

**FORD AIRFIELD MARKET, FORD, ARUNDEL, WEST
SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Final Document (Revision 1)

December 2019

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EcIA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

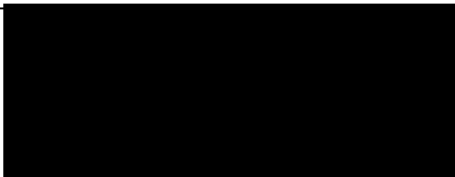
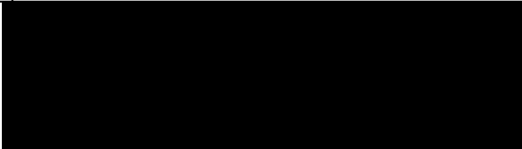
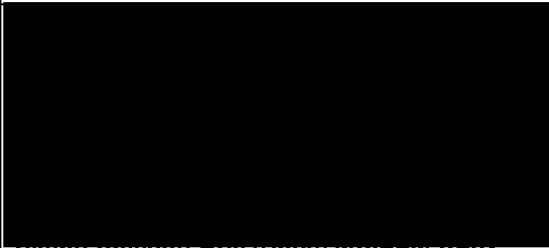
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**FORD AIRFIELD MARKET, FORD, ARUNDEL, WEST
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ECOLOGICAL IMPACT ASSESSMENT

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Redrow Homes and Wates Developments to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Ford Airfield Market, Ford. The site is located on the outskirts of the village of Ford, Hampshire and comprises a large area of concrete associated with a disused airfield runway, two small buildings and a limited areas of adjacent arable fields. The proposals entail resurfacing of an existing access track, and creation of a new car park and footpath.

The main findings of the Ecological Impact Assessment are:

- The site is dominated by hardstanding with managed species-poor hedgerows, and small areas of improved and semi-improved grassland, tall ruderal vegetation and arable land;
- The site has habitat that is suitable to support roosting, foraging and commuting bats, breeding birds, reptiles and invertebrates;
- Unmitigated the proposals have potential to result in harm to reptiles and loss of habitat supporting foraging and commuting bats, breeding birds, reptiles and invertebrates;
- Mitigation measures proposed include sensitive working methods and timings for the removal of habitat suitable for reptiles, provision of a hibernation feature for reptiles and new native species rich shrub and tree planting;
- The new planting will result in a net gain in suitable habitat for a range of wildlife, including bats, birds and invertebrates.
- Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant local and national planning policy.
- Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 12 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Redrow Homes and Wates Developments to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Ford Airfield Market, Ford Road, Ford, Arundel, West Sussex BN18 0FL (hereafter referred to as the site).

Ford Airfield Market represents a smaller compartment within the wider Ford Airfield site for which an outline planning application is being submitted for the construction of a mixed-use development, including 1,500 residential dwellings. The proposed development requires amendments to the layout of the existing car boot sale area, which is why planning is being sought for the creation of a new car park and footpath and resurfacing of the existing access track.

ECOSA were appointed to undertake a suite of ecological surveys between 2017 and 2019 to support the application for the wider Ford Airfield site, which included the Ford Airfield Market site. Prior to ECOSA's appointment, a Phase 1 habitat survey was undertaken for the wider Ford Airfield site by Artemis between July and August 2015 and August 2016 (Artemis, 2016).

1.2 The Site

The site is located in Ford, West Sussex, centred on National Grid Reference (NGR) SU 9956 0303 (**Map 1**). The Phase 1 habitat map (**Map 2**) depicts the boundary of the site. The village of Ford lies approximately three kilometres south-west of Arundel and approximately two kilometres north-west of Littlehampton.

The site comprises a large area of concrete associated with a disused airfield runway, currently used as a car boot sale venue, two small buildings and small areas of adjacent arable fields. The site is bounded by arable fields on all sides, with the exception of the northern site boundary where a water treatment works is present.

The wider landscape is characterised by agricultural land interspersed with villages including Climping, Tortington and Yapton. The River Arun lies approximately 500 metres to the east and the railway line between Ford and Barnham stations lies approximately 500 metres to the north. The A27 and a large area of woodland lie approximately 3.5 kilometres north of the site. The site lies around 1.8 kilometres north of the coast.

1.3 Aims and Scope of Report

The information within this report is based on a Preliminary Ecological Appraisal undertaken by Artemis 2015, and updating field surveys and desktop study and

relevant species-specific surveys carried out by ECOSA between 2017 and 2018. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed works at the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals entail resurfacing of an existing access track and creation of a new car park and footpath.

The Ecological Impact Assessment is based on the detailed layout plan produced by Barton Wilmore, dated 18th October 2019 (Drawing No. 23885-RG-L-101 Rev. F) (**Appendix 1**).

Planning permission is being sought during late 2019/early 2020 with construction proposed to commence soon after permission has been granted.

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2016) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Arun District Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with a revised NPPF published in February 2019. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 177 goes on to state that "*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.*".

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 170 states that the planning system should contribute to and enhance the natural environment by "*...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...*".

A number of principles are set out in Paragraph 175, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats³, including ancient woodland⁴. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph

³ The NPPF defines irreplaceable habitats as "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.*"

⁴ Natural England defines ancient woodland as "*An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS).*"

175 also states *“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”*. Protection of sites proposed as SPAs, SACs and Ramsar sites or acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *“the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat”*. Paragraph 99 states *“it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted”*.

2.3 Local Policy

2.3.1 Arun District

Local planning policy within Arun District is provided by the policies within the Arun Local Plan 2018. Those relevant to ecology are summarised below.

Policy ENV SP1 – Natural Environment

Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of designated and non-designated sites. Where possible it will also promote the creation of new areas for habitats and species.

The following sites must be protected:

- Pagham Harbour Ramsar site
- Arun Valley Special Area of Conservation (SAC)
- Pagham Harbour Special Protection Area (SPA)
- Arun Valley SPA
- Solent and Dorset Coast potential Special Protection Area (pSPA)
- Pagham Harbour Site of Special Scientific Interest (SSSI)
- Bognor Reef SSSI
- Felpham SSSI
- Climbing Beach SSSI
- Pagham Harbour Local Nature Reserve (LNR)
- West Beach LNR

- Bersted Brooks LNR
- Ferring Rife and Meadows LNR
- Littlehampton Golf Course and Atherington Beach, Littlehampton LNR
- Elmer Rocks Site of Nature Conservation Interest (SNCI)
- Fontwell Park Race Course SNCI
- Middleton Shingle SNCI

Policy ENV DM1 – Designated Sites of Biodiversity or Geological Importance

Proposed development likely to have an adverse effect on designated sites will not normally be permitted unless in exceptional circumstances.

