Hartnolls Farm:
Ecological Appraisal

Date: 19 November 2020

For: Waddeton Park Ltd

Ref: eg18835.002

Produced by:
Environmental Gain Ltd
The Old Church School
Butts Hill
Frome
Bath
BA11 1HR

T: 01225 459 564
E: enquiries@engain.com
www.engain.com

Author: Jack Spurway,
BSc (Hons), MCIWEM

Approved: Matt Davies,
BSc (Hons), MSc, MCIEEM

CONTENTS

ABBREVIATIONS

CIEEM	Chartered Institute of Ecology and Environmental Management
DBRC	Devon Biodiversity Records Centre
GLTA	Ground Level Tree Assessment
LNR	Local Nature Reserve
MAGIC	Multi-Agency Geographic Information for the Countryside
SSSI	Site of Special Scientific Interest
TN	Target Note
UK	United Kingdom

1 INTRODUCTION

1.1 Engain was commissioned by Waddeton Park Ltd to carry out an ecological survey of a proposed development site known as Hartnoll's Farm near Tiverton in Devon. Engain has surveyed this site extensively in the past, and the purpose of this latest survey was to verify the key findings of previous surveys and undertake targeted protected species surveys in the context of a new development plan which covers a much smaller area than has previously been considered. Appendix 1 shows the new survey area in the context of the area previously surveyed by Engain.

1.2 The scope of the appraisal was based on the Guidelines for Preliminary Ecological Appraisal, published in 2012 by the Chartered Institute of Ecology and Environmental Management (CIEEM). This included a desk study to identify any notable or protected sites, habitats or species on or near to the site, a field survey to map and describe the habitats of the site, and an assessment of the site's potential to support any notable or protected species.

1.3 The purpose of this report is to:

1. Describe the ecological baseline of the site and assess the importance of its ecological features (*e.g.* its habitats and species);
2. Determine if any further, more detailed surveys are required;
3. Identify any ecological constraints to the development proposal and describe how negative ecological effects will be avoided;
4. Describe appropriate measures to mitigate negative ecological effects that cannot be avoided; and
5. Describe how opportunities for ecological enhancement will be integrated into the proposal.

