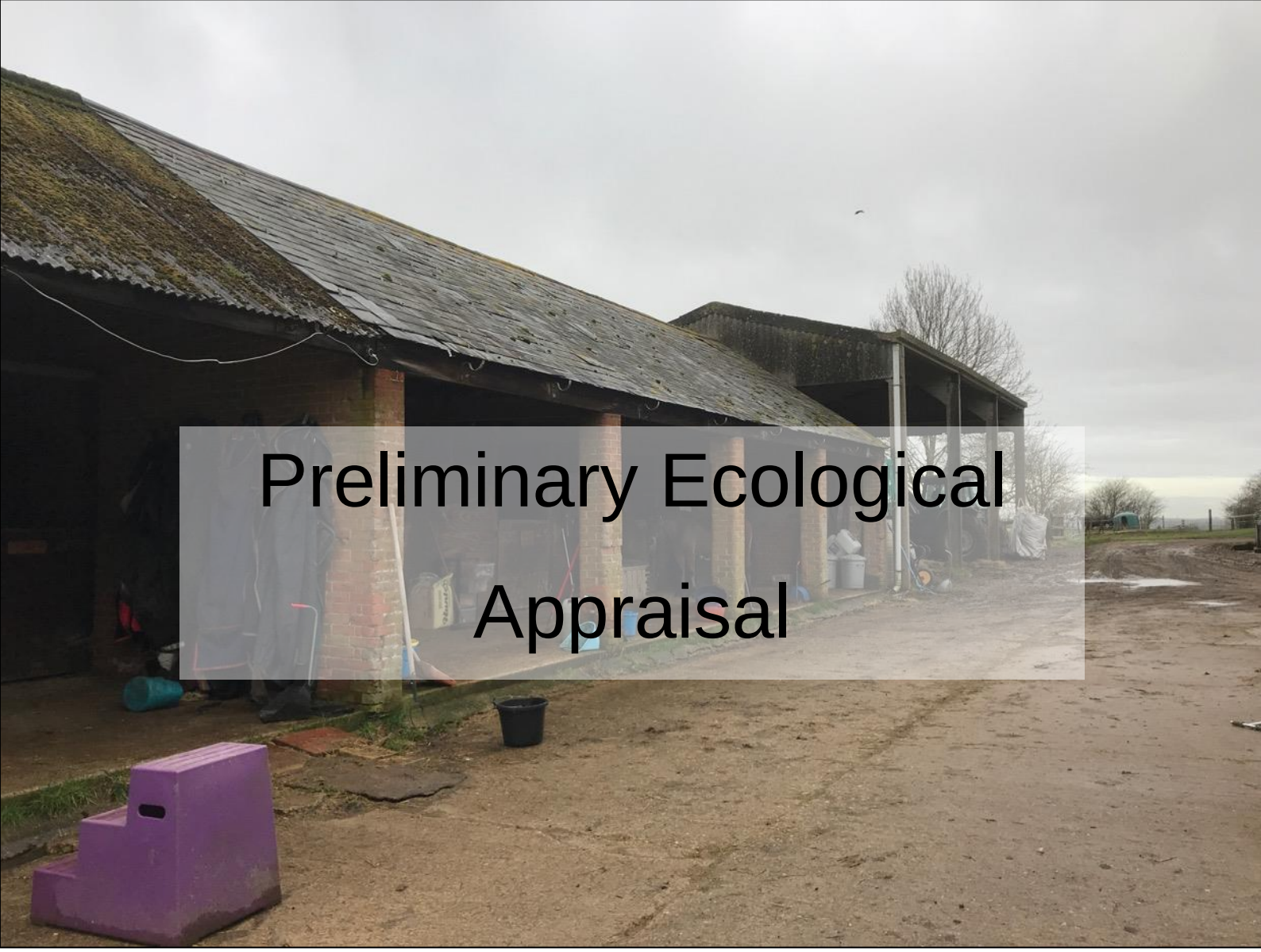


Preliminary Ecological Appraisal

Church Farm

On behalf of Mr and Mrs Myatt

February 2021

Ecology by Design Ltd,

Hampden House, Monument Park, Chalgrove, Oxon OX44 7RW.

Tel 01865 893346 **www.ecologybydesign.co.uk**

Project Code	Title	Date of Issue
EBD01714	Church Farm, Oving: PEA	26th February 2021

	Name	Date
Prepared by	Emily Bartlett BSc (Hons) MSc ACIEEM	26th February 2021
Checked by	Ben Gardner BSc (Hons) MCIEEM CEnv	26th February 2021

ecologybydesign

Contents

1 Executive Summary

Report purpose	This report identifies the potential ecological impacts, mitigation, compensation and enhancement measures for the proposed development at Church Farm, Oving.
Surveys	Surveys of the site were conducted in February 2021 including an extended Phase 1 habitat survey, daytime building assessments for bats and habitat suitability assessment of a pond.
Key findings	The site, situated in Oving in Buckinghamshire, measures approximately 0.13ha in extent comprising stables, a barn, a grassland with vegetable plots and a horse riding arena. Protected and priority species present or potentially present include: • Low bat roosting potential within buildings B1, B2 and B3; • Foraging and commuting habitat for bats within the site; • Opportunities for nesting birds within the buildings; • Suitable terrestrial habitat for great crested newts within the rough grassland; • Suitable habitat for reptiles within the grassland; • Suitable foraging and resting habitat for hedgehogs and common toad; and • Negligible opportunities for other protected or priority species.
Potential impacts	Habitats within the site are of 'Negligible' value in terms of ecological interest. In the absence of mitigation, development within the site may result in: • Destruction of bat roost(s) during conversion/demolition of the buildings; • Disturbance of foraging and commuting bats through altered/increased levels of lighting; • Killing or injury of reptiles during site clearance; and • Destruction of active wild birds' nests during conversion/demolition of the buildings.
Further survey	Further survey should be undertaken to establish if bats are roosting within buildings B1, B2 or B3 and allow characterisation of any roost(s) which may be present and determine the need for additional mitigation measures for bats.
Measures to avoid and/or reduce impacts	• Habitat creation to improve the biodiversity value of the site; • Implementation of a sensitive lighting scheme to avoid disturbing bats; • Building demolition/conversion undertaken outside of the nesting bird season (March to August inclusive) or be preceded by a check from a suitably experienced ecologist; • Phased and directional vegetation clearance to avoid killing or injuring reptiles; and • Implementation of appropriate site management practices.
Delivering biodiversity enhancement	• Two bird boxes will be installed on buildings within the site following construction/conversion; • One bat box will be installed on a building following construction/conversion; • One insect nest box will be installed on a building following construction/conversion; and • Hedgehog-friendly gravel boards will be used within new fenced boundaries of the site.

2 Introduction

2.1 Background

2.1.1 Ecology by Design Ltd was commissioned by Mr and Mrs Myatt to undertake a preliminary ecological appraisal (PEA) at Church Farm, Oving, Aylesbury, HP22 4HL (central grid reference SP 78292 21418). The client seeks planning permission for the conversion of stables, construction of an extension and demolition of a barn.

2.2 Site Description

2.2.1 The site is located in the village of Oving in Buckinghamshire and measures approximately 0.13ha. The site contains stables, a barn, a shed, a horse riding arena and an area of rough grassland with vegetable patches.

2.2.2 The site is immediately bordered by a house and garden to the south, a church and churchyard to the west, a farmyard to the east and horse fields to the north. The wider landscape is dominated by arable and pasture fields.

2.3 Proposed Works

2.3.1 Mr and Mrs Myatt seek planning permission for the conversion of the existing stables, construction of an extension and demolition of the existing barn. No landscaping plan for the site has been established.

2.4 Aims of Report

2.4.1 This report presents a preliminary appraisal of the potential ecological impacts of the proposed development works. The report outlines recommendations for avoidance, mitigation, compensation and enhancement measures. This report is not suitable for submission to inform a planning application at the site until further surveys for bats are completed to inform the assessment of potential impacts and refine the recommendations.

2.5 Personnel

2.5.1 The project was led by Ecologist Emily Bartlett, BSc (Hons) MSc ACIEEM, who has over four years of experience in ecological consultancy and is experienced at conducting habitat and protected species assessments.

2.5.2 Project supervision and review of the report was provided by Director Ben Gardner, BSc (Hons) MCIEEM CEnv, who has been an ecological consultant for 16 years.

3 Methods

3.1 Desk Study

3.1.1 A desk study was carried out to identify:

- Internationally protected sites within the potential zone of influence of the site (minimum of 7km);
- Nationally protected sites within 5km of the site; and
- Non-statutory designated sites and records of protected or priority species within 2km of the site (central OS national grid reference SU 51786 68596).