Policy ENV DM2 - Pagham Harbour

Development within 400 metres of the Pagham Harbour SPA boundary will only be permitted in exceptional circumstances where the developer is able to demonstrate there will be no detrimental effects on Pagham Harbour SPA.

All new residential development within five kilometres of Pagham Harbour SPA which is likely to have an impact on the designated site will be required to make developer contributions towards strategic access management at Pagham Harbour SPA and create easily accessible new green spaces for recreation within or adjacent to the development site.

Major developments taking place beyond five kilometres of Pagham Harbour SPA will be considered on a case by case basis to determine potential effects and necessary mitigation measures.

Policy ENV DM3 – Biodiversity Opportunity Areas

Development shall retain and sympathetically incorporate locally valued and important habitats including wildlife corridors and stepping stones and will be designed in order to minimise disturbance to habitats. Habitat loss should be mitigated and proposals should reasonably address opportunities for enhancement.

Where development lies within or is likely to impact upon Biodiversity Opportunity Areas (BOAs), applications for planning permission should include surveys for the presence of species and habitats within the BOAs.

Policy ENV DM4 – Protection of Trees

Trees protected by a Tree Preservation Order (TPO), identified as Ancient Woodland, in a Conservation Area or contributing to local amenity should be retained and protected, unless the removal is required in the interests of good arboricultural practice or in order to enhance the survival and growth prospects of other protected trees.

Development may also be permitted if the benefit of the proposals outweighs the loss of trees or woodland.

Policy ENV DM5 - Development and Biodiversity

Development schemes should seek to achieve a net gain in biodiversity and protect existing habitats on site and provide a network of green spaces.

Where there is evidence of a protected species on a proposed development site, planning applications should include a detailed survey of the subject species, consider direct and indirect impacts on the species and detail avoidance and mitigation measures where necessary.

Policy H SP2c – Inland Arun – Ford (SD8)

Development proposals in the Ford Strategic Allocation will provide at least 1,500 dwellings over the plan period. The site is functionally connected to Arun Valley SPA and development should avoid adverse effects on this designated area.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

Sussex Biodiversity Record Centre (SxBRC) was consulted on 21st May 2018 for the following data:

- Records of non-statutory designated sites (Local Wildlife Sites (LWSs), Sites of Importance for Nature Conservation (SINCs), SNCIs etc.) within two kilometres of the wider Ford Airfield site boundary. See **Appendix 2** for details;
- Records of legally protected and notable species (flora and fauna) within two kilometres of the wider Ford Airfield site boundary, including Species of Principal Importance (**Appendix 3**); and

⁵ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2016).

- Records of bats within four kilometres of the wider Ford Airfield site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2019) was reviewed on 2nd July 2019 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as SPAs, SACs, Wetlands of International Importance (Ramsar sites), SSSIs, National Nature Reserves (NNRs) and LNRs within two kilometres of the site. See **Appendix 2** for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences or Bat Low Impact Class Licences (BLICLs) have been granted were reviewed. This information allows a greater understanding of the potential for European protected species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

ECOSA were appointed to undertake a suite of ecological surveys to support the application for the wider Ford Airfield site, which included the Ford Airfield Market site. The findings of these surveys have been referred to within this report, where relevant.

Baseline information within the Artemis Phase 1 Habitat Survey report has been referenced, where relevant, within this report (Artemis, 2016).

3.4.4 Desk Study Limitations

SxBRC do not provide records of badger as local badger groups have requested that badger records remain confidential due to their vulnerability to persecution.

SxBRC do not provide records of otter as they have until recently been extinct in Sussex. However, otter are slowly returning to the South East. Although there are no recent breeding otter records and very few resident otters in Sussex, signs of otter have been found in most of the Sussex river catchments and therefore the lack of records should not be interpreted as a lack of presence of otter in the area.

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**) and photographs provided, where relevant. For ease of reference, Target Notes (TN) depict locations of particular ecological interest or features which are too small to map.

Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010). This involved identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each vegetation type was compiled and any invasive species⁶ encountered as an incidental result of the survey recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

An initial field survey was carried out by Georgina Timmis of ECOSA on 22nd May 2017. The weather conditions were sunny with approximately 25% cloud cover, an ambient temperature of 18°C and a light breeze.

⁶ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

The field survey was then updated by Georgina Timmis of ECOSA on 6th August 2018. The weather conditions were sunny with approximately 25% cloud cover, an ambient temperature of 28°C and a light breeze.

During both surveys, the surveyor was equipped with 10x40 binoculars, and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

No access was gained to the interior of the buildings on site.

3.6 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2016) have also been used to inform the assessment.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field surveys and protected species surveys undertaken for the wider Ford Airfield site. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory and Non-statutory Designated Sites

4.2.1 Baseline Ecological Conditions

There are no statutory or non-statutory designated sites of nature conservation interest situated within two kilometres of the site boundary.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records of 11 plant Species of Principal Importance, divided sedge *Carex divisa*, cornflower *Centaurea cyanus*, fine-leaved sandwort *Minuartia hybrida*, sharp-leaved pondweed *Potamogeton acutifolius*, Borrer's saltmarsh-grass *Puccinellia fasciculata*, corn buttercup *Ranunculus arvensis*, shepherd's-needle *Scandix pecten-veneris*, marsh stitchwort *Stellaria palustris*, spreading hedge-parsley *Torilis arvensis* and pennyroyal *Mentha pulegium*. Bluebell *Hyacinthoides non-scripta* and pennyroyal are present within the desktop study area and are protected under Schedule 8 of the Wildlife and Countryside Act 1981.

A large number of locally notable and protected species were also returned, including 11 records of corn parsley *Petroselinum segetum*.

Invasive species Japanese Knotweed *Fallopia japonica* (see **Appendix 3** for details) was recorded in off-site habitat approximately 20 metres north of the proposed new car park area.

Field Survey Results

Habitats within the site are shown on the Phase 1 Habitat Map (**Map 2**), Target Notes and photographs have been provided as appropriate, Target Notes are cross referenced to **Map 2**. Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Improved Grassland

A small area of well managed improved grassland is present adjacent to the eastern boundary of the northern spur of the runway (TN1) (**Figure 1**). The area is dominated by perennial rye grass *Lolium perenne* with red fescue *Festuca rubra*, and a low diversity of forb species including white clover *Trifolium repens* and self-heal *Prunella vulgaris*.



Figure 1: Area of improved grassland

Tall Ruderal

The margins of the improved grassland have not been subject to regular management and have developed into a longer sward dominated by nettle *Urtica dioica* and arable crops, other species include soft brome *Bromus hordeaceus* and hedge mustard *Sisymbrium officinale*, as well as arable escapees (TN2) (**Figure 1**).