1.4 Further details of the survey and assessment methods are given in Section 4.

2 SITE LOCATION AND GENERAL DESCRIPTION

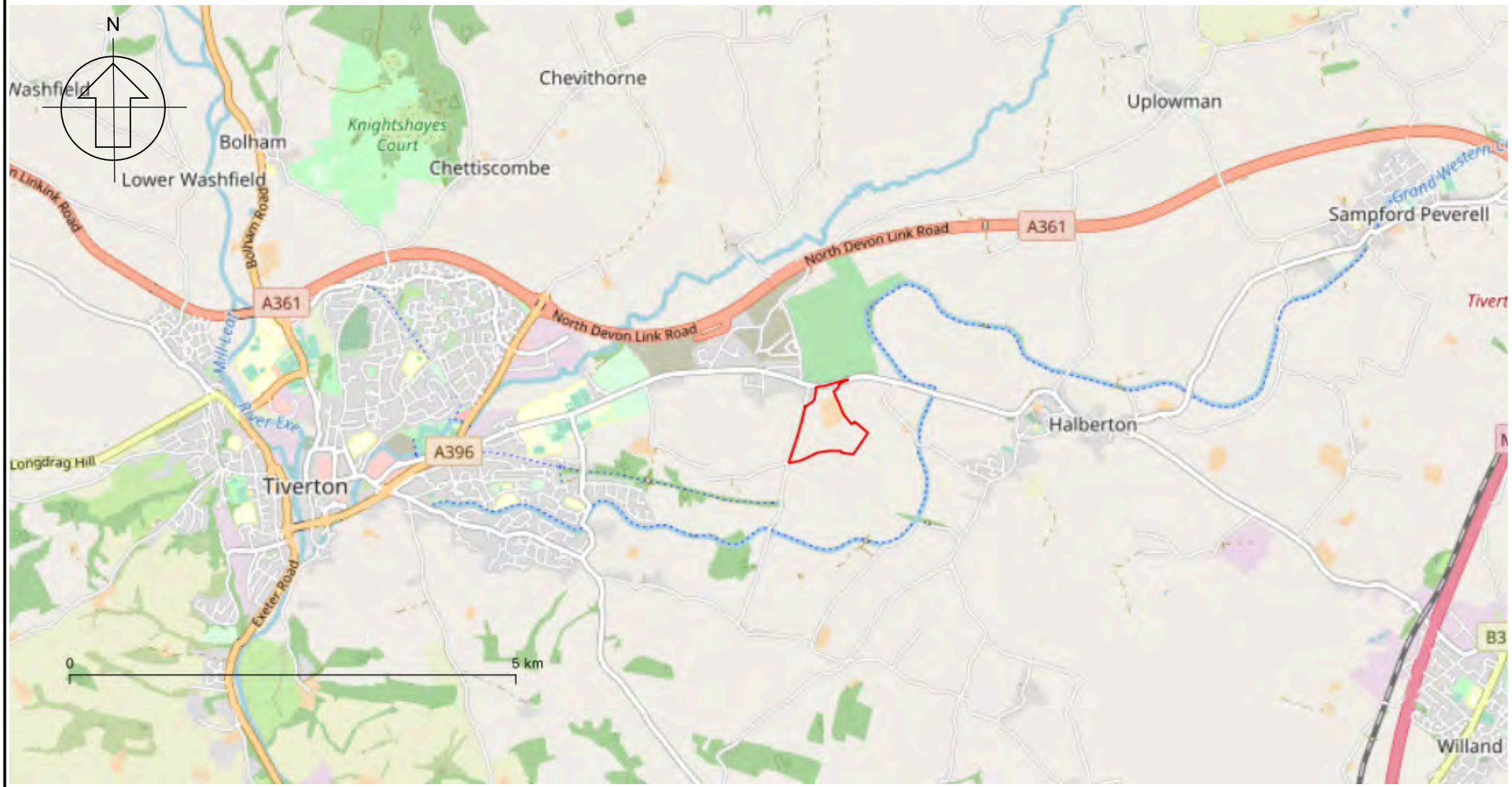
Site Location

2.1 The site is located to the east of Tiverton, Devon approximately 2km to the east of the town centre. The Ordnance Survey grid reference for the centre of the site is SS 983 128.

General Description

2.2 The site is bounded to the north by Post Hill and an unnamed road to the west. Agricultural buildings at Hartnoll's Farm and a mature hedgerow form the southern boundary of the site. Hartnoll's Business Park is located in the north-western area of the site this area is not included within the survey area. There are three neighbouring residential properties at the north western boundary area of the site.

2.3 In a broader context the site area is well connected to the wider landscape by the nearby Grand Western Canal, hedgerows, woodland and tributaries of the River Lowman to the west. The wider landscape consists of arable and cattle grazed farmland.



engain

Environmental Gain Ltd
The Old Church School, Butts Hill
Frome, BA11 1HR
T: 01225 459 564
enquiries@engain.co.uk www.engain.com

Site Location

ON BEHALF OF
Waddeton Park Ltd

PROJECT
Hartnolls Farm, Tiverton

SCALE
NTS

DATE
30.06.20

PROJECT NO
eg18835 002

APPROVED
JS

TITLE
Figure 1: Site Location Plan

3 LEGISLATION AND POLICY

Introduction

3.1 Wildlife in the UK is protected through European Directives, which are transposed into national legislation, supported by a range of national and local policy and guidance. Recent changes in planning policy and legislation have gone beyond site and species-specific protection to set broader goals for the conservation and enhancement of the natural environment and halting the continued loss of biodiversity in the UK.

3.2 Development can contribute to these goals through, for example, protecting the best features of a site and making them a valued part of the site's new use, and by incorporating enhancements to improve the site's value for wildlife.

3.3 The sections below provide a brief guide to the principal legislation and policy that sets the terms of reference for ecological appraisals in the UK. This is not intended to be a full description of all the obligations enacted by the various referenced documents, which should be referred to in their original form for the full details.

3.4 It is the responsibility of those involved with the development works to ensure that wildlife protection and nature conservation legislation is complied with at every stage of the project. Such legislation applies even in the absence of related planning conditions.

Relevant Legislation

3.5 The principal pieces of legislation relating to wildlife that are of relevance to this report are:

1. *EU Habitats Directive (1992);*
2. *EU Birds Directive (1979);*
3. *Conservation of Habitats and Species (Amendment) Regulations 2017;*
4. *The Wildlife and Countryside Act 1981 (as amended);*
5. *The Countryside and Rights of Way Act 2000;*

6. *The Natural Environment and Rural Communities Act 2006;*
7. *The Protection of Badgers Act 1992* (which is extended under *The Hunting Act 2004*).

3.6 The main focus of much of this legislation is the protection of sites and species, the delineation of precisely how they are protected, and what actions would constitute an offence. This report provides guidance on whether any protected features are likely to be affected by the development proposal, and how offences under the legislation can be avoided.

Relevant Policy

3.7 Regional and local planning authorities are obliged to follow key principles to ensure that the potential impacts of planning decisions on biodiversity conservation are fully considered. *The National Planning Policy Framework* sets out the Government's policies for the protection and enhancement of biodiversity through the town and country planning system. This encourages the contribution to, and enhancement of, natural and local environments through minimising the impacts on biodiversity and providing net gains in biodiversity where possible.

3.8 Planning authorities are required to follow key principles in their consideration of potential impacts of planning decisions on biodiversity conservation. *Circular 06/05: Biodiversity and Geological Conservation* provides guidance on the application of the law relating to planning and nature conservation and complements the *National Planning Policy Framework.*

3.9 The presence of species protected under UK and European legislation are a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Ecological appraisals and protected species surveys are therefore designed to provide local planning authorities with the baseline information they require in order fully consider the potential ecological effects of a planning application.

3.10 *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, provides the *UK Biodiversity Action Plan* and country level biodiversity

strategies for England, based on the list of habitats and species listed under *The Natural Environment and Rural Communities Act 2006*.

3.11 Local biodiversity action plans give valuable information on local conservation priorities. The *Devon Biodiversity Action Plan* is the local biodiversity action plan relevant to this site.

3.12 The site is within the District of Mid Devon, and the Mid Devon Local Plan therefore sets the relevant local planning policies. The Local Plan Part 3 contains the Development Management Policies, of which the following are of particular relevance to this site:

- DM28: Green infrastructure in major development; and
- DM30: Other protected sites.