3.1.2 A 2km search radius for species and non-statutory designated sites is justified due to the small size of the site and small-scale development works being undertaken. It is thought highly unlikely that species or non-statutory sites outside this search zone would be affected by the project. A larger search radius is applied for internationally and nationally designated sites as these sites are protected to a higher level and can often be more sensitive to disturbance. These search distances are also based on industry standard guidance.

3.1.3 Sources consulted include:

- Buckinghamshire & Milton Keynes Environmental Records Centre (returned 28th January 2021);
- MAGIC (www.magic.gov.uk) (accessed 2nd February 2021); and
- Local Planning Policy documents.

3.2 Preliminary Ecological Appraisal

3.2.1 A Preliminary Ecological Appraisal (PEA) was conducted on 18th January 2021 by Ecology by Design Ecologists Emily Power and Emily Bartlett using standard techniques and methodologies (CIEEM, 2017) and the nomenclature of Stace (2019).

3.2.2 The PEA includes a survey of the habitats utilising the standard Phase 1 habitat survey methodology (JNCC, 2010). Weather conditions during the survey were cold (8°C), calm (wind 1 on Beaufort scale[1]) and overcast (cloud 8/8[2]). A Phase 1 habitat map is included in Appendix 2.

[1] The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze etc.
[2] Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).

3.2.3 Opportunities for or evidence of protected and priority species were also identified. Where potential impacts on features of ecological interest are identified, the PEA is extended to include an assessment of impact. Any further surveys required are outlined and recommendations are made for appropriate avoidance, mitigation, compensation and enhancement measures.

3.3 Preliminary Roost Assessment

3.3.1 An external and internal Preliminary Roost Assessment was conducted during the PEA of the buildings at Church Farm on 3rd February 2021 by Ecology by Design ecologists Emily Power (Level 2 Natural England licence 2017-32544-CLS-CLS) and Emily Bartlett (Level 1 Natural England licence 2019-43526-CLS-CLS). The assessment was based on the guidance in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) and government guidance (Gov.uk., 2015).

3.3.2 The surveyor used a high-power torch and binoculars to inspect features of interest. All external areas of the buildings were inspected as well as internal areas.

3.3.3 Evidence searched for included the presence of free hanging bats and bats within gaps and crevices, bat droppings, urine stains, rub marks, scratch marks and feeding remains.

3.4 Limitations/Constraints

3.4.1 The wildlife and wider ecological interest of a site can change. The report presented here is a statement of the findings of surveys carried out in February 2021. For the purpose of this report the results of site visits are discussed in the present tense. Any appreciable delay in making reference to this report or changes to the proposed development boundary may necessitate a re-survey.

3.4.2 The species information gained from local record centres is largely derived from data submitted from members of the public and volunteers. For this reason, it should be understood that the desk study may not provide an exhaustive list of all protected species that could occur in the local area.

3.4.3 No invasive species were identified within the site however, detectability of many species varies seasonally and this report should not be assumed to demonstrate the absence of invasive species. If invasive species are suspected at the site, further survey during the appropriate season for detectability of that species should be undertaken and specialist advice sought as necessary. Ecology by Design does not guarantee the absence of harmful invasive

species with this report and accepts no liability for damage or cost resulting from the presence of invasive species recorded within the site at a later date.

3.4.4 Weather conditions were suitable to conduct the surveys.

4 Results and Interpretation

4.1 Designated Sites

4.1.1 No internationally protected sites are located within 7km of the site or nationally protected sites notified for their ecological interest within 5km of the site boundary.

4.1.2 Two non-statutory designated sites are located within 2km of the site, as detailed in Table 1.

Table 1: *Non-statutory sites within 2km of the site*

Name & Designation	Distance & direction	Details
Castle Field and Adjacent Fields BNS (82A10)	1.7km SE	Neutral grassland with streams and wet grassland.
Pond Near Manor Farm, North Marston BNS (72Q02)	2.0km NW	A small lake/large pond surrounded by pasture fields

Conclusion

4.1.3 It is considered that the notable features of the designated sites will not be impacted by the proposed development due to the nature of the proposals and distance from the designated sites.

4.1.4 Natural England defines Impact Risk Zones (IRZs) around SSSI's and categories of development for local authorities to determine if they need to consult Natural England in regard to potential impacts upon them. The site is not situated within the IRZ of any SSSI's therefore the potential for impacts on the SSSI are considered highly unlikely.

4.2 Habitats

4.2.1 At the time of the survey (February 2021) the following habitats were recorded on site. Recorded habitats are described in Table 2 below; Photographs are included in Appendix 1 and a habitat map is included in Appendix 2.

Table 2: *Habitat types identified during the Phase 1 habitat survey*

Habitat type	Description
Improved grassland	In the north west of the site is approximately 0.018ha of rough improved grassland which comprises species such as creeping buttercup (*Ranunculus repens*), meadow crane's-bill (*Geranium pratense*), cleavers (*Galium aparine*), perennial rye-grass (*Lolium perenne*), germander speedwell (*Veronica chamaedrys*), cock's-foot (*Dactylis glomerata*), red deadnettle (*Lamium purpureum*), white deadnettle

Habitat type	Description
	(*Lamium album*), ivy (*Hedera helix*), common ragwort (*Jacobaea vulgaris*), smooth sowthistle (*Sonchus oleraceus*), creeping thistle (*Cirsium arvense*) and bittersweet (*Solanum dulcamara*). The grass appears to be infrequently managed and had a sward height of between 15cm and 30cm. Along the boundary fence are various cultivated climbing plants including passion flower (*Passiflora* sp.).
Arable	In the north west of the site are several vegetable patches with cultivated plants such as strawberry (*Fragaria × ananassa*) and leek (*Allium porrum*).
Building	There are two stables and a barn which are adjoined and a small shed within the site. Further details are provided below, see *Preliminary Roost Assessment*.
Bare ground & hardstanding	Within the south west of the site is a horse rising arena with a sand base which is surrounded by a wooden post and rial fence. In the north the ground is bare from frequent vehicle traffic.

Target Notes

4.2.2 The following target notes of features of ecological interest were made during the PEA:

- TN1 – A pile of wooden pallets with soil and plants growing on top
- TN2 – A temporary waterbody where a smooth newt (*Lissotriton vulgaris*) was recorded during the survey

Habitat Summary

4.2.3 The habitats on site are common and widespread but have an intrinsic value to local wildlife (assessed separately below). None of the habitats within the site meet any of the criteria for habitats of principal importance under the NERC[3] Act 2006 (Maddock, 2011). The vast majority of the habitats on site will be lost under the current proposals but are of limited value to local wildlife due to the habitat type or extent.

Conclusion

4.2.4 The habitats within the site are relatively common and widespread but have limited value to local wildlife. The site is therefore assessed as having 'Negligible' value in terms of ecology, see Appendix 4.

[3] NERC Act 2006 = Natural Environment and Rural Communities Act 2006

1.1 Species

4.2.5 The results of the preliminary ecological appraisal and desk study are presented together in Table 3 below. Relevant legislation and policy is referred to as appropriate and further details are provided in Section 6.

4.2.6 There are no watercourses within the site or 250m of the site therefore species associated with such habitats such as white-clawed crayfish (*Austropotamobius pallipes*), otter (*Lutra lutra*) and water vole (*Arvicola amphibius*) are considered unlikely to be affected by the proposals. As such, they are not discussed further within this report.

Table 3: *Presence of or potential for protected / notable / invasive species within the site and local area*

Species	Protection or Status *	Presence/potential at the site
Bats	EPS[4]. Some species are also SPIs[5]. W&CA 1981[6] Sch5[7]	Seventy records of at least six bat species have been recorded within 2km of the site including Brandt's (*Myotis brandtii*), Daubenton's (*Myotis daubentonii*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared (*Plecotus auritus*) bats. The site is situated within the core sustenance zones[8] of all bat species recorded in the desk study and individuals are likely to forage within the site. The buildings within the site were inspected and assessed as having low potential to support roosting bats. See *Preliminary Roost Assessment* below.
Dormouse *(Muscardinus avellanarius)*	EPS. SPI. W&CA 1981 Sch5	No records of the species were returned within the desk study and there is no suitable habitat within the site therefore it is considered that the species are likely absent from the site and are unlikely to be impacted by the proposals.
Great crested newt (*Triturus cristatus*)	EPS. SPI. W&CA 1981 Sch5	Four records of the species were located within 2km of the site in the desk study dating from 1983 and 2005. The closest record is located approximately 1.4km north west of the site. The improved grassland within the site provides suitable terrestrial habitat for the species. There is one pond within 100m of the site and no further ponds were located within 500m of the site. See *Great Crested Newt Assessment* below.
Badger (*Meles meles*)	Protection of Badgers Act 1992.	Eleven records of badger were returned in the desk study dating from 1910 to 2017. The grassland on site provides suitable foraging habitat for badger but it is very limited in extent. No evidence of badger such as setts or latrines were recorded

[4] European Protected Species under the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended)
[5] Species of Principal Importance under Section 41 of the NERC Act 2006
[6] Wildlife and Countryside Act 1981 (as amended)
[7] Schedule 5 Animals which are Protected (W&CA 1981)
[8] Core sustenance zone refers to the area surrounding a communal bat roost within which habitat availability and quality have a significant influence on the resilience and conservation status of the colony using the roost. See Appendix 6.