Semi-improved Grassland

To the east of the access track (TN10) is a large area of semi-improved grassland including ribwort plantain *Plantago lanceolata*, Yorkshire fog *Holcus lanatus* and common ragwort *Senecio jacobaea*, yarrow *Achillea millefolium*, white clover, bush vetch *Vicia sepium*, false oat-grass *Arrhenatherum elatius*, creeping thistle *Cirsium arvense*, hedge bedstraw *Galium mollugo*, black knapweed *Centaurea nigra* and selfheal, however, only a very small proportion of this lies within the site boundary (TN3) (**Figure 2**).

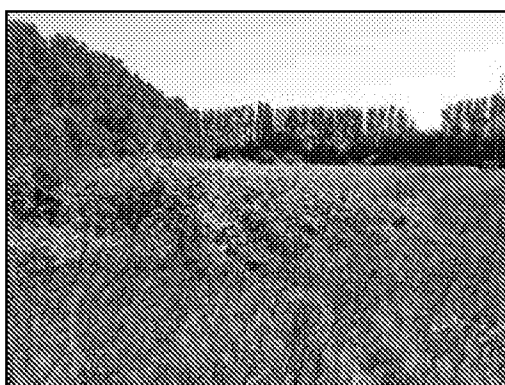


Figure 2: Area of semi-improved grassland to the east of the access track

Species-poor Hedgerow

There are three well managed species-poor hedgerows on site. A Leyland cypress *Cupressus × leylandii* hedgerow measuring approximately five metres high, lies adjacent to the southern edge of the eastern spur of the runway (TN4) (**Figure 3**). Heavily managed hedgerows measuring approximately one metre high lie adjacent to the western edge of the northern and southern spurs of the runway. The hedgerow to the north comprises hybrid black poplar (TN5), the hedgerow to the south comprises Leyland cypress (TN6) (**Figure 4**).



Figure 3: Leyland cypress hedgerow on eastern spur of runway



Figure 4: Heavily managed hedgerow on southern spur of runway

Arable

Two relatively small areas of arable land lie within the site. Both areas are part of larger arable fields adjacent to the eastern spur of the runway (TN7 and TN8) (**Figure 5** and **Figure 6**).



Figure 5: Arable land in field adjacent to north of site

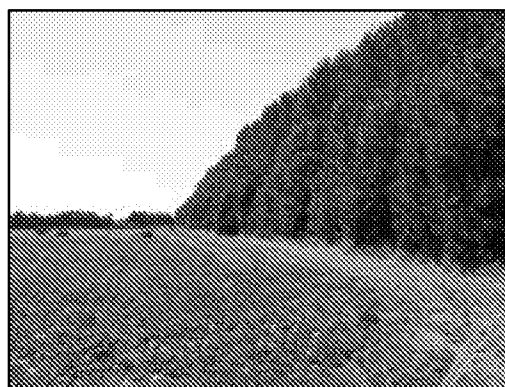


Figure 6: Arable crop to south of Leyland Cypress hedgerow.

Other Habitats

The majority of the site comprises hardstanding associated with the disused runway (**Figure 7**) (TN9) and access track (**Figure 8**) (TN10). There are also two small brick buildings present on the runway (TN11) which are discussed further in Paragraph 4.4.1. Chainlink fence is present along the boundary of the runway, where the hedgerows describe above are not present.

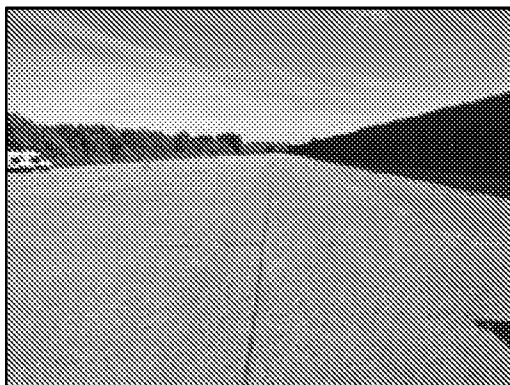


Figure 7: Southern spur of the runway

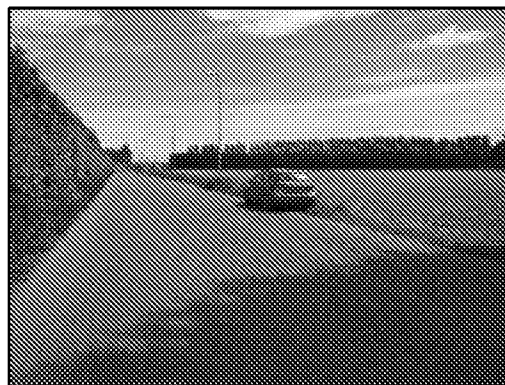


Figure 8: Access track

4.3.2 Evaluation

No notable species were recorded during the field surveys. The site comprises hardstanding, improved grassland, tall ruderal and arable which are of negligible ecological value. The species-poor hedgerows and semi-improved grassland provide more ecological diversity but are isolated and limited in extent and do not make up a significant proportion of these habitat types in the local area. These habitats are therefore of value at the site level.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records of a number of bat species which are summarised in **Table 1**.

Table 1: Summary of bat records in SxBRC consultation

Species	Summary of Records	Roosts
Alcathoe bat <i>Myotis alcathoe</i>	One record dated 07/07/2014 located at NGR: TQ029051	No evidence of roosts.
Barbastelle <i>Barbastella barbastellus</i>	17 records between 2013 and 2015.	Two records likely to represent roosts.
Brandt's/Whiskered bat <i>Myotis brandtii/mystacinus</i>	Five records between 2014 and 2015.	No evidence of roosts.

Brown long-eared bat <i>Plecotus auritus</i>	12 records between 1986 and 2014.	Approximately 10 records likely to represent roosts.
Common pipistrelle <i>Pipistrellus pipistrellus</i>	43 records between 1984 and 2016.	Approximately 14 records likely to represent roosts.
Daubenton's bat <i>Myotis daubentonii</i>	Six records dated between 1997 and 2014.	No evidence of roosts.
Natterer's bat <i>Myotis nattereri</i>	Five records between 1990 and 2015.	No evidence of roosts.
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	Four records between 2014 and 2015.	No evidence of roosts.
Noctule <i>Nyctalus noctula</i>	Five records between 1990 and 2014.	No evidence of roosts.
Serotine <i>Eptesicus serotinus</i>	15 records between 1990 and 2015.	Approximately eight records to represent roosts.
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	13 records between 2013 and 2015.	Three records likely to represent roosts.
Unidentified long-eared bat <i>Plecotus</i> species	Eight records between 1994 and 2014.	Approximately six records likely to represent roosts.
Unidentified <i>Myotis</i> species	Four records between 1986 and 2015.	One record likely to represent roosts.
Unidentified pipistrelle <i>Pipistrellus</i> species	Eight records between 1997 and 2013.	Approximately seven records likely to represent roosts.

Consultation with the MAGIC database revealed no granted European Protected Species Mitigation (EPSM) licences with respect to bats within the desk study area.