4 METHODOLOGY

Desk Study

3.13 Data was provided by Devon Biodiversity Records Centre (DBRC) in June 2018 in order to update the data previously analysed during the original surveys and assessments. The search area was set at a radius of 2 km from the site boundary for protected and notable species (extended to 4 km for bats and for designated sites).

3.14 Online resources were also used, including the UK government's online resource for geographic information about the natural environment (MAGIC Map).

Extended Phase 1 Habitat Survey

3.15 A site verification survey was conducted on 21st April 2020. The field survey methods were based on the Phase 1 Habitat Survey methodology (Joint Nature Conservancy Council, 2010). The main habitat types were mapped using standard habitat colours. The additional (extended) aspect of the survey method involves the identification of habitats that may support notable species and searching for evidence of such species.

3.16 Target notes (see Appendix 2: Habitat Plan) are used to indicate points of ecological interest and they are referred to in this report.

3.17 Considering the site location, context and the habitats it contains, the following protected species are considered in this report:

- badgers (*Meles meles*);
- bats;
- breeding birds;
- dormice (*Muscardinus avellanarius*); and
- reptiles.

3.18 Historic protected species surveys across a larger area by Engain have found that great crested newt (*Triturus cristatus*), otter (*Lutra lutra*), and water vole

(*Arvicola amphibius*) are not present onsite. These species are not considered further in this report.

3.19 The site was also searched for non-native, invasive plant species, with particular care to search for the most commonly occurring and problematic species i.e. *Fallopia japonica* (Japanese Knotweed), *Impatiens grandiflora* (Indian Balsam) and *Heracleum mantegazianum* (Giant Hogweed).

Ground Level Tree Assessment

3.20 A Ground Level Tree Assessment was (GLTA) was conducted on 25th May 2018 by an experienced ecologist. The methodology of the assessment followed the relevant guidelines (Collins, 2016 and Mitchell-Jones & McLeish, 2004).

3.21 External inspection of the trees on site took place during daylight hours, with evidence of previous usage and current suitability for bats being searched for. Inspections involved searching for features that could be used by bats (e.g. cavities, crevices, loose bark, woodpecker holes, limb loss and niches) and for evidence of bats including urine or oil stains, feeding signs (e.g. moth wings, etc.), droppings, social calls or direct observations of bats.

3.22 Trees are separated into four categories. Category 3 trees have no potential to support bats. Category 2 trees have one or more feature, which may have potential to support individual bats. Alternatively Category 2 trees may have no obvious potential, but be of a size and age, with limited visibility to the crown, so that elevated surveys may be required. Category 1 trees have definite roosting potential, supporting one feature with potential for a larger roost. They may also have features with potential for individual roosts. Category 1* trees have more than one highly suitable feature capable of supporting larger roosts.

Assessment of Ecological Value

3.23 The habitats and species of principal importance for biodiversity in England are listed on *Section 41* of *The Natural Environment and Rural Communities Act 2006*. In Scotland they are listed on The Scottish Biodiversity List.

3.24 The assessment of the relative nature conservation value of the features at this site is also assessed against published criteria wherever possible. The value of

habitats in the UK is covered in a wide variety of literature, including Usher (1986) and Ratcliffe (1977).

3.25 The main criteria against which the value of habitats is assessed are rarity, diversity, naturalness and extent. High importance is also attached to habitats that have not been subject to agricultural intensification, and which often depend on traditional forms of management, such as ancient semi-natural woodland, species-rich meadows and traditionally managed grasslands and moorlands.

Previous Protected Species Surveys

3.26 The table below lists the historic surveys that Engain have undertaken at this site. The majority of these surveys covered a much larger area than that which is under consideration now.

Table 3-1. Record of Previous Surveys

Survey / Evaluation	Methods	Date(s)
Ecological Appraisal	Phase 1 Habitat Survey, assessment for protected species	July 2012 and May 2018
Great Crested Newt Surveys	Presence / Absence surveys following NE and Froglife guidelines	May – June 2012
Desktop Data	Data request from BBRC	April 2013
Dormouse Survey	Presence /absence surveys using 150 nest tubes spaced at 20m intervals	April – November 2013
Hedgerow Survey	Surveys to determine 'importance of hedgerows as defined in *The Hedgerow Regulations 1997*	May 2013
Bat Transect Surveys	Three surveyors walking transects across the whole site. Six dusk transects and one dawn transect. Following BCT Guidelines (2nd Edn)	June – October 2013
Static Detector Bat Surveys	Three Anabat SD2 recorders left for 5-7 nights on seven occasions	June – October 2013

Survey / Evaluation	Methods	Date(s)
Badger Survey	Following Mammal Society guidelines	May and July 2013
Reptile Surveys	150 reptile mats set out in suitable habitat and checked seven times	June – September 2013
Breeding Bird Surveys	Territory mapping following BTO's CBC techniques	April, May and June 2013
Verification of Ecological Appraisal	Phase 1 Habitat Survey, assessment for protected species	September 2013
Otter and Water Vole Surveys	Following NRA guidelines	September 2013
Ground Level Tree Assessment for Bats	Following BCT Guidelines (2nd Edn)	March 2014 and May 2018

Badger Survey 2020

3.27 During the verification site visit conducted on 21st of April 2020 a systematic search for evidence of badgers using the site was undertaken. Evidence includes features such as snuffle holes, latrines, setts or prominent mammal runs.