Species	Protection or Status *	Presence/potential at the site
		during the survey but there is potential for badger to traverse the site whilst foraging.
Nesting birds	W&CA 1981 Sch1[9]/ Sch5	108 records of 55 bird species were located within the desk study comprising a mix of species typical of arable and woodland habitat. There are opportunities for foraging and nesting birds within the site included with the grassland and buildings.
Reptiles	W&CA 1981 Sch5	One reptile record was returned within the desk study comprising adder (*Vipera berus*) dating from 1975. The rough grassland habitat on site is suitable for common species of reptile but is considered of negligible value to it's limited extent.
Brown Hare (*Lepus europaeus*)	SPI	Two records of the species were returned in the desk study. The habitat within site is considered to be of very limited suitability for the species.
Western European hedgehog (*Erinaceus europaeus*)	SPI	Two records of the species were located in the desk study dating from 1981 and 2017. There is suitable habitat for foraging hedgehog on site within the grassland.
Common toad (*Bufo bufo*)	SPI	No records of the species were returned in the desk study. The pond within 500m of the site provides potential breeding habitat and the site may be used by foraging and resting individuals.
Invertebrates	SPIs	Seventeen records of nine protected and notable invertebrate species were returned by the desk study. There are opportunities for cinnabar moth (*Tyria jacobaeae*) and white ermine (*Spilosoma lubricipeda*).
Protected plants	W&CA 1981 Sch8[10]. SPIs	Three records of a protected plant species, bluebell (*Hyacinthoides non-scripta*), were returned within the desk study however, it is considered unlikely that this species is present within the site
Invasive species	W&CA 1981 Sch9[11]	Records of four invasive plant species were returned within the desk study including Indian balsam (*Impatiens glandulifera*) and wall cotoneaster (*Cotoneaster horizontalis*), however, no evidence of invasive species was recorded within the site during the survey.

4.3 Preliminary Roost Assessment

4.3.1 There are four buildings within the site, a large barn (B1), two stable blocks (B2 and B3) and a small shed (B4). Buildings B1, B2 and B3 are adjoined. Photographs are included in Appendix 1 and a map is included in Appendix 2.

[9] Schedule 1 Birds which are Protected by Special Penalties (W&CA 1981)
[10] Schedule 8 Plants which are Protected (W&CA 1981)
[11] Schedule 9 Animals and Plants to which Section 14 Applies (W&CA 1981)

4.3.2 B1 is a large barn structure with concrete pillars, a concrete frame and a pitched corrugated asbestos type roof. The barn is open on two sides with walls partly constructed from breeze blocks, gappy wooden slats and corrugated asbestos. The barn is in active use for storage and as a stable. There are gaps where the asbestos roof overhangs the wall forming small cavities.

4.3.3 B2 is an active stable block which is constructed from single skin red brick with an open side on the east elevation. The stable has a pitched slate tiled roof with fairly tightly fitted wooden sarking boards below and exposed wooden beams. On the west elevation is a small lean-to structure with a sloping slate roof, a red brick wall and an open side to the south. A historic bird nest was noted within the building, likely from a barn swallow (*Hirundo rustica*). There are many gaps within the brickwork of the stable and the lean-to structure along with missing or lifted tiles on the roof and gaps under the ridge tiles. There are gaps internally around the timber frame and within the brickwork. There were also a few small gaps between the internal wooden sarking boards.

4.3.4 B3 is an active stable block constructed with a single skin red brick wall base with wooden weather board above and wooden boarding internally. The stable has a timber frame and an open side to the east with red brick pillars. The stable has a pitched corrugated metal roof. There are multiple large holes within the weatherboarding leading to fairly open cavities along with some gaps between the wooden boards.

4.3.5 Building B4 is a small wooden shed in the north west of the site with single skin wooden cladding and a pitched felt roof.

4.3.6 No bats, bat droppings or evidence of bats were noted within any of the buildings however as these are in active use evidence may not be apparent or may be removed during cleaning of stables and general use. Due to the number of potential roosting features and suitable habitat within the vicinity buildings B1, B2 and B3 were assessed as having low potential to support roosting bats.

4.4 Great Crested Newt Assessment

4.4.1 Mapping indicates that a pond was formerly located approximately 10m from the north east site boundary, however, this had been replaced by a building and there was a small amount of standing water which had accumulated on the concrete footings due to continuous rainfall in the preceding weeks. A smooth newt was observed within a water-filled posthole (see TN2 on map in Appendix 2 and Photo 14 in Appendix 1). However, the smooth newt was likely present opportunistically, and as the water is very shallow it is likely to dry out in advance of the breeding season, and therefore it is considered to be unsuitable as a breeding pond.

4.4.2 There is one pond (P1) located at 80m north west of the site however, the pond was not accessible to undertake a HSI assessment. Therefore, to assess potential impacts to terrestrial habitat, it is assumed that the pond supports breeding great crested newts.

4.4.3 The majority of the habitat on site is unsuitable for great crested newts however, under the current plans approximately 0.009ha of improved grassland, which forms suitable terrestrial habitat, will be lost.

4.4.4 When waterbody P1 is assumed to support great crested newts, Natural England's Rapid Risk Assessment Tool indicates that the risk involved in loss of habitat of this scale is considered as 'offence highly unlikely', see Table 5.

Table 5: *Natural England – Rapid Risk Assessment*

Component	**Likely effect** (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	**Notional offence probability score**
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.05
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.05
Rapid risk assessment result:	**GREEN: OFFENCE HIGHLY UNLIKELY**	

Conclusion

4.4.5 Three buildings within the site (B1, B2 and B3) have a number of suitable roosting features and were therefore assessed as having low potential to support roosting bats.

4.4.6 A small area of suitable terrestrial great crested newt habitat will be lost, however this is of such a small scale and of such a distance from the nearest pond that an offence as a result of site clearance is assessed as being 'highly unlikely.'

4.4.7 It is considered that the site is of 'Parish/Neighbourhood' value as there is potential for protected and notable species within the site, see Appendix 5.

5 Potential Impacts and Recommendations

5.1 Designated Sites

Potential Impacts

5.1.1 It is considered that the notable features of the designated sites will not be impacted by the proposed development due the nature of the proposals and distance from the designated sites.

5.2 Habitats

Potential Impacts

5.2.1 The proposal will result in the loss of a small area of improved grassland. There is currently no landscaping plan for the site but it is considered that the loss of this habitat would have a minor negative impact in terms of habitats however, the incorporation of hedge planting and tree planting could minimise the impact and might result in an increase in the biodiversity value within the site.

Recommendation R1: Any potential tree, hedge or shrub planting should incorporate native plants which are of local provenance and are of benefit to wildlife.

5.2.2 Any tree planting should incorporate a mix of species such as alder (*Alnus glutinosa*), silver birch (*Betula pendula*), wild cherry (*Prunus avium*), bird cherry (*Prunus padus*), crab apple (*Malus sylvestris*), rowan (*Sorbus aucuparia*), common beech (*Fagus sylvatica*), field maple (*Acer campestre*) and/or goat willow (*Salix caprea*).

5.2.3 Hedge or shrub planting should also incorporate a mixture of native species which are of benefit to wildlife such as hazel (*Corylus avellana*), spindle (*Euonymus europaeus*), holly (*Ilex aquifolium*), elder (*Sambucus nigra*), guelder rose (*Viburnum opulus*), tutsan (*Hypericum androsaemum*), heather (*Calluna vulgaris*), dogwood (*Cornus sanguinea*), wayfaring tree (*Viburnum lantana*), honeysuckle (*Lonicera periclymenum*) and/or dog rose (*Rosa canina*).

5.3 Protected Species

5.3.1 Species for which potential impacts are not considered likely to occur as a result of the proposed development are outlined alongside justification in Table 4 above; these are excluded from further assessment. The following sections focus on those ecological features likely to be significantly affected (adverse or beneficial) only.