Bat activity surveys were undertaken for the wider Ford Airfield site between May and October 2017. The activity surveys recorded at least nine species: common pipistrelle, soprano pipistrelle, noctule, serotine, barbastelle, *Myotis* bat species, Nathusius' pipistrelle, long-eared bat *Plecotus* species and greater horseshoe *Rhinolophus ferrumequinum*, and identified areas of key activity shown in **Map 3**. These areas include the southern spur of the runway and other areas of habitat adjacent to and linked to the Ford Market site.

Field Survey Results

Building Assessment

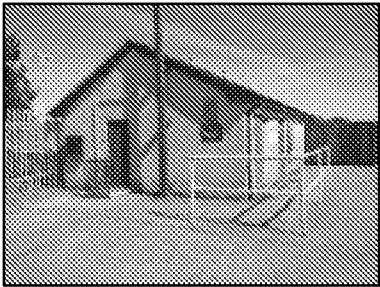
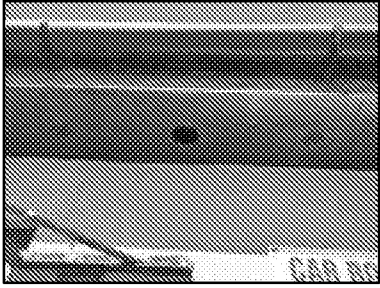
There are two single storey buildings present on the runway (TN11). One building has moderate suitability for bats, the other has negligible suitability for bats, although there was no internal access to the buildings during either of the field surveys (Paragraph 3.5.3). The results of the building assessment are provided in **Table 2**.

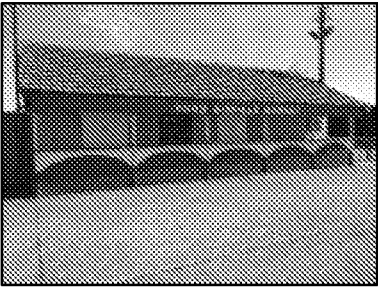
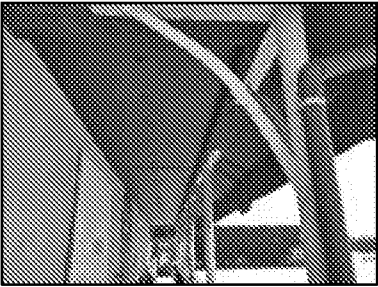
Foraging and Commuting Habitat

The hedgerows on site provide linear features which bats may use for commuting between areas of more valuable off-site habitat in the surrounding area, however, the

habitats on site are managed and species poor and restricted in terms of their value as a foraging resource for bats.

Table 2: Building Assessment – Summary of Features with Bat Roost Potential and Evidence of Bat Roost Activity

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 1	 Figure 9: Exterior of Building 1  Figure 10: Gap under tiles around vent  Figure 11: Gap in soffit	This is a single storey building of rendered construction with gable ended roof with pan tiles and wide timber soffit.	The roof tiles are well sealed, however, there is a single gap where a vent protrudes through the roof. There is also a single gap in the soffit where the protective grill is missing from one of the regularly spaced vents.	No evidence of roosting bats was recorded during the survey.	Moderate

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 2	 Figure 12: Exterior of Building 2  Figure 13: Well sealed soffit	This building is of rendered construction with a painted timber frontage and wide timber soffit. The building has a gable ended roof with pan tiles.	The building is well sealed with no visible potential roosting features.	No evidence of bat roost activity was recorded during the survey.	Negligible

4.4.2 Evaluation

Roosting Bats

As further survey has not been undertaken for roosting bats, a full evaluation is not possible. However, as no impacts are anticipated on roosting bats (Paragraph 5.5.1), this is not considered a significant limitation to the assessment.

Foraging and Commuting Bats

Bat surveys recorded at least 10 species of bat foraging and commuting at the wider Ford Airfield site and was concluded to be of importance at the local level overall based on the levels of activity recorded. The Ford Airfield Market site supports a limited extent of suitable foraging and commuting habitat and is of lower quality than other parts of the site. However, on-site habitats, including hedgerows adjacent to the southern spur of the runway and the area of arable in the north of the site, form part of the key areas of bat activity identified during the 2017 surveys. Therefore, the Ford Airfield Market site is also considered to be of importance at the local level, as loss of this habitat would affect the local bat population.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

Otter *Lutra lutra* records are not included in the SxBRC consultation (Paragraph 3.4.4).

Consultation with the MAGIC database produced no records of granted EPSM licences with respect to otter within the desktop study area.

Field Survey Results

There is no riparian habitat on site or adjacent to the site that would be suitable for supporting otter (in terms of holts, foraging, commuting) and therefore the habitat on site is unsuitable for otter and therefore the species is not considered further in this assessment.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Desktop Study Results

Badger *Meles meles* records are not included in the SxBRC consultation as local badger groups have requested that badger records remain confidential due to their vulnerability to persecution.

Field Survey Results

The site is dominated by hardstanding with limited areas of habitat suitable for foraging. No evidence of badger setts was recorded during any of the surveys undertaken at the site, and given the level of disturbance at the site during car boot sales, and the lack of cover, it is considered highly unlikely that the site is suitable for sett building. The habitat on site is unsuitable for badger and therefore the species is not considered further in this assessment.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced no records of hazel dormouse *Muscardinus avellanarius* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Consultation with the MAGIC database produced no records of granted EPSM licences with respect to hazel dormouse within the desktop study area.

Field Survey Results

Hedgerows on site are species poor and managed, and therefore do not provide the necessary diversity of food resources to support dormouse. In addition, the hedgerows are isolated from suitable habitat in the wider area, beyond the wider Ford Airfield site, so it is unlikely that it would be possible for hazel dormouse to colonise the site. The habitat on site is unsuitable for hazel dormouse and therefore the species is not considered further in this assessment.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced 20 records of water vole *Arvicola amphibius* within the desktop study area with the most recent record dated 2016 and located approximately 1.75 kilometres to the north-west of the site.

Field Survey Results

The site does not support riparian habitat required by this species. The habitat on site is unsuitable for water vole and therefore the species is not considered further in this assessment.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records of 286 species of birds within the desktop study area.

Breeding bird surveys of the wider Ford Airfield site in 2017 recorded 31 species of birds making use of the site of which, 13 were notable (i.e. either Red Listed⁷ or Amber Listed⁸). Of the notable species recorded, four were found to be breeding on site. These were skylark *Alauda arvensis*, song thrush *Turdus philomelos*, dunnock *Prunella modularis* and stock dove *Columba oenas*. Skylark, song thrush and dunnock are Species of Principal Importance and listed on the Sussex local BAP. Skylark and song thrush are Red Listed, dunnock and stock dove are amber listed. The breeding bird survey results are shown in **Map 4**.