Bat Activity Surveys 2020

3.28 Bat activity surveys were carried out on 29th of April 2020, 26th May 2020 and 9th June 2020. The methods were in accordance with standard guidance (Collins 2016; Mitchell-Jones, 2004; and Mitchell-Jones & McLeish, 2004).

3.29 One transect route was surveyed during each activity survey, this is shown within the Bat Activity Transect Plan appended to this report at Appendix 3. The transect survey route was designed to cover the total footprint of the site and incorporated specific features of interest at listening stops. The transect route was walked by a single surveyor in alternate directions during each survey.

3.30 The aim of these surveys was to ascertain if any specific areas at the site were used by bats for foraging or commuting.

3.31 Details of the surveys are provided within the table below.

Table 3-2. 2020 Bat Transect Surveys

Date	Time	Start Temp (°C)	End Temp (°C)	Weather Conditions
29.04.2020	20:29 – 22:59	12	10	Wind: 4, Rain: 2, Cloud: 7
26.05.20	21:11 – 23:00	15	12	Wind: 0, Rain: 0, Cloud: 1
09.06.20	21:23 – 23:53	14	13	Wind: 1, Rain: 0, Cloud: 6

Static Detector Bat Surveys 2020

3.32 Static detectors (Anabat Express) were installed at two locations around the site over three separate periods in 2020 between 30th April to 5th May, 21st to 26th May and 9th to 15th June. Appendix 4 details the locations of the static detectors.

3.33 The aim of these surveys was to ascertain if any specific areas of the site were used by bats for foraging or commuting.

Reptile Surveys 2020

3.34 Reptile surveys were carried out in accordance with standard guidance and methodologies outlined in the Herpetofauna Worker's Manual (Gent & Gibson, 2003) and Froglife Advice Sheet 10 (Froglife, 1999).

3.35 A total of 75 reptile mats (sections of roofing felt approximately 1m x 0.5m) were distributed throughout the site on the 30th of April 2020. See the Reptile Matt Location Plan at Appendix 5 for reference, mats were position in suitable reptile habitat along the site margins.

3.36 They were left to bed in before being checked seven times, details of each survey visit are provided in the table below.

Table 3-3. Reptile Surveys

Date	Time	Air Temp (°C)	Weather Conditions
05.05.2020	09:00 – 11:00	10-12	Wind: 2, Rain: 3, Cloud: 8
06.05.20	08:30 – 09:45	10-12	Wind: 1, Rain: 0, Cloud: 0
08.05.20	08:20 – 10:00	10-14	Wind: 1, Rain: 0, Cloud: 2
12.05.20	16:00 - 17:00	12-14	Wind: 1, Rain: 0, Cloud: 1
14.05.20	08:30 – 09:30	8-10	Wind: 1, Rain: 0, Cloud: 2
19.05.20	08:45 – 09:40	6-8	Wind: 1, Rain: 0, Cloud: 7
21.05.20	12:40 – 14:10	19 – 20	Wind: 1, Rain: 0, Cloud: 1

Limitations

3.37 Engain cannot verify the accuracy of third party information.

3.38 Extended Phase 1 Habitat Surveys are not definitive and represent a snapshot of the ecological status of a site. Data records help to provide a historical context, however the absence of evidence of a species does not prove that it does not use the site.

3.39 The previous surveys were conducted between 6 and 8 years ago. The implications that this has for the validity of conclusions made about various potential receptors is discussed in the following sections.

4 RESULTS

Desk Study

Statutory Designated Site Records

4.1 There are three statutory designated sites within 4km of the site:

- Tidcome Lane Fen is a Site of Special Scientific Interest (SSSI) is located approximately 980m to the west of the site and is designated for its unimproved marshy grassland.
- The Grand Western Canal Country Park is a Local Nature Reserve (LNR) that is located along at its closest point approx. 260m to the east of the site. It is designated for its waterfowl and other bird species, as well as its hedgerows, bankside vegetation, otters, orchids and invertebrate population.
- Palmerston Park Woods LNR is a disused railway line approximately 4km west of the site.

Non-Statutory Designated Site Records

4.2 There are 6 non-statutory designated sites within 2km of the site.

- Tiverton Branch Railway
- May's Copse
- Dinhams
- High Street
- Doddeswick Farm (E)
- Lower Herne

4.3 Of these sites the most relevant is the Tiverton Branch Railway that runs approx. 280m to the south of the proposed development site.

Habitats and Vegetation

4.4 The vegetation and habitats observed onsite during 2020 remain very similar to those recorded during the original surveys. The site character continues to be dominated by the arable landscape, with most fields cultivated for barley or other arable crops. During the original habitat survey several fields had agriculturally improved grassland, and most of this has since been ploughed under and sown with arable crops. the crops are sown up to the field edges and consequently there is little in the way of field-margin vegetation.

4.5 The boundary hedgerows recorded during the original surveys all remain intact and have the same diversity of woody species. They retain the physical characteristics recorded during the original surveys, which included large earth banks supporting many of the hedges, and large standard trees dotted along the hedgerows. The field-layer vegetation under the hedges largely consists of semi-ruderal species (perhaps due to spray-drift from the adjacent fields) although some shade-tolerant species such as lords-and-ladies (*Arum maculatum*) and dog's mercury (*Mercurialis perennis*) were recorded.