Bats

5.3.2 Three of the buildings within the site, buildings B1 to B3, were assessed as having low potential to support roosting bats. Demolition or conversion of these buildings could result in the destruction of bat roosts and/or the killing or injury of bats.

5.3.3 The habitats within the site are likely to provide foraging and commuting opportunities for bats and they are likely to traverse the site. Increased levels of artificial light can cause disturbance to bats. Though several bat species can take advantage of artificial lighting systems for foraging, feeding off the insects they attract, other species avoid them as foraging within an illuminated area increases the risk of predation by nocturnal birds of prey or even domestic cats. If lighting is intensive and widespread, particularly lighting from lamps, which emit UV light (such as mercury vapour); it can deter some bats from utilising the site and in some instances can act as a barrier across commuting lines. Research has also shown that certain types of artificial lighting have been proven to disturb the emergence patterns of bats when they are placed within the vicinity of entrances to a bat roost.

Recommendation R2: Further survey should be undertaken of the buildings which were assessed as having low bat roosting potential to establish the presence or likely absence of roosting bats and allow characterisation of any bat roost(s) present.

Recommendation R3: Any lighting for the development will be designed sensitively in accordance with industry standard guidance (BCT & ILP, 2018) and the following principles will be adopted:

- Maintaining a dark corridor along the site boundaries;
- Not illuminating planted trees on site or offsite trees;
- Where lighting is required, ensuring:
    - Light levels are less than 3 Lux;
    - LED luminaires with a warm white spectrum ideally <2700 Kelvin (to avoid blue / UV elements);
    - Bollard or low-level downward directional luminaires are used and mounted on the horizontal (with no upward tilt); and
    - Security lighting, if required, is motion-activated with short (1 minute) timers.

Birds

5.3.4 The buildings on site could support nesting bird species and their demolition or conversion could result in the destruction of active wild bird nests.

Recommendation R4: Any wild birds' nests are protected whilst in use. If any active wild birds' nests are found prior to building demolition or conversion, then these must be left alone until they cease to be in use. Ideally, works to suitable nesting habitat/features should be scheduled to avoid the bird nesting season (March to August inclusive). Should such works take place during March-August inclusive, they must be immediately preceded by a check for any active nests by a suitably qualified ecologist. Any active nests identified during works (regardless of time of year) would need to be protected and left with a suitable buffer (to be defined by the ecologist) until the nest is no longer active.

Reptiles

5.3.5 There is suitable habitat for common species of reptile within the grassland which could be killed or injured during vegetation clearance.

5.3.6 **Recommendation R5:** Any vegetation clearance should be phased and directional to allow reptiles the opportunity to move into retained suitable habitat unharmed. Vegetation should be cut to 15cm above ground level and left for 24hrs before further clearance takes place.

Hedgehogs, common toad and badgers

5.3.7 There is suitable habitat for hedgehogs and common toad within the site while badger may traverse the site while foraging within the local landscape. They could be killed or injured as a result of poor practices during the construction works on site.

5.3.8 **Recommendation R6:** Detailed proposals should include measures to safeguard wild animals should they enter the site during construction works, and to discourage wild animals from entering the site. This can be achieved by implementing the following standard mitigation measures:

- any newly discovered mammal entrances within the site should be safeguarded and left in-situ until reported to a suitably qualified ecologist, who will advise on appropriate steps if needed for works to resume;
- trenches or pits left overnight should be provided with a means of escape for wild animals should they enter such as a collapsed edge or a flat roughened stable plank (no steeper than 45°) acting as a ramp to the surface;
- pipes should be capped off overnight to prevent animals entering and becoming trapped;
- all trenches, pits and open pipes will be inspected each morning to ensure no wild animals have become trapped overnight. Should a badger become trapped in a trench it will likely dig itself into the side of the trench. Should a trapped badger be encountered, a suitably qualified ecologist should be contacted immediately for further advice;

- the prolonged storage of uncontained and uncovered topsoil in piles on site should be carefully considered and possibly fenced-off if needed as these are readily adopted by burrowing animals such as foxes (*Vulpes vulpes*) for dens;
- chemicals should be contained in such a way that wild animals cannot access or knock them over;
- fires should be avoided altogether within the site; and
- loose litter and food should not be left in accessible areas of the site overnight.

5.4 Enhancements

5.4.1 In line with planning policy, which requires developments to enhance the site for wildlife, a number of enhancements will be included within the design plans (example specifications are included in Appendix 7).

Recommendation R7: In order to enhance the local area for wildlife ecological features will be created/installed around or adjacent to the site such as:

- Two bird boxes will be installed on the building following completion. Specified boxes should target local notable species which are likely to occur within the area such as starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*).
- One bat box will be installed on the building following construction to provide roosting opportunities for bats.
- One insect nest box will be installed on a south-facing wall or tree in a sheltered location within the site to enhance the site for invertebrates.
- Any fences or walls will include hedgehog friendly gravel boards with holes 13cm x 13cm in the base to prevent habitat fragmentation for hedgehog.

6 Relevant Legislation and Policy

6.1 Exit from European Union

Various pieces of UK wildlife legislation are subject to a draft amendment at the time of writing by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. These include the Wildlife and Countryside Act 1981 (as amended), The Conservation of Habitats and Species Regulations 2017 (as amended), the Conservation of Offshore Marine Habitats and Species Regulations 2017 and the Offshore Petroleum (Conservation of Habitats) Regulations 2001.

The amendments prescribed by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 allow existing protections afforded by current wildlife legislation and transposed EC Council Directives to continue following the UK's exit from the European Union.

6.2 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was updated in February 2019 (MHCLG, 2019) thereby replacing the older version of July 2018. The new framework sets out in section 15 that to protect and enhance biodiversity and geodiversity, plans should:

- identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

The following should be given the same protection as habitats sites:

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

6.3 Natural Environment and Rural Communities (NERC) Act 2006 – Habitats and species of principal importance (England)

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act require the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England as required by the Act. In accordance with the Act the Secretary of State keeps this list under review and will publish a revised list if necessary, in consultation with Natural England.

The S41 list is used to guide decision-makers such as public bodies, including local authorities and utilities companies, in implementing their duty under Section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions, including development control and planning. This is commonly referred to as the 'Biodiversity Duty.'

Guidance for public authorities on implementing the Biodiversity Duty has been published by Defra. One of the key messages in this document is that 'conserving biodiversity includes restoring and enhancing species populations and habitats, as well as protecting them.' In England the administration of the planning system and licensing schemes are highlighted as having a 'profound influence on biodiversity

conservation.' Local authorities are required to take measures to "promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species. The guidance states that 'the duty aims to raise the profile and visibility of biodiversity, clarify existing commitments with regard to biodiversity, and to make it a natural and integral part of policy and decision making.'

In 2007, the UK Biodiversity Action Plan (BAP) Partnership published an updated list of priority UK species and habitats covering terrestrial, freshwater and marine biodiversity to focus conservation action for rarer species and habitats in the UK. The UK Post-2010 Biodiversity Framework, which covers the period from 2011 to 2020, now succeeds the UK BAP. The UK priority list contained 1150 species and 65 habitats requiring special protection and has been used as a reference to draw up the lists of species and habitats of principal importance in England.

In England, there are 56 habitats of principal importance and 943 species of principal importance on the S41 list. These are all the habitats and species found in England that were identified as requiring action in the UK BAP and which continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework.

6.4 Local Planning Policy

The relevant policies from Aylesbury Vale District Local Plan (Aylesbury Vale District Council, 2004) have not been saved therefore policies within the Proposed Submission: Vale of Aylesbury Local Plan 2013-2033 (Aylesbury Vale District Council, 2017) should be given consideration however, it should be noted that this plan has yet to be formally adopted.

