Typicalness	Very High	Habitats on site rare at a national and/or regional level and/or considered to be very rare within the local context.	5	
	High	Habitats largely different to those nearby but with some similar areas known within the region.	4	
	Medium	Some habitats on site both similar and differing from those within a local context.	3	
	Low	Habitats on site largely the same as surrounding and regional habitats but some minor areas of different or significant habitat at a local level.	2	X
	Very Low	Habitats on site largely the same as surrounding and regional habitats.	1	
Connectivity	Very High	More than 10 hedgerows, waterways and/or tree lines linking site to other potential habitat. Linking habitat generally of high quality (hedgerows with no gaps, woodland, mature gardens) and linking to many and/or large areas of similar and/or diverse habitats.	15	
	High	6 – 9 hedgerows, tree lines or waterways linking site to other potential habitat. Connective habitat medium-high quality linking to areas of similar and/or diverse habitats.	10	
	Medium	Between 3 – 5 hedgerows, treelines and/or waterways connecting site to other potential habitat. Site usually linked to small areas of high quality habitat or large areas of poorer quality habitat.	6	X
	Low	1 – 2 linking features such as hedgerows, waterways and/or tree lines to other potential habitat. Linking habitat generally of poor quality and linking to only small areas of similar habitat.	3	
	Very Low	Site surrounded by hardstanding, roads and/or other significant barriers to wildlife dispersal. No hedgerows, waterways or tree lines to link site to potential habitat.	1	
Value for Appreciation of Nature	Very High	Public Rights of Access on site and habitats providing screening of industrial/commercial areas from residential.	5	
	High	Public Rights of Access to the site and a reasonable number of local residents that may appreciate the visual appearance of the site.	4	
	Medium	Site occasionally used by local public and provides some positive visual impact for local residents.	3	
	Low	No public rights of access to the site although site provides some positive visual impact for low numbers of local residents	2	X
	Very Low	No public rights of access to the site, site not visible from any residential or commercial properties and/or site not considered to provide positive visual impact.	1	
Site Score and Rating	35 – Low			

Site Value Scores: 9-19 = Very Low; 20-39 = Low; 40-59 = Moderate; 60-79 = High; 80-100 = Very High

Table 7: Selected Native Trees and Shrubs

Common Name	Scientific Name
Trees	
Common Alder	<i>Alnus glutinosa</i>
Silver Birch	<i>Betula pendula</i>
Hornbeam	<i>Carpinus betulus</i>
Ash	<i>Fraxinus excelsior</i>
Wild Apple	<i>Malus sylvestris</i>
Wild Black Poplar	<i>Populus nigra</i>
Aspen	<i>Populus tremula</i>
Wild Cherry	<i>Prunus avium</i>
Oak	<i>Quercus robur</i>
White Willow	<i>Salix alba</i>
Wild Service Tree	<i>Sorbus torminalis</i>
Small-leaved Lime	<i>Tilia cordata</i>
Field Maple	<i>Acer campestre</i>
Shrubs	
Dogwood	<i>Cornus sanguinea</i>
Hazel	<i>Corylus avellana</i>
Midland Hawthorn	<i>Crataegus laevigata</i>
Hawthorn	<i>Crataegus monogyna</i>
Spindle	<i>Euonymus europaeus</i>
Holly	<i>Ilex aquifolium</i>
Privet	<i>Ligustrum vulgare</i>
Purging Buckthorn	<i>Rhamnus cathartica</i>
Goat Willow	<i>Salix caprea</i>
Elder	<i>Sambucus nigra</i>
Guelder Rose	<i>Viburnum opulus</i>