4.6 Individual mature broadleaved trees mostly ash (*Fraxinus excelsior*) and oak (*Quercus robur*) are present throughout the hedgerows across the site, some of these are of considerable age and have the characteristics of veteran trees.

4.7 There was no evidence of invasive plant species being found during any of the surveys.

Fauna

Badgers

4.8 During previous surveys at the site, four active badger setts were recorded, all of these setts were located to the south of the area now under consideration close to the disused railway embankment.

4.9 During the 2020 surveys no setts, latrines or snuffle holes were observed. However it is likely that badgers forage across the site.

Bats

4.10 During the historic bat surveys undertaken at the site, nine species of bat were recorded as follows:

- common pipistrelle (*Pipistrellus pipistrellus*);
- soprano pipistrelle (*Pipistrellus pygmaeus*);
- noctule (*Nyctalus noctula*);
- Leisler's (*Nyctalus leisleri*);
- whiskered (*Myotis mystacinus*);
- serotine (*Eptesicus serotinus*);
- Daubenton's (*Myotis daubentonii*);
- greater horseshoe (*Rhinolophus ferrumequinum*); and
- lesser horseshoe (*Rhinolophus hipposideros*).

4.11 The vast majority of bat registrations were of the two pipistrelle species – which were regularly recorded foraging and commuting along the hedgerows. Horseshoe bats made up a very small proportion of the recordings.

4.12 During 2020 the bat surveys undertaken at the site recorded the following ten species of bat;

- common pipistrelle;
- soprano pipistrelle;
- noctule;
- serotine;
- Daubenton's;
- lesser horseshoe;

- brown long eared (*Plecotus auritus*);
- grey long eared (*Plecotus austriacus*)
- Brandt's (*Myotis brandtii*);
- Natterer's (*Myotis nattereri*).

4.13 As with the historic data the vast majority of the bat registrations were of the two pipistrelle species and the next most numerous bat species recorded was noctule with only occasional records of Brandt's and Daubenton's. Of the above ten species; serotine, Natterer's, brown long eared, grey long eared and lesser horseshoe were only recorded on one occasion each. All of the bat species were recorded foraging and commuting along the hedgerows, with very little to no activity over the open fields.

4.14 The mix and abundance of species recorded during the 2013 and 2020 surveys is reflected in the results of the 2018 data search. This contains records of the same species, with the addition of three records of brown long eared (absent from the 2013 survey data) and without any records of Leisler's bat (which was recorded in 2013). The desktop data does not indicate that there are any significant roosts on or near to the site.

4.15 The original survey identified 21 trees with potential to support roosting bats within the area now under consideration. All of these trees are still present and have broadly the same features and roosting potential.

Breeding Birds

4.16 The original breeding bird surveys recorded 29 species across the site and in the local area the most common were woodpigeon (*Columba palumbus*), blackbird (*Turdus merula*), carrion crow (*Corvus corone*), rook (*Corvus frugilegus*), wren (*Troglodytes troglodytes*) and chaffinch (*Fringilla coelebs*). Notable species considered likely to be breeding on the site comprised linnet (*Carduelis cannabina*), song thrush (*Turdus philomelos*), dunnock (*Prunella modularis*) and bullfinch (*Pyrrhula pyrrhula*).

4.17 The desktop data obtained in 2018 contained records of 16 notable species; cuckoo (*Cuculus canorus*), reed bunting (*Emberiza schoeniclus*), spotted flycatcher (*Muscicapa striata*), house sparrow (*Passer domesticus*), marsh tit (*Poecile palustris*), bullfinch, lapwing (*Vanellus vanellus*), kingfisher (*Alcedo atthis*), hobby (*Falco subbuteo*), peregrine (*Falco peregrinus*), brambling (*Fringilla montifringilla*), green sandpiper (*Tringa ochropus*), redwing (*Turdus iliacus*), fieldfare (*Turdus pilaris*), red kite (*Milvus milvus*), and barn owl (*Tyto alba*). The mixed arable landscape with hedgerows and trees and the canal provide good habitat for most of these species within the vicinity of the site with the exception of lapwing (the arable crops do not provide suitable nesting habitat) and green sandpiper (a coastal wading species).

4.18 The site has not changed significantly as of 2020 and it is likely that common farmland bird species will breed within the vegetation and individual trees dotted across the site.

Dormice

4.19 There are five records of dormice within the data obtain during 2018 including one record from scrub along the Grand Western Canal, approximately 1km away from the site.

4.20 The original dormouse surveys recorded nests from four locations in the far north east corner of the site and along the south western corner of the site. No nests were recorded from other areas of the site currently under consideration.

4.21 As of 2020 the hedges remain in good condition to support dormice, albeit some lack connectivity to others due to large gaps at gateways and field entrances.

Reptiles

4.22 No reptiles were recorded during the surveys in 2013, which covered a much larger area than that which is currently under consideration. The data obtained in 2018 indicated that there were only two records of reptiles within the search area: a grass snake (*Natrix helvetica*) and a slow worm (*Anguis fragilis*) both recorded from Chapel Anthony Lodge (approximately 1km from the site) in 2012 and 2013.

4.23 Surveys undertaken during 2020 have identified a population of slow worms in the far north western corner of the site closest to the nearby residential properties. A peak count of 10 adult slow worms was recorded on the 8th May 2020.