Field Survey Results

The hedgerows on site are suitable to support common and widespread species of breeding bird. Hedgerows on site are suitable to support nesting song thrush, dunnock and stock dove, and a song thrush breeding territory was previously recorded within the hedgerow adjacent to the western edge of the southern spur of the runway. The site is dominated by hardstanding and the limited areas of grassland are unsuitable for ground nesting or wintering birds.

A skylark territory was previously recorded within the field associated with the arable land in the north of the Ford Airfield Market site, however, the area within the Ford Airfield Market site is considered highly unlikely to support nesting skylark due to its proximity to adjacent hedgerows, which skylark avoid due to higher risks of predation. For this reason, it is also unsuitable for wintering birds.

⁷ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

⁸ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

4.9.2 Evaluation

Breeding Birds

The breeding bird surveys undertaken for the wider Ford Airfield site in 2017 identified a single song thrush breeding territory within the Ford Airfield Market site. This represents less than 0.01% of the county population⁹. The site supports a very limited extent of suitable habitat for breeding birds which does not form a significant proportion of that in the local area. Therefore, the site is of importance at the site level for breeding birds.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records of slow-worm *Anguis fragilis*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and adder *Vipera berus* within the desktop study area. The most recent records for grass snake, common lizard and adder are from 2017 and located in Binstead Wood Complex, approximately 1.8 kilometres to the north. The most recent slow-worm record is dated from 2014 and is located approximately 1.1 kilometres to the south-east.

During the field survey undertaken as part of the original Preliminary Ecological Appraisal (Artemis, 2016), a common lizard was recorded within the semi-improved grassland directly to the east of the Ford Airfield Market site. Subsequently, reptile surveys were undertaken by ECOSA in 2017, during which a single common lizard was recorded approximately 930 metres north of the Ford Airfield Market site.

Field Survey

Tall ruderal vegetation and semi-improved grassland within the Ford Airfield Market site is suitable for basking/foraging reptiles and connected to suitable habitat in the wider area.

4.10.2 Evaluation

A low population of common lizard is known to be present in the wider Ford Airfield site, however, suitable habitat for reptiles within the Ford Airfield Market site is limited to a very small areas of ruderal vegetation and semi-improved grassland. This habitat is not suitable to support a reptile population, in isolation, and forms a very small proportion of the habitat available to reptiles in the wider area. Therefore, the site is of importance at the site level for reptiles.

⁹ The county population of song thrush is known to be 35,000 breeding pairs

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced 94 records of great crested newt *Triturus cristatus* within the desktop study area. The most recent record is from 2017 and is located approximately 810 metres to the west of the site.

Consultation with the MAGIC database produced no records of granted EPSM licences with respect to great crested newt within the desktop study area.

A review of OS mapping and aerial photography revealed a total of six waterbodies within 500 metres of the site. Three ponds which lie approximately 300 metres to the south of the site were previously surveyed in relation to another planning application (Ref. CM/1/17/OUT) in 2016 by Phlorum Limited (Phlorum, 2016). No great crested newt were recorded during the surveys and are therefore considered absent from the ponds. One, approximately 90 metres to the south-east of the site, is a reservoir located within the HMP Ford prison. It supports fish and is frequently visited by cormorants and grey heron¹⁰ and is therefore considered to be unsuitable for great crested newt. One, approximately 500 metres to the east of the site, was subject to eDNA analysis during surveys of the wider Ford Airfield site in 2017 and the analysis indicates that great crested newt are absent. The remaining pond, approximately 700 metres to the east of the site, could not be surveyed, however, great crested newt rely on a network of ponds and as great crested newt have been confirmed absent in other ponds within the network great crested newt is considered likely absent from this pond.

Field Survey Results

There are no waterbodies on site and therefore the site is unsuitable to support breeding great crested newt. The site is dominated by hardstanding which is unsuitable to support great crested newt in its terrestrial phase. The grassland and arable vegetation on site are also considered unsuitable due to regular management. The small areas of ruderal vegetation may represent suitable terrestrial habitat for great crested newt, but they are very limited in extent and isolated from nearby potential breeding ponds by areas of hardstanding and large extents of heavily managed arable habitat. It is therefore considered highly unlikely that great crested newt are present within on-site habitats. This species is therefore not considered further within the assessment.

¹⁰ Personal communication with staff member at HMP Ford on 15th November 2018

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records for notable and protected invertebrate species within the desktop study area, including nine *Hymenoptera* species, 48 *Coleoptera* species, 103 *Lepidoptera* species, wasp spider *Argiope bruennichi*, two *Hemiptera* species and two *Diptera* species. No records are associated with the site itself.

Five records of stag beetle *Lucanus cervus*, which is protected under Annex II of the Habitats Directive, from between 2006 and 2017 were returned. The nearest record (from 2011) lies approximately 1.2 kilometres west of the site. A total of 54 invertebrate Species of Principal Importance have been recorded within two kilometres of the site. These species were considered when assessing the suitability of on-site habitats to support notable invertebrates/invertebrate assemblages.

Field Survey Results

The majority of habitats on site have negligible suitability for notable species of invertebrate known to be present in the local area. However, hedgerows have suitability for a range of *Lepidoptera* Species of Principal Importance, including brown hairstreak *Thecla betulae* and stag beetle *Lucanus cervus*.

Evaluation

Hedgerows on site are species-poor and very limited in extent and do not form a significant proportion of that in the local area. They are highly unlikely to perform a critical ecological function for any notable species or support important populations or assemblages. The site is therefore considered to be of importance at the site level for invertebrates.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records for common toad *Bufo bufo*, European hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus* and harvest mouse *Micromys minutus* within the desktop study area.

Field Survey Results

As the site is dominated by hardstanding, with minimal areas of vegetation suitable for the species identified in the desk study, and given the regular disturbance in this part

of the site due to the regular car boot sales, the habitats on site are considered unsuitable for other relevant species, such as those recorded in the desk study. Therefore, these species are not considered further in this assessment.

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy¹¹ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposals entail the following:

- Retention of existing concrete runway;
- Retention of existing trees and hedgerows;
- Retention of existing buildings;
- Resurfacing of access track with black bituminous tarmac with white paint markings;
- Construction of a new footway to the south of the existing hedgerow on the southern edge of the eastern spur of the runway, comprising bituminous tarmac;
- Construction of a new car park in the area of arable land to the north of the site comprising black bituminous tarmac;
- Installation of a new two-metre high wire mesh fence along the western boundary of the site where no hedgerow is present;
- New soft landscaping including tree and shrub planting, in particular along the southern edge of the proposed footpath and the eastern and western boundaries of the proposed car park; and
- No additional lighting is proposed as part of the scheme.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

¹¹ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2016) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

There are no statutory or non-statutory designated sites within the Ford Market Site's ZOI. Therefore, no impacts or effects are anticipated.