NE2 Biodiversity and geodiversity

Protection and enhancement of biodiversity, geodiversity and the natural environment will be achieved by the following:

a. On greenfield sites, a net gain in biodiversity will be sought and on other sites no net loss and a net gain where possible in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources. These gains must be measurable using best practice in biodiversity and green infrastructure accounting and in accordance with any methodology set out in a future Supplementary Planning Document
b. If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted. Mitigation, compensation and enhancement measures must be secured and should be maintained in perpetuity

c. Internationally important sites and species will be protected. Avoidance of likely significant adverse effects should be the first option. Development likely to affect the Chiltern Beechwoods SAC international site will be subject to assessment under the Habitat Regulations and will not be permitted unless adverse effects can be fully mitigated

d. Development on or likely to have an adverse effect on sites of nationally important sites, such as Sites of Special Scientific Interest will not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where:

   i. the benefits of the development at the site significantly and demonstrably outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest, and

   ii. the loss can be mitigated and compensation can be provided to achieve a net gain in biodiversity/geodiversity.

e. Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of principal importance or the habitats of species of principal importance will not be permitted except in exceptional circumstances where the need for, and benefits of the development significantly and demonstrably outweigh the harm it would cause to the site, and the loss can be mitigated and compensation provided to achieve a net gain in biodiversity/geodiversity

f. The Council will, where appropriate, expect ecological surveys for planning applications to be undertaken by a suitably qualified person and consistent with nationally accepted standards (BS 42020:Biodiversity – Code of Practice for planning and development) as replaced

g. When there is a reasonable likelihood of the presence of protected or priority species or their habitats, development will not be permitted until it has been demonstrated that the proposed development will not result in a negative impact on these species or their habitats

h. Development proposals will be expected to promote site permeability for wildlife and avoid the fragmentation of wildlife corridors, incorporating features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value on site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors including water courses should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity

i. Planning conditions/obligations will be used to secure no net loss and net gains in biodiversity where possible by helping deliver Bucks and MK Biodiversity Action Plan targets in the biodiversity opportunity areas. On greenfield sites, the Council is seeking to achieve a net gain in biodiversity. Where development is proposed within or adjacent to a biodiversity opportunity area biodiversity

surveys and a report will be required to identify constraints and opportunities for biodiversity enhancement. Development which would prevent the aims of a biodiversity opportunity area being achieved will not be permitted. Where there is potential for development, the design and layout of the development, planning conditions or obligations will be used to secure biodiversity enhancement to help achieve the aims of the biodiversity opportunity area. A monitoring and management plan will be required for biodiversity features on site to ensure their long-term suitable management (secured through planning condition or Section 106 agreement).

6.5 Protected Species

European Protected Species (EPS)

The Conservation of Habitats and Species Regulations 2017 (as amended) transpose the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

"European protected species" (EPS) of animal are those which are shown on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended). They are subject to the provisions of Regulation 43 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:

a) intentionally or deliberately capture, injure or kill any wild animal included amongst these species;
b) possess or control any live or dead specimens or any part of, or anything derived from these species;
c) deliberately disturb wild animals of any such species;
d) deliberately take or destroy the eggs of such an animal; or
e) intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place.

For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—

a) to impair their ability—
    i. to survive, to breed or reproduce, or to rear or nurture their young; or
    ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
b) to affect significantly the local distribution or abundance of the species to which they belong.

Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in England are currently determined by Natural

England (NE) for development works. In accordance with the requirements of The Conservation of Habitats and Species Regulations 2017 (as amended), a licence can only be issued where the following requirements, known as the "Three Tests", are satisfied:

1. The proposal is necessary 'to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'
2. 'There is no satisfactory alternative'

The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Birds

All nesting wild birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

The Conservation of Habitats and Species Regulations 2017 (as amended) places duties on competent authorities (including Local Authorities and National Park Authorities) in relation to wild bird habitat. These provisions relate back to Articles 1, 2 and 3 of the EC Directive on the conservation of wild birds (2009/147/EC, 'Birds Directive') (Regulation 10 (3)) requires that the objective is the 'preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat, as appropriate, having regard to the requirements of Article 2 of the new Wild Birds Directive…' Regulation 10 (7) states: 'In considering which measures may be appropriate for the purpose of security or contributing to the objective in [Regulation 10 (3)] Paragraph 3, appropriate account must be taken of economic and recreational requirements'.

In relation to the duties placed on competent authorities under the 2017 Regulations (as amended), Regulation 10 (8) states: 'So far as lies within their powers, a competent authority in exercising any function [including in relation to town and country planning] in or in relation to the United Kingdom must use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds (except habitats beyond the outer limits of the area to which the new Wild Birds Directive applies).'

7 References

Aylesbury Vale District Council (2017). *Proposed Submission: Vale of Aylesbury Local Plan 2013-2033*

BCT & ILP (2018). *Guidance Note 08/18 Bats and artificial lighting in the UK.* Bats and the Built Environment series

CIEEM (2017). *Guidelines for preliminary ecological appraisal, 2nd edition*. Chartered institute of Ecology and Environmental management, Winchester

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

Gov.uk (2015). *Guidance. Bats: surveys and mitigation for development projects*. Natural England and Department for Environment, Food & Rural Affairs, Worcester.

Herpetological Conservation Trust (2008). *Habitat Suitability Index – Guidance Notes*. National Amphibian and Reptile Recording Scheme. HCT.

JNCC (2010). *Handbook for Phase 1 habitat survey - a technique for environmental audit*. Joint Nature Conservation Committee, Peterborough.

Maddock, A. (ed) (2011). *UK Biodiversity Action Plan Priority Habitat Descriptions (updated Dec. 2011).* Joint Nature Conservation Committee, Peterborough.

MHCLG (2019). *National Planning Policy Framework*. Ministry of Housing Communities and Local Government

Natural England (2019). *GCN Method Statement WML-A14-2 (Version March 2019) the Conservation of Habitats and Species Regulations 2017 (as amended) Method Statement to support application for licence under Regulation 55(2)(e) in respect of great crested newts Triturus cristatus*. Natural England, Worcester.

Stace, C. (2019). *New Flora of the British Isles, fourth edition*. Cambridge University Press, Cambridge.