4.24 Two individual grass snakes, a juvenile and an adult were observed on the 5th May 2020 and the 14th May 2020 in two separate locations along the northern boundary of the site.

5 EVALUATION AND MITIGATION

Designated Sites

5.1 The development is unlikely to have any direct adverse effects on designated sites subject to the adoption of suitable preventative measures. The site is sufficiently distant from Tidcombe Lane Fen that it is not directly hydrologically linked to it. The topography between the site and the Fen includes a shallow valley running east to west, but there is no continuous watercourse linking the two sites. Any proposed development would be bound to follow suitable measures to avoid runoff of soils or other materials into watercourses and therefore no effects are likely to occur.

5.2 The Grand Western Canal is buffered from any adverse effects by the presence of a continuous corridor of woodland and scrub, an earth bund and an agricultural field between it and the site. Subject to the adoption of standard measures to avoid runoff of soils or pollutants, the construction stage would be very unlikely to have any adverse effects on the canal. The design of drainage within and off the site for the operational phase will as a matter of course take account of the need to prevent pollution of watercourses, and there is therefore no likelihood that this will lead to an adverse ecological effect.

5.3 Palmerston Woods LNR is sufficiently distant from the site that no effects will occur from either the construction or operational phases of the development.

Habitat Quality

5.4 The majority of the site is of low ecological value, being intensively farmed arable land. This area will provide little to no benefit for wildlife due to the application of fertiliser, pesticides and the annual harvesting of crops. The limited ecological benefits that this area currently provides can easily be enhanced as a result of the proposed development by creating areas of greenspace within the development with increased flora diversity and reduced management regimes.

5.5 The hedgerows that crisscross the site provide additional opportunities for wildlife and are considered to be of moderate ecological value. The development design will avoid the need for wholesale removal of these

hedgerows, however in a few areas it will be necessary to breach these hedgerows in association with new roads.

5.6 It will be possible to mitigate and enhance the loss of this habitat, through sensitive landscape planting and the creation of sustainable urban drainage features that may introduce areas of standing water to the site.

5.7 The individual broadleaved trees across the site are all of high ecological value. They will provide opportunities for a number of different species and as a result of their age will be difficult to replace in the short term. All mature trees should be retained within the scheme design and measures should be implemented to ensure that they are protected from damage during the construction phase of the development.

Badgers

5.8 A precautionary approach during construction works will be implemented, including covering open trenches at night to prevent badgers and other small mammals getting in and becoming trapped.

5.9 There are no active setts within the area now under consideration, however historically setts have been recorded in the local area. It is recommended that prior to the commencement of construction onsite that a suitably experienced ecologist undertakes a site visit to search for any new excavations.

5.10 The removal of arable fields will lead to a reduction in foraging area, although in general intensively farmed arable fields are unlikely to provide optimum foraging opportunities for badgers.

5.11 The development design will need to ensure that habitat connectivity for badgers is retained and that the site and its surroundings remain accessible. Additional foraging opportunities can be created through the provision of greenspace within the development that will not be subject to intensive agriculture and therefore more likely to support the invertebrates that badgers consume.

Bats

Bat Roosting

5.12 The individual mature broadleaved trees throughout the hedgerows onsite may all act as occasional roosts for bats. The development does not proposed to remove any of these trees and sensitive lighting design will ensure that these trees are not artificially illuminated at night as a result of the proposed development.

5.13 The amount and quality of bat roosting habitat can be improved by providing new bat roosting boxes, both as built-in features on new dwellings and as boxes fixed to retained trees.

Bat Activity

5.14 Surveys have found that the site is used by a modest range of bat species, with the vast majority of bats recorded being the more common species. That being said all bat species are under pressure and are afforded protection.

5.15 The potential impacts of construction and occupation of the proposed development can be mitigated by ensuring that the development design allows for dark corridors along existing retained hedgerows. New areas of landscape planting if managed correctly will also provide additional foraging opportunities for all bat species.

Breeding Birds

5.16 The surveys indicate that, whilst the site is used by a number of species of conservation interest, it is not of significant importance to birds at anything other than a local level as the habitats onsite are common within the local area.

5.17 Of primary importance is the presence of species-rich hedgerows, the retention and long-term management of these features will be essential to ensure that the site remains suitable for the widest range of bird species. Any removal of vegetation onsite will where possible be undertaken outside of the bird nesting season. Should this not be possible then a suitably experience ecologist will

inspect vegetation prior to its removal and if an active nest is identified then a suitable buffer will be implemented until the young have fledged.

5.18 The loss of the arable fields is likely to have limited impact upon birds, the intensive cropping and efficient harvesting mean that there is little food available for seed-eating farmland birds, and no nesting habitat suitable for those species such as skylarks and reed buntings that nest on the ground in meadows.

5.19 Additional nesting opportunities for bird species will be provided as a result of the proposed development. Nest boxes for a range of bird species will be installed upon retained vegetation and new houses throughout the site.

Dormice

5.20 The quality of habitat for dormice has not changed in any substantial way since the original surveys were conducted. It is reasonable to assume that dormice are still present, and that their abundance and distribution within the site is similar to that during the time of the original surveys.

5.21 The conclusions and recommendations of the original ecological assessment are still valid: in order to fulfil the obligations under the relevant policy and legislation the development proposal will need to demonstrate no net loss of suitable habitat.