5.3.2 Mitigation Measures

As no impacts are anticipated, no mitigation measures are proposed.

5.3.3 Significance of Residual Effects

As no impacts are anticipated, there will be no residual effects.

5.3.4 Compensation

As no residual effects are anticipated, no compensation measures are required.

5.3.5 Enhancement

No enhancement measures are proposed.

5.3.6 Monitoring

No monitoring is required.

5.4 Habitats

5.4.1 Potential Impacts and Effects

Construction of the car park and footpath will result in the loss of approximately 1.9 hectares of arable land and approximately 0.04 hectares of semi-improved grassland. The loss of such a limited extent of low value habitats is considered a negligible effect.

There is potential for Japanese knotweed to spread onto the site if left untreated.

5.4.2 Mitigation Measures

As the effect of the habitat loss is considered negligible, no mitigation measures are proposed. A specialist should be consulted to remove the Japanese knotweed from habitat in proximity to the site. The specialist should liaise with an ecologist to determine whether the proposed removal works will result in harm to protected or notable species and agree suitable mitigation measures.

5.4.3 Significance of Residual Effects

As no significant effects are anticipated, no residual effects are anticipated.

5.4.4 Compensation

As no residual effects are anticipated, no compensation measures are required.

5.4.5 Enhancement

The new tree and shrub planting will comprise a diverse mix of native species of local provenance. The exact specification will be drawn up by a landscape consultant in consultation with an ecologist.

5.4.6 Monitoring

Monitoring will be required to ensure that newly created habitats are successfully established. Details of the monitoring requirements will be provided as part of the landscape specification.

5.5 Bats

5.5.1 Potential Impacts and Effects

Habitats of greatest value for roosting, foraging and commuting bats (i.e. buildings and hedgerows) will be retained. A very minor area of semi-improved grassland (approximately 0.04 hectares) will be lost, representing a minor net loss in habitat likely to support invertebrate prey.

No works are due to be undertaken in proximity of the on-site buildings, and no external lighting is being proposed, so there is no potential for disturbance to roosting bats, if present.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.5.2 Mitigation Measures

In order to facilitate the proposals, the loss of the very limited area of semi-improved grassland cannot be mitigated.

5.5.3 Significance of Residual Effects

As the loss of grassland cannot be mitigated, there remains a minor residual effect.

5.5.4 Compensation

The loss of the semi-improved grassland will be compensated through planting of a diverse mix of native shrubs, which will provide an invertebrate resource and therefore a prey resource for foraging and commuting bats. The exact specification will be drawn up by a landscape architect in consultation with an ecologist.

5.5.5 Enhancement

Approximately 0.36 hectares of new shrub planting and 0.14 hectares of new tree planting is proposed as part of the scheme for the Ford Airfield Market site. This will

not only compensate for the minor loss of foraging habitat for bats, but result in a net gain overall.

5.5.6 Monitoring

No monitoring is required.

5.6 Birds

5.6.1 Potential Impacts and Effects

Hedgerows and trees suitable for supporting nesting birds are proposed to be retained. Therefore, no adverse effects on breeding birds is anticipated.

5.6.2 Mitigation Measures

As no adverse effects are anticipated, no mitigation is required.

5.6.3 Significance of Residual Effects

As no significant effects are anticipated, no residual effects are anticipated.

5.6.4 Compensation

As no residual effects are anticipated, no compensation measures are required.

5.6.5 Enhancement

Approximately 0.36 hectares of new shrub planting and 0.14 hectares of new tree planting is proposed as part of the scheme. This will result in a net gain of habitat suitable for breeding birds.

5.6.6 Monitoring

No monitoring is required.

5.7 Reptiles

5.7.1 Potential Impacts and Effects

The proposals will result in the loss of 0.04 hectares of unmanaged semi-improved grassland, which has suitability to support common species of reptile. The removal of this habitat has potential to result in the killing and injury of individual reptiles and a minor net loss of suitable habitat for this species group.

Widespread reptile species (slow-worm, common lizard, grass snake *Natrix natrix* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

5.7.2 Mitigation Measures

In order to prevent the killing and injury of reptiles during the removal of the semi-improved grassland a precautionary clearance method will be undertaken during the

reptile active season (March and October inclusive). This will commence with a persuasive strim of the sward to a height of no more than 15 centimetres, in order to encourage reptiles to move into areas of adjacent suitable habitat. Subsequently, the top soil will be methodically stripped using an excavator with a toothed bucket, under the supervision of a suitably qualified ecologist. If any reptiles are encountered during the precautionary clearance works, they will be moved by an ecologist into an adjacent area of suitable habitat. Once the area is cleared it will be maintained as unsuitable for reptiles (i.e. bare ground) until construction/planting works can commence.

5.7.3 Significance of Residual Effects

The killing and injury of reptiles can be mitigated through precautionary clearance works, however, in order to facilitate the scheme, the loss of suitable habitat cannot be mitigated and there remains a residual effect.

5.7.4 Compensation

In order to compensate for the minor loss of suitable reptile habitat within the site a hibernation feature for reptiles will be installed amongst the new shrub planting, in an area adjacent to suitable off-site habitat, sited by a suitably qualified ecologist. This will increase the carrying capacity of remaining habitat in the surrounding area.

5.7.5 Enhancement

No enhancement measures are proposed.

5.7.6 Monitoring

No monitoring is required.

5.8 Invertebrates

5.8.1 Potential Impacts and Effects

The proposals will result in the loss of approximately 0.04 hectares of semi-improved grassland suitable for supporting invertebrates.

5.8.2 Mitigation Measures

In order to facilitate the proposals, the loss of the very limited area of semi-improved grassland cannot be mitigated.

5.8.3 Significance of Residual Effects

As the loss of grassland cannot be mitigated, there remains a minor residual effect.

5.8.4 Compensation

The loss of the semi-improved grassland will be compensated through planting of a diverse mix of native shrubs, which will provide a resource for invertebrates. The exact

specification will be drawn up by a landscape consultant in consultation with an ecologist.

5.8.5 Enhancement

Approximately 0.36 hectares of new shrub planting and 0.14 hectares of new tree planting is proposed as part of the scheme. This will not only compensate for the minor loss of habitat for invertebrates, but result in a net gain overall.

5.8.6 Monitoring

No monitoring is proposed.

5.9 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area, including the development of the wider Ford Airfield site.

6.0 CONCLUSIONS

6.1 Conclusion

The site has habitat that is suitable to support roosting, foraging and commuting bats, breeding birds, reptiles and invertebrates. Adverse impacts on these ecological features have been identified and appropriate mitigation and compensation measures proposed. Post-development, no residual or cumulative impacts are anticipated. The site will be enhanced through planting of new native shrubs and trees, resulting in an overall net gain for biodiversity. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including Policy ENV DM5 of the Arun Local Plan 2018 and the NPPF (see Section 2.0).