Appendix 1 – Photographs

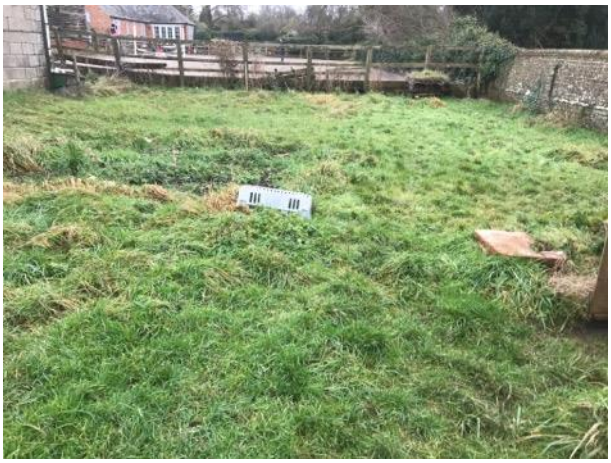


Photo 1: Improved grassland in the north west of the site

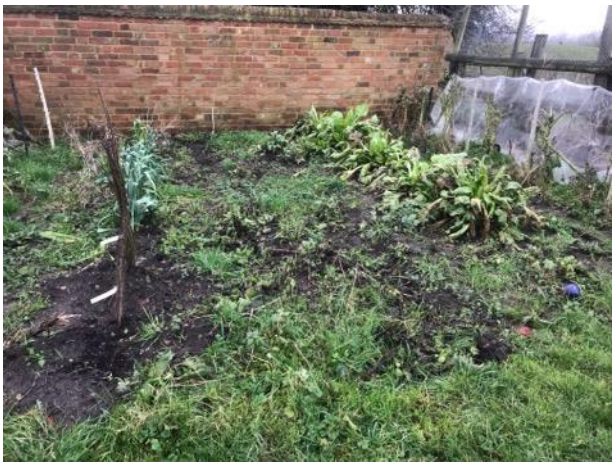


Photo 2: Arable/ vegetable patch in the north west

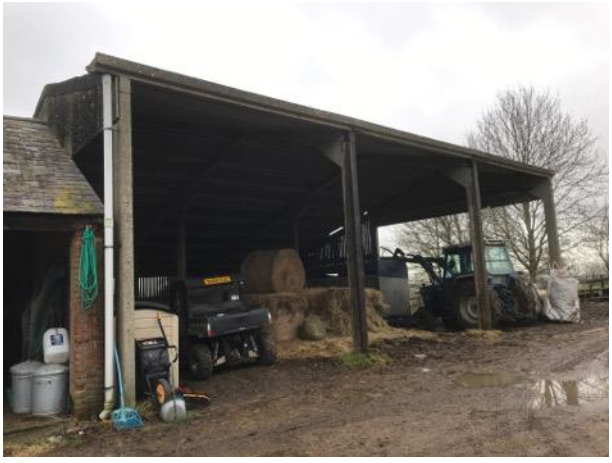


Photo 3: East elevation of Building B1

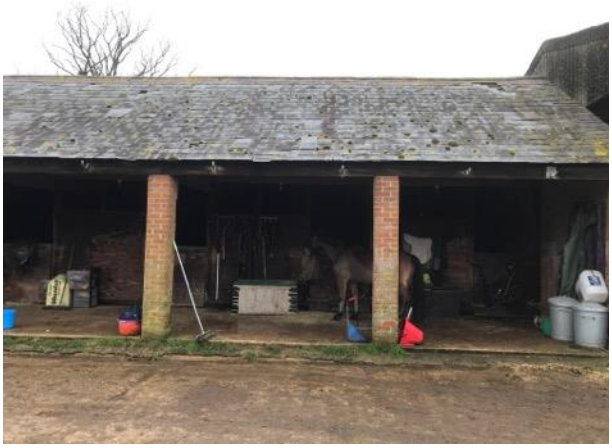


Photo 4: East elevation of Building B2

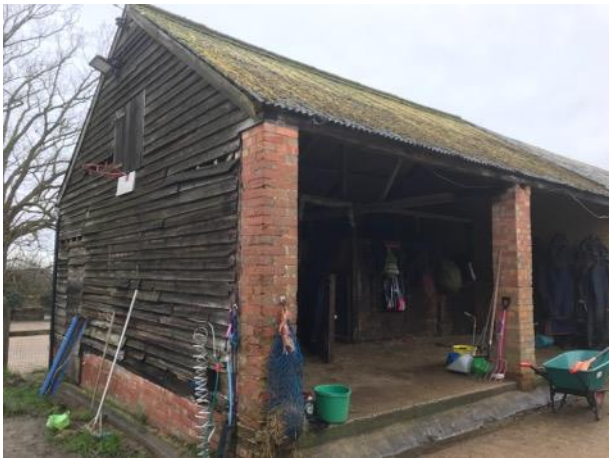


Photo 5: South east elevation of Building B3

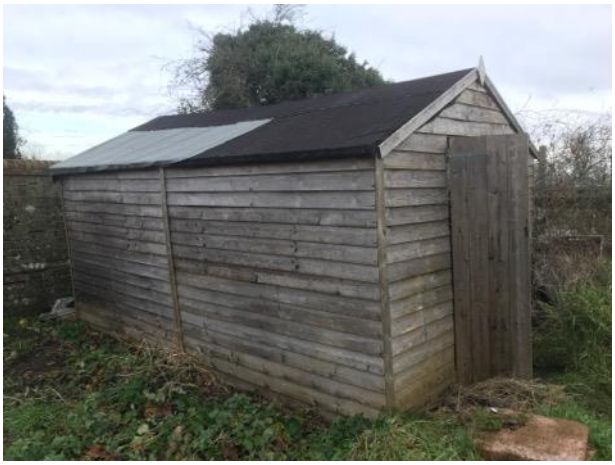


Photo 6: South east elevation of Building B4

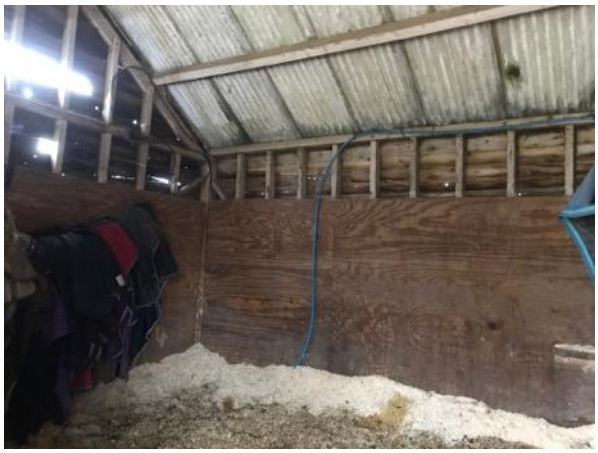


Photo 7: Interior of Building B3

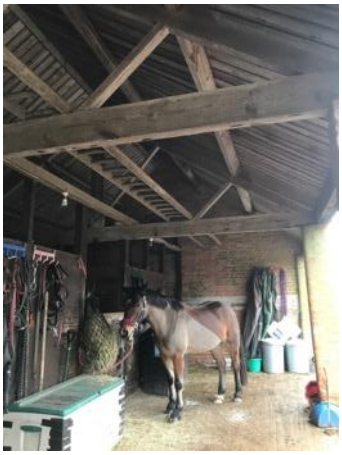


Photo 8: Interior of Building B2

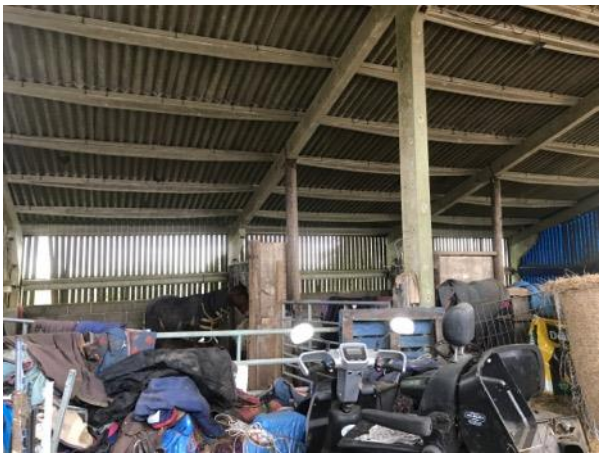


Photo 9: Interior of Building B1

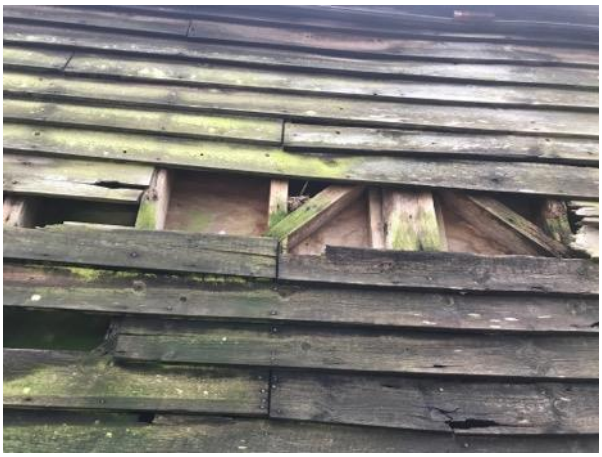