5.22 The likely impacts of the proposed development are primarily that there will be additional breaches in hedgerows to accommodate access roads, and there is a potential impact from increased predation and disturbance by domestic pets that may eventually inhabit the residential dwellings.

5.23 The former potential impact can be mitigated by increasing connectivity overall, and planting of additional habitat. This planting will also mitigate the latter potential impact, in particular by planting thorny species (such as blackthorn) that will limit permeability to domestic pets.

5.24 In accordance with the original conclusions, a European protected species licence may be required in association with the construction stage of the project. This would include a detailed method statement detailing working methods that will need to be employed to reduce the risk of injury or death to dormice during

construction and also details of the enhancement planting required to replace the opportunities lost.

5.25 The need for a licence will depend on the extent of habitat that would be affected.

Reptiles

5.26 Although during the survey in 2020 both grass snakes and slow-worms were found in discrete locations, it is likely that all areas of marginal habitat across the site will be used from time to time by these species.

5.27 In the absence of avoidance or mitigation there is a risk of injuring or killing reptiles during construction works onsite exists whenever vegetation is cleared. Construction works will be supervised by an ecologist to adequately reduce this risk. It may be necessary to demarcate a safe area for reptiles to be translocated to within the development site if they are encountered during construction works. Should these not be feasible onsite then an offsite receptor area may be required.

5.28 As a result of the development enhancements specifically targeting reptiles can also be secured. A reduction in the intensity of the management regime will benefit reptiles and hibernacula's such as log piles can also be constructed.

6 CONCLUSIONS

Verification of Existing Records

6.1 The verification survey and updated protected species surveys has confirmed that the conclusion of the original surveys which covered a much larger area remain valid and are sufficient to inform the design process and the assessment of this proposal.

Ecological Value

6.2 The majority of the site is currently occupied by habitats of low ecological value, and measures have been suggested to ensure that as a result of the development the landscaping and green spaces will provided enhanced opportunities for wildlife in comparison to those already provided by these habitats.

Ecological Protection and Enhancement

6.3 The measures required to ensure protection of the retained habitats onsite and to increase opportunities for biodiversity onsite can be secured via a Construction and Environmental Management Plan and a Landscape and Ecological Management Plan, which will include a monitoring programme, thresholds for intervention and remedial measures, and regular reporting to stakeholders.

6.4 Matters to address in the CEMP comprise:

- Protection of watercourses during construction;
- Protection of retained habitats onsite with particular focus on hedgerows and the individual broadleaved trees;
- A walkover survey to check for new badger excavations and measures to be implemented during construction to ensure that badgers do not become trapped in excavations or open works;
- Vegetation clearance to avoid the bird nesting season, or to be preceded by a nesting bird survey;

- Vegetation clearance designed to avoid impacts on dormice, under the terms of a European protected species licence;
- Reasonable Avoidance Measures that will be implemented during construction works to avoid the potential of injury or killing reptiles; and
- The installation of ecological enhancements including habitat creation, bat and bird boxes, hibernacula for reptiles, defensive planting for hedgerows and foraging habitat for badgers.

6.5 Matters to address within the LEMP include:

- Management of hedgerows to retain connectivity and a diverse structure; and
- Management of landscape planting for the long-term benefit of biodiversity.

APPENDICES

Appendix 1 Site Plan

N

Key

Historic area surveyed by Engain

2020 Survey Area

Environmental Gain Ltd
The Old Church School, Butts Hill
Frome, BA11 1HR
T: 01225 459 564
enquiries@engain.co.uk www.engain.com