6.2 Updating Site Survey

Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 12 months of the date of the most recent relevant survey.

7.0 REFERENCES

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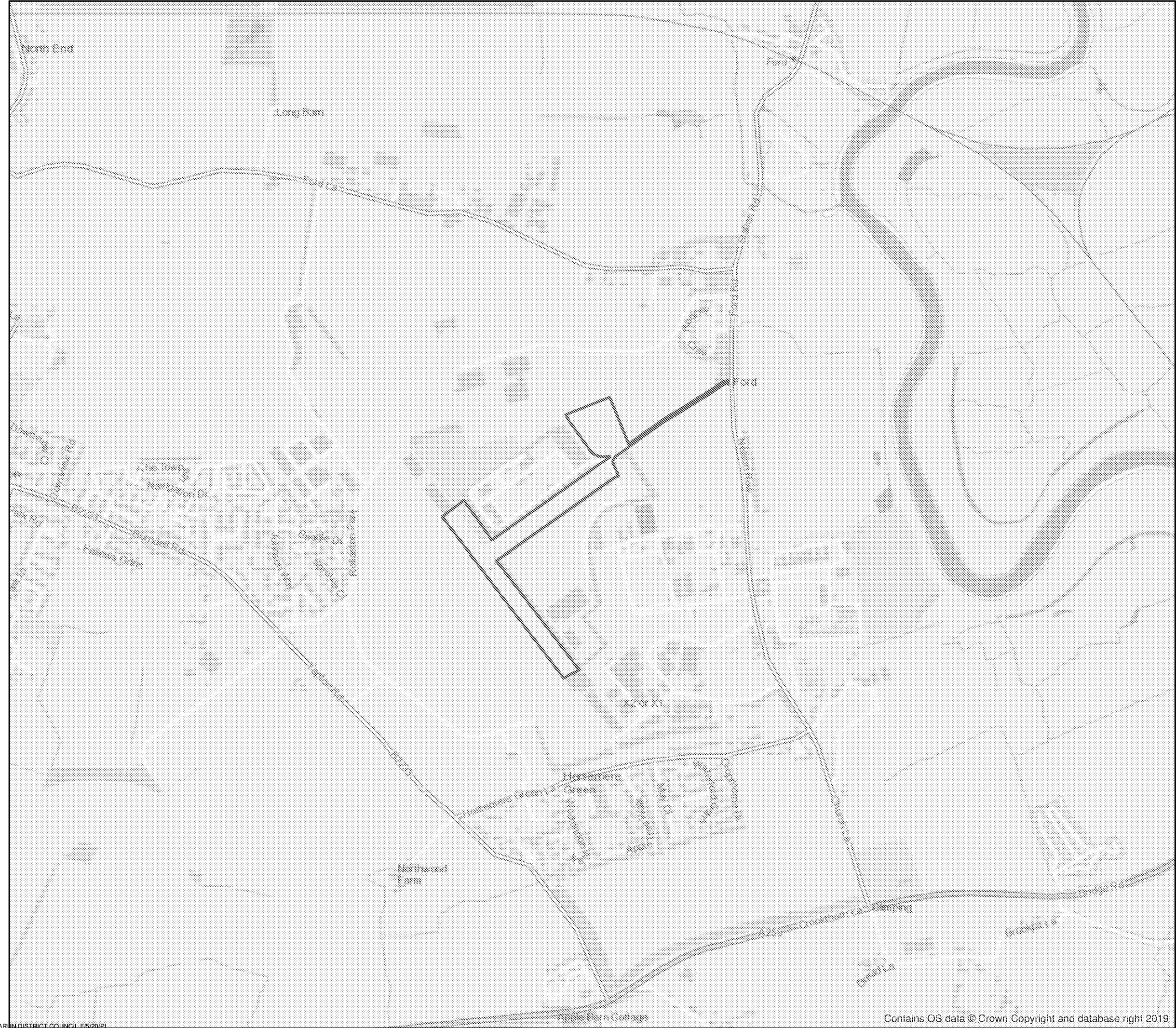
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Map 1 Site Location Plan



**FORD AIRFIELD MARKET, FORD,
ARUNDEL, WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

Client:	Redrow Homes / Wates Developments
Date:	October 2019
Status:	Final Rev. 1

KEY

 Site Boundary



Scale at A3: 1:10,000

0 125 250 500 Metres

N

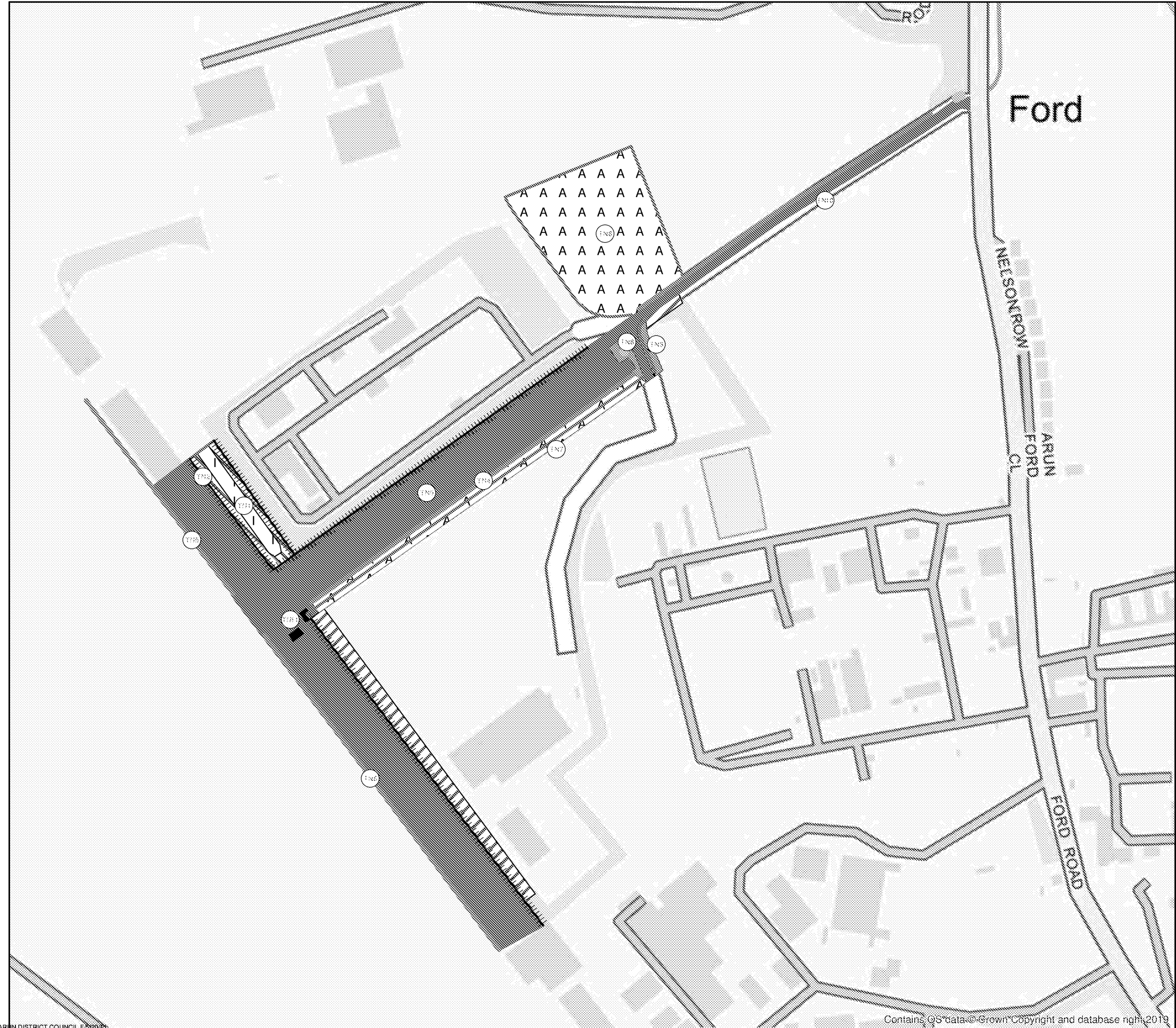
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Map 2 Phase 1 Habitat Map