Photo 10: Holes and gaps within weatherboarding

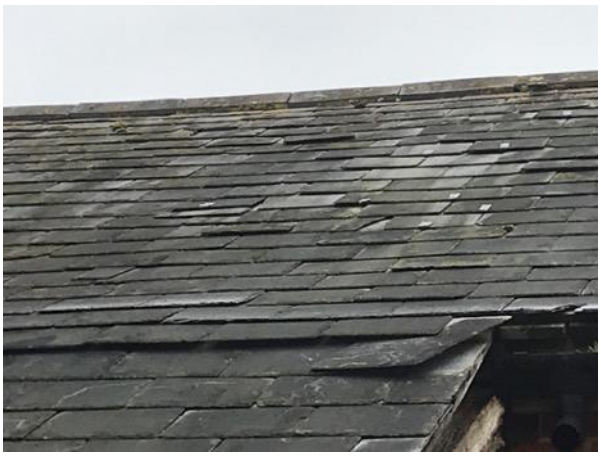


Photo 11: Raised or slipped tiles

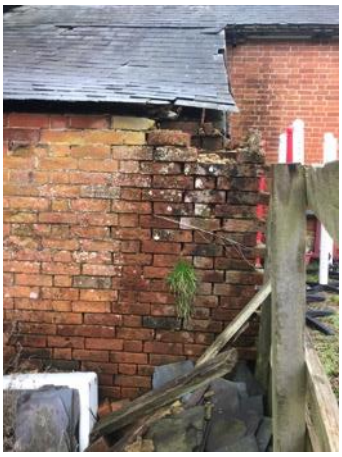


Photo 12: Gaps within the brickwork

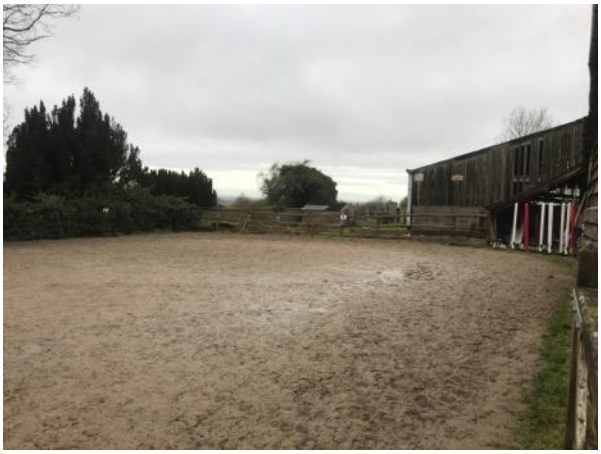


Photo 13: Bare ground / horse riding arena

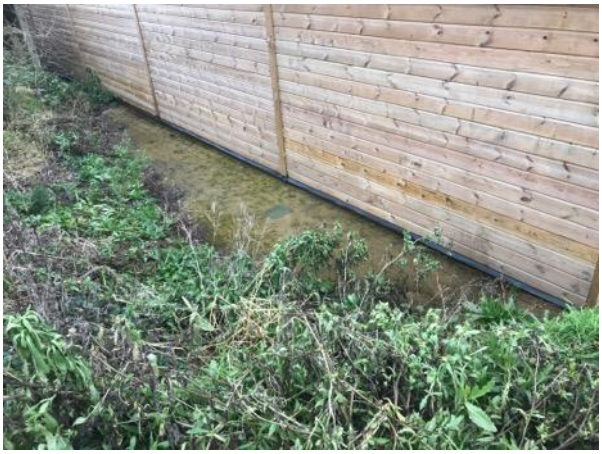


Photo 14: Waterbody TN2 – standing water north east of the site

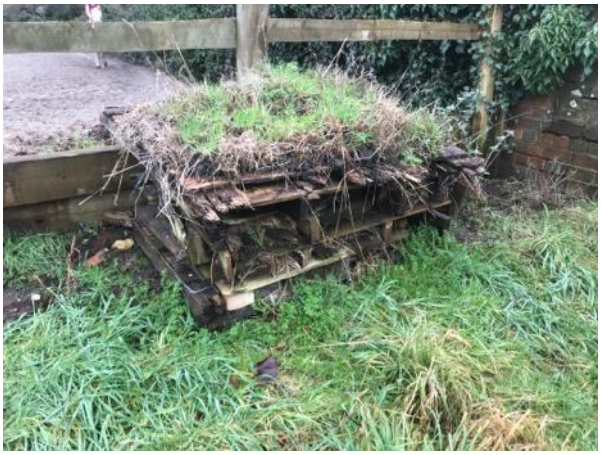


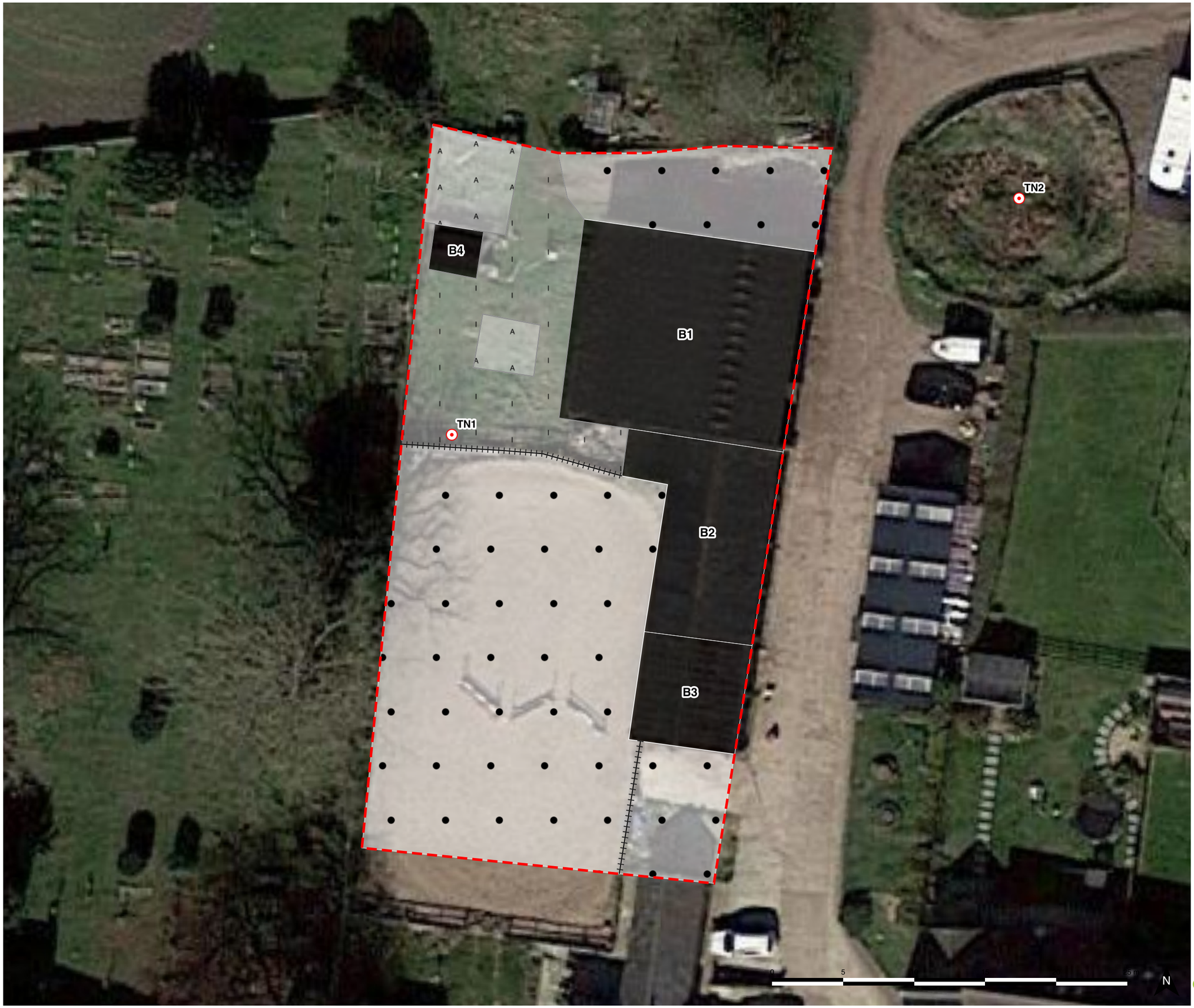
Photo 15: Target note TN1 – pile of wooden pallets

Appendix 2 – Figures

Figure 1: Phase 1 habitat map

Figure 2: Map of ponds

Next page



LEGEND

Site Boundary

Phase 1 Habitats

- Improved grassland
- Arable
- Buildings
- Bare ground
- Fence
- Target note

Location (1:25000):

Project:

Church Farm

Client:

Mr and Mrs Myatt

Drawing Title:

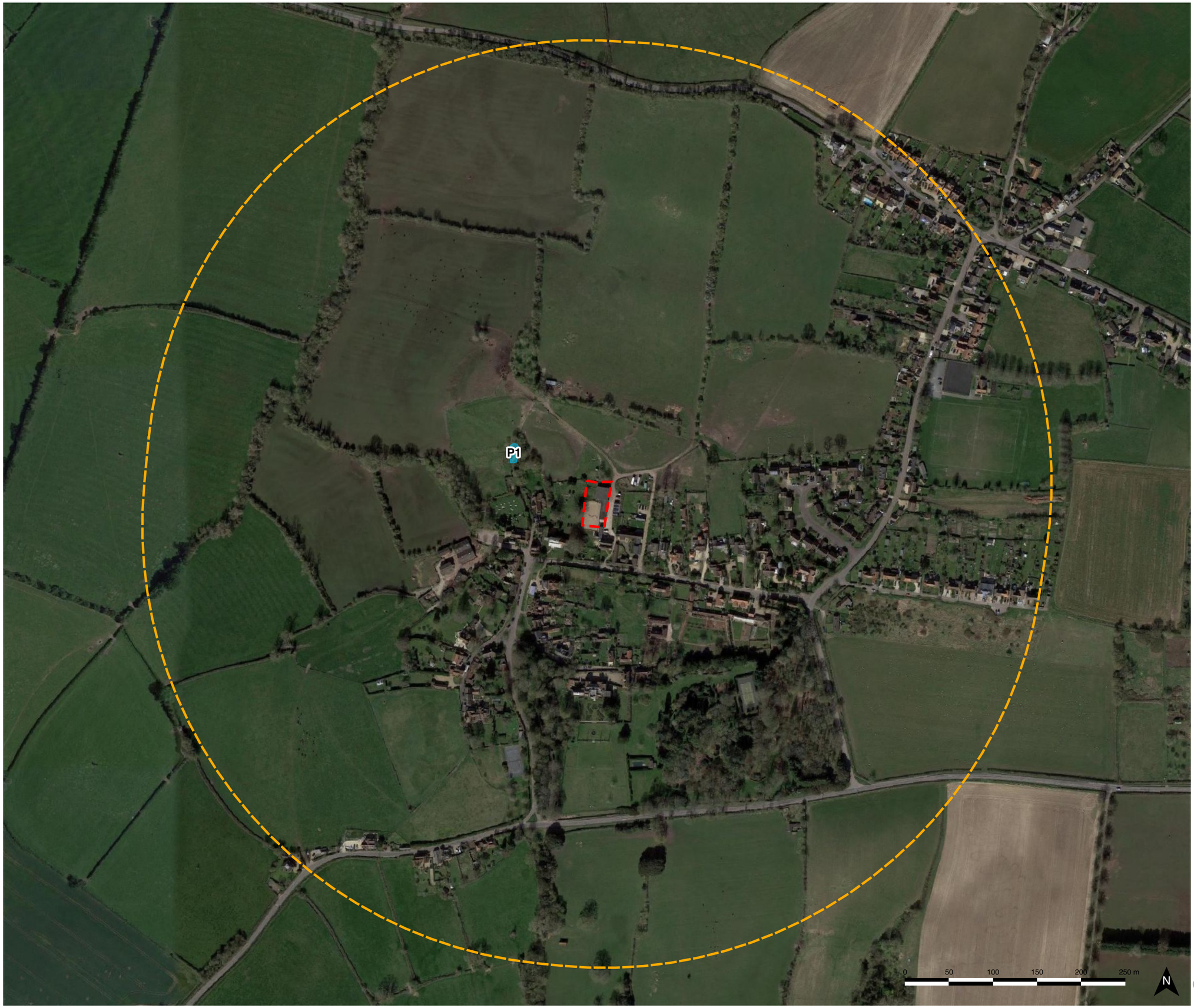
Phase 1 Habitats Map

Drawing No.: EBD_1714_DR001	*Scale (@A3):* 1:254
Central Grid Ref.: SP 78292 21418	*Date Drawn:* 10/02/2021
Drawn by: EB	*Approved by:* BG

ecologybydesign

Hampden House, Monument Park, Chalgrove, Oxon, OX44 7RW

t: 01865 893345
e: emilyb@ecologybydesign.co.uk
w: www.ecologybydesign.co.uk



LEGEND

- Site boundary
- 500m Buffer
- Standing water

Location (1:250000):

Project:

Church Farm

Client:

Mr and Mrs Myatt

Drawing Title:

Map of Ponds

Drawing No.: EBD_1714_DR002

Scale (@A3): 1:4100

Central Grid Ref.: SP 78292 21418

Date Drawn: 10/02/2021

Drawn by: EB

Approved by: BG

ecologybydesign

Hampden House, Monument Park, Chalgrove, Oxon, OX44 7RW

t: 01865 893345
e: emilyb@ecologybydesign.co.uk
w: www.ecologybydesign.co.uk

Appendix 3 – Plant Species List

Common Name	Latin
Leeks	*Allium porrum*
Creeping thistle	*Cirsium arvense*
Cock's-foot	*Dactylis glomerata*
Strawberry	*Fragaria × ananassa*
Cleavers	*Galium aparine*
Meadow crane's-bill	*Geranium pratense*
Ivy	*Hedera helix*
Common ragwort	*Jacobaea vulgaris*
White deadnettle	*Lamium album*
Red deadnettle	*Lamium purpureum*
Perennial rye-grass	*Lolium perenne*
Passion flower	*Passiflora* sp.
Creeping buttercup	*Ranunculus repens*
Bittersweet	*Solanum dulcamara*
Smooth sowthistle	*Sonchus oleraceus*
Germander speedwell	*Veronica chamaedrys*

Appendix 4 – Definitions of the level of Habitat Value

Geographic level of Value	Examples
International value	Ramsar Sites, Special Protection Areas, Biosphere Reserves, Special Areas of Conservation. Sites supporting populations of internationally important species.
National value	SSSIs or non-designated Sites meeting SSSI selection criteria, NNRs, Marine Nature Reserves, NCR Grade 1 Sites. Sites containing viable areas of key habitats identified in the UK Biodiversity Action Plan.
Regional value	Sites containing viable areas of threatened habitats listed in a Regional BAP (or some Natural Areas), comfortably exceeding SINC criteria, but not exceeding SSSI criteria.
County / Metropolitan	Sites meeting the criteria for county or metropolitan designation (SINC, CWS, etc.). Ancient semi-natural woodland, LNRs or viable areas of key habitat types listed in county BAPs/Natural Areas.
District / Borough	Undesignated Sites or features considered to appreciably enrich the habitat resource in the District or Borough.
Parish / Neighbourhood	Undesignated Sites or features which appreciably enrich the habitat resource within the Parish or Neighbourhood.
Negligible value	Low grade and widespread habitats.

Appendix 5 – Definitions of the level of Species Value

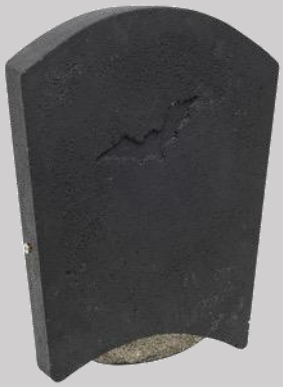
Geographic level of Value	Examples
International	Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. i.e. it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km squares in the UK (categories 1 and 2 in the UK BAP) or of uncertain conservation status or of global conservation concern in the UK BAP. A regularly occurring, nationally significant population/number of any internationally important species.
National	Any regularly occurring population of a nationally important species which is threatened or rare in the region or county (see local BAP). A regularly occurring, regionally or county significant population/number of any nationally important species.
Regional	Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation; A regularly occurring, locally significant number of a regionally important species.
County/ Metropolitan	Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan "red data book" or BAP on account of its regional rarity or localisation; A regularly occurring, locally significant number of a County/Metropolitan important species.
District / Borough	A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation; A regularly occurring, locally significant number of a District / Borough important species during a critical phase of its life cycle.
Parish / Neighbourhood	Species that are not threatened but are valued at a local level on intrinsic appeal.
Negligible	Common or widespread species.

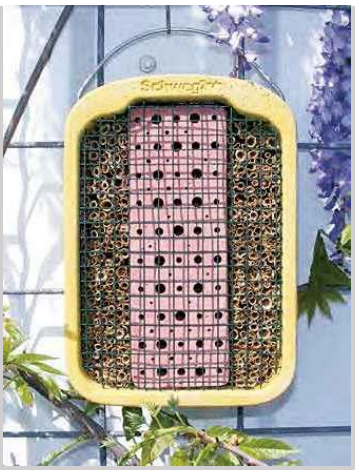
Appendix 6 – Bat Core Sustenance Zones

Table adapted from Table 3.5 of the Bat Survey Guidelines (Collins, 2016)

Core Sustenance Zones	Species
1 km	Whiskered/Brandt's bat (*Myotis mystacinus/brandtii*), Bechstein's bat (*Myotis bechsteinii*)
2 km	Lesser horseshoe (*Rhinolophus hipposideros*), Daubenton's bat (*Myotis daubentonii*), common pipistrelle (*Pipistrellus pipistrellus*)
3 km	Greater horseshoe (*Rhinolophus hipposideros*), Leisler's bat (*Nyctalus leisleri*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius' pipistrelle (*Pipistrellus nathusii*), brown long-eared bat (*Plecotus auritus*), grey long-eared bat (*Plecotus austriacus*)
4 km	Natterer's bat (*Myotis nattereri*), noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*)
6 km	Barbastelle (*Barbastella barbastellus*)

Appendix 7 – Proposed Enhancements

Products	Description
	**Schwegler Bird Box 1B (or similar)** The 1B nest box will attract a wide range of species and is available with different entrance hole sizes to prevent birds from competing with each other for the boxes. https://www.nhbs.com/1b-schwegler-nest-box
	**3S Schwegler Starling Nest Box (or similar)** A versatile box that attracts other species such as woodpeckers, nut hatches and pied flycatchers. http://www.nhbs.com/title/177925/3s-schwegler-starling-nest-box
	**Beaumaris Woodstone bat Box** Suitable for hanging on trees or external walls/fences and made of long lasting woodstone, this bat box has a narrow internal cavity favoured by crevice-roosting species such as soprano pipistrelle. With an entrance hole at the bottom, this box is self-cleaning and requires little-no maintenance. https://www.nhbs.com/beaumaris-woodstone-bat-box

Products	Description
	**Schwegler Clay and Reed Insect Nest (or similar)** A woodcrete / woodstone surrounded insect nest suitable for sunny, sheltered locations. The different sections provide a range of habitats to suit varying types of invertebrates. http://www.nhbs.com/title/181090/schwegler-clay-and-reed-insect-nest
	**Hedgehog gravel boards** A gravel board for use with slotted posts to allow hedgehogs free passage between gardens. Holes 13cm x 13cm could be installed at the base of any gravel board. https://www.jacksons-fencing.co.uk/product/sc_667610/hedgehog-gravel-board-for-use-with-slotted-posts-1.83m-x-150-x-28mm-incl.1-x-end-packer-1-x-length-packer-jakcured