ON BEHALF OF
Waddeton Park Ltd

PROJECT
Hartnolls Farm, Tiverton

SCALE
NTS

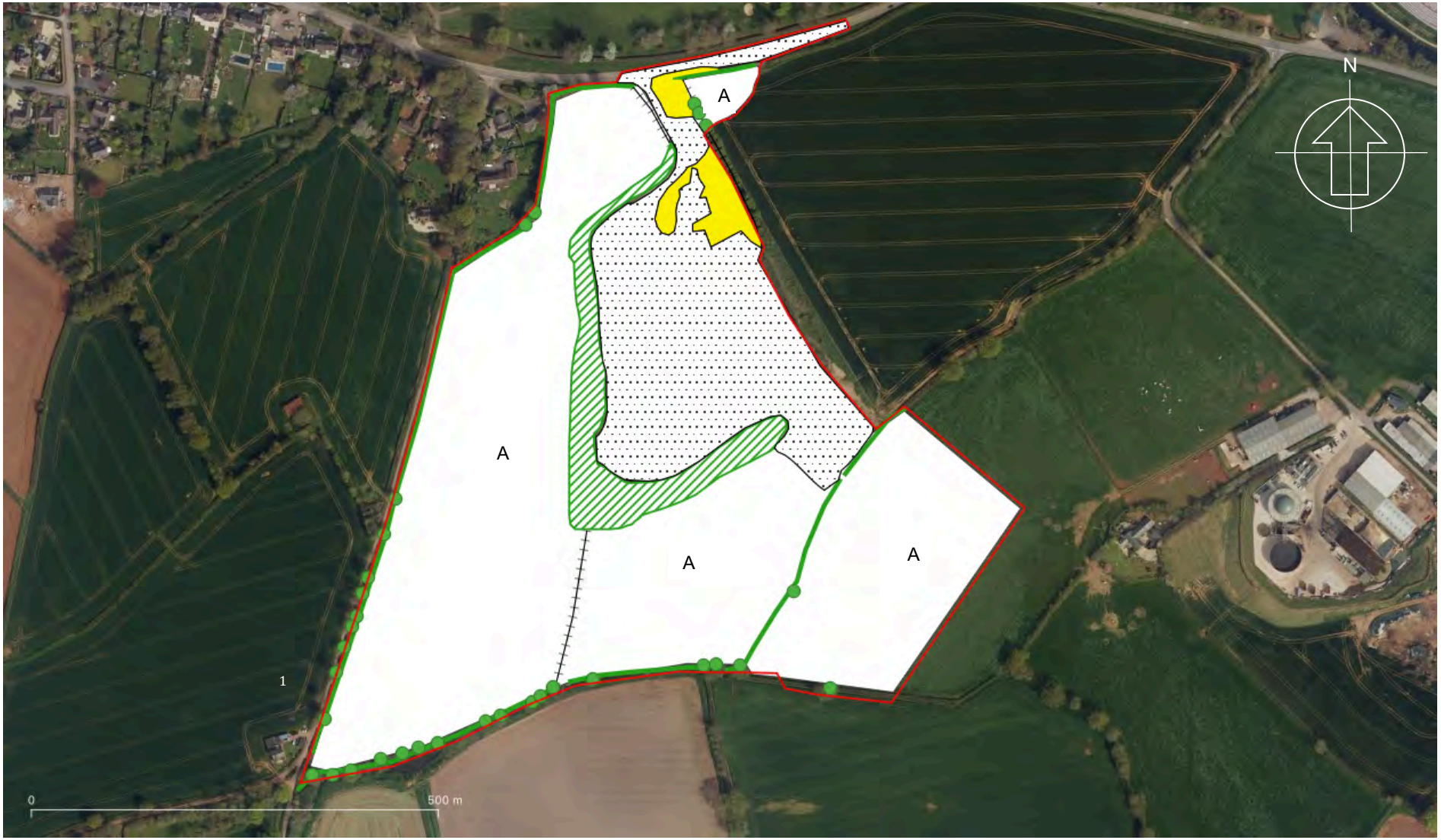
DATE
30.06.20

PROJECT NO
eg18835 002

APPROVED
JS

TITLE
Appendix 1 Site Area

Appendix 2 Habitat Plan



Environmental Gain Ltd
The Old Church School, Butts Hill
Frome, BA11 1HR
T: 01225 459 564
enquiries@engain.co.uk www.engain.com

Hard standing and buildings

Plantation woodland

Amenity grassland

Broad-leaved tree

Hedge

Fence

ON BEHALF OF
Waddeton Park Ltd

PROJECT
Hartnolls Farm, Tiverton

SCALE
NTS

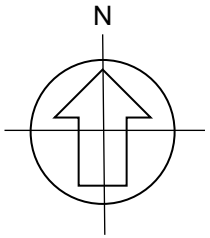
DATE
30.06.20

PROJECT NO
eg18835 002

APPROVED
JS

TITLE
Appendix 2: Phase 1 Habitat Plan

Appendix 3 2020 Bat Activity Transect Plan



Environmental Gain Ltd
The Old Church School, Butts Hill
Frome, BA11 1HR
T: 01225 459 564
enquiries@engain.co.uk www.engain.com

ON BEHALF OF
Waddeton Park Ltd

PROJECT
Hartnolls Farm, Tiverton

SCALE
NTS

DATE
30.06.20

PROJECT NO
eg18835 002

APPROVED
JS

TITLE
Appendix 3 Bat Activity Transect Plan

Appendix 4 2020 Bat Static Detector Location Plan

N

engain

Environmental Gain Ltd
The Old Church School, Butts Hill
Frome, BA11 1HR
T: 01225 459 564
enquiries@engain.co.uk www.engain.com

ON BEHALF OF
Waddeton Park Ltd

PROJECT
Hartnolls Farm, Tiverton

SCALE
NTS

DATE
30.06.20

PROJECT NO
eg18835 002

APPROVED
JS

TITLE
Appendix 4 Bat Static Detector Location Plan

Appendix 5 Reptile Mat Locations

Environmental Gain Ltd
The Old Church School, Butts Hill
Frome, BA11 1HR
T: 01225 459 564
enquiries@engain.co.uk www.engain.com

ON BEHALF OF
Waddeton Park Ltd

PROJECT
Hartnolls Farm, Tiverton

SCALE
NTS

DATE
30.06.20

PROJECT NO
eg18835 002

APPROVED
JS

TITLE
Appendix 5: Reptile Mat Location Plan

Appendix 6 Ecological Constraints Plan

N

Key

Hedgerows

Slow worms observed

Bird nesting habitat

Dormouse observed

Low potential bat tree

Moderate potential bat tree

Environmental Gain Ltd
The Old Church School, Butts Hill
Frome, BA11 1HR
T: 01225 459 564
enquiries@engain.co.uk www.engain.com

ON BEHALF OF
Waddeton Park Ltd

PROJECT
Hartnolls Farm, Tiverton

SCALE
NTS

DATE
30.06.20

PROJECT NO
eg18835 002

APPROVED
JS

TITLE
Appendix 6: Ecological Constraints Plan