**FORD AIRFIELD MARKET, FORD,
ARUNDEL, WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Map 2 - Phase 1 Habitat Map

Client:	Redrow Homes / Wates Developments
Date:	October 2019
Status:	Final Rev. 1

KEY

- Site Boundary
- Scattered Trees
- Broadleaved Woodland Plantation
- Semi-improved Grassland
- Improved Grassland
- Tall Ruderal
- Arable
- Buildings
- Hardstanding
- Species-poor Intact Hedgerow
- Fence
- Target Note

Scale at A3: 1:3,500

0 25 50 100 Metres

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Map 3 Bat Activity Survey Results for the Wider Ford Airfield Site



**FORD AIRFIELD MARKET, FORD,
ARUNDEL, WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Map 3 - Bat Transect Survey

Client:	Redrow Homes / Wates Developments
Date:	October 2019
Status:	Final Rev. 1

- KEY**
- Ford Airfield Market Site Boundary
 - Wider Ford Airfield Site Boundary
 - Northern Transect
 - Southern Transect
 - Key Areas of Bat Activity
 - Five Minute Point Count

N.B. A total of six bat transect surveys were undertaken between May and October 2017.

Scale at A3: 1:6,500

0 50 100 200 300 Metres

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Map 4 Breeding Bird Survey Results for the Wider Ford Airfield Site



**FORD AIRFIELD MARKET, FORD,
ARUNDEL, WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Map 4 - Breeding Bird Survey

Client:	Redrow Homes / Wates Developments
Date:	October 2019
Status:	Final Rev. 1

KEY

- Ford Airfield Market Site Boundary
- Wider Ford Airfield Site Boundary
- Dunnock
- Skylark
- Song Thrush
- Stock Dove
- Dunnock Territory
- Skylark Territory
- Song Thrush Territory
- Stock Dove Territory

N.B. Breeding bird survey visits were undertaken during May and June 2017. The species symbol on the map indicates the approximate territory centre of red and amber listed bird species of conservation concern.

Scale at A3: 1:6,500

0 50 100 200 300 Metres



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Appendix 1 Proposed Site Layout



~~~~~ Development Boundary

## PAVING MATERIALS

- P1 - Existing concrete base retained**
- P2 - Road: Bituminous tar-macadam;  
Colour: Black;  
with white paint markings**
- P3 - Footway: Aggregate Surface**

- P4 - Proposed Car Park & Other  
Hardstanding Area:  
Aggregate Surface**

## BOUNDARIES

- |    |                                                                                                      |
|----|------------------------------------------------------------------------------------------------------|
| F1 | Proposed 2.0m high powder coated galvanized steel frames with wire mesh infill panels; Colour: Black |
| G1 | Proposed 2.0m high powder coated galvanized steel single gate to match F1; Colour: Black             |
| G2 | Existing Gate to be made good/replaced as necessary                                                  |

## SOFT LANDSCAPE

-  Existing retained tree  
 Proposed Tree  
 Proposed Shrubs

NOTES:

- NOTES:
1. Drawings should be held in conjunction with other consultants' information and notes referenced.
  2. All no-dig areas along RPA's of retained forms are to be of porous paving material.

Project  
FORD AIRFIELD

# PROPOSED SITE PLAN

|            |            |          |          |
|------------|------------|----------|----------|
| Date       | Scale      | Drawn by | Check by |
| 07.05.19   | 1:1000@A0  | DS       | JH       |
| Project No | Grading No | Revision |          |
| 23885      | RG-M-118   | F        |          |



## **Appendix 2     Sites Designated for Nature Conservation**

### **Statutory Sites**

#### ***Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas***

Special Protection Areas (SPA) and Special Areas of Conservation (SAC) form a network of protected sites across the European Union called Natura 2000 sites. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to Natura 2000 sites.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds listed in the annexes of the Birds Directive. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on Natura 2000 sites or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a Natura 2000 site or Ramsar site.

#### ***Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves***

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

### ***Locally Designated Sites – Local Nature Reserves***

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

### **Non-Statutory Sites**

#### ***Locally Designated Sites***

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINC) or Sites of Nature Conservation Importance (SNCI), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

## **Appendix 3** Relevant Legislation

### **Breeding Birds**

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

### **Reptiles**

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix natrix*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

### **Species and Habitats of Principal Importance in England**

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, 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. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

### **Schedule 9 Invasive Species**

It is illegal to plant or otherwise cause the species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to grow in the wild. It is also classed as a 'controlled waste' under the Environmental Protection Act 1990 (EPA). As such it must be disposed of safely at a licensed landfill site according to the EPA (Duty of Care) Regulations 1991.

## **Appendix 4** Protected and Notable Species Appraisal Methods

### **Bats**

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

### **Otter**

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

### **Badger**

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

### **Hazel Dormouse**

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

### **Water Vole**

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed

bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

### **Birds**

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

### **Reptiles**

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

### **Great Crested Newt**

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

### **Invertebrates**

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

### **Other Relevant Species**

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species<sup>12</sup>, specific to the study region.

### **Invasive Species**

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

---

<sup>12</sup> LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

## Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 3**<sup>13</sup>.

**Table 3:** Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

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

<sup>13</sup> Table adapted from (Collins, 2016)