ethos
Environmental Planning

Ecological Assessment
Brunswick Military Base

November 2020

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Report Produced for FAIRHURST

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EXECUTIVE SUMMARY

Introduction	• The site is located within the Brunswick military base; • The proposals are for the construction of four new modular units, which will require the demolition of a number of existing structures on site; • This Ecological Assessment has been written to assess the potential ecological impacts the proposals may have.
Surveys undertaken	• This Ecological Assessment was completed following a desk study and a Phase 1 survey which was extended to include a structures surveys for bats completed on the 5th November 2020.
Ecological constraints	• No evidence of protected species was found at the site; • The site was assessed to hold low ecological value for nesting birds, hedgehogs and bats; • No evidence of bats was found on site and the building was assessed to have negligible potential for roosting. However, the site is surrounded by quality habitat with high bat potential in the wider area.
Recommendations	• A precautionary destructive search for bats at the features highlighted has been recommended prior to demolition; • Mitigation, compensation and enhancement measures have been included in relation to birds, bats and habitats at the site.

CONTENTS

1 INTRODUCTION

Ethos Environmental Planning (Ethos) have undertaken this Ecological Assessment (EA) at Brunswick road, Surrey (Central Grid reference SU 92347 56912) as shown in figure 1 and hereafter referred to as the "the site". The total area surveyed was 0.97ha and included built structures, hardstanding, trees and amenity grassland.

1.1 Aims and objectives

The overall assessment has been informed by guidelines provided in the *'CIEEM guidelines for ecological report writing 2nd Edition,* 2017*'*. Further guidance in relation to surveys for protected species is detailed in the relevant sections within this report. The primary aims of the ecological assessment is to provide a robust evaluation of the potential impacts of the proposed scheme on ecological features that may be affected; with due regard to relevant local planning policy and legislation.

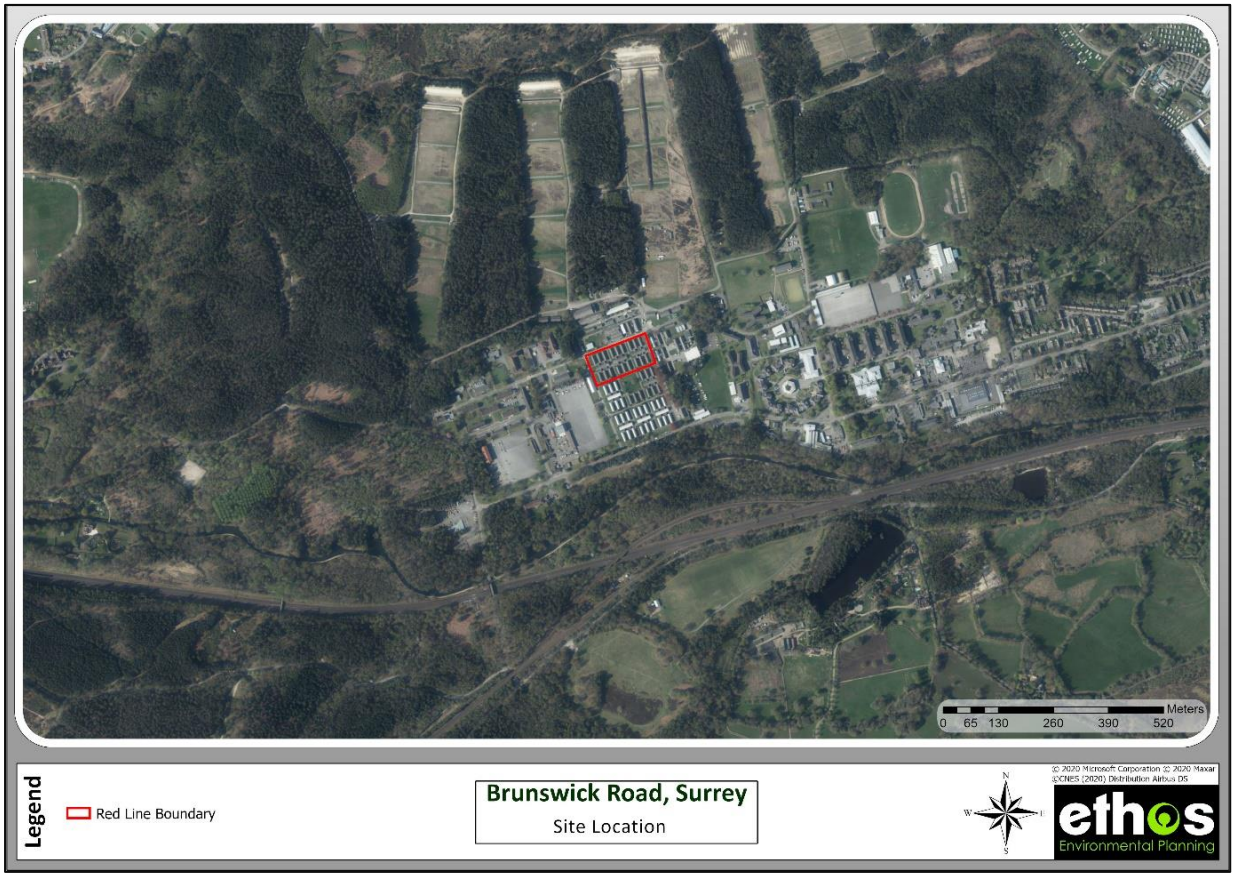
The Ecological Appraisal has the following objectives:

- To identify the existing habitats on site;
- To identify the potential for protected species;
- To establish baseline ecological conditions and determine the importance of ecological features present within the specified area;
- To identify if any further surveys are required with regards to protected habitats or species.
- To identify key ecological constraints to the project and make recommendations for design options to avoid significant effects on important ecological features/resources;
- To identify the mitigation and compensation measures to ensure there is no negative impact on habitats and protected species during construction and in operation;
- To establish any requirements for further surveys or licensing;
- To identify ecological enhancement opportunities to seek a net gain in biodiversity.

1.2 Site Location

The site was located off Parliamentary Road within the Brunswick military camp (Grid reference: SU 92347 56912) as shown in figure 1 below. The site was 0.97 hectares in size and comprised built structures, hardstanding, trees and amenity grassland. The immediate environment was dominated by army infrastructure including barracks and access roads. The site is located within London Area Greenbelt with Colony Bog and Bagshot heath SSSI located approximately 150 metres north of the site and Thames Basin Heaths located approximately 250 metres south of the site.

Figure 1 Site Location



1.3 Development proposals

The proposals include the demolition of 21 buildings and associated structural links to construct four new military units and extend existing CCTV surveillance. Figure 2 illustrates the most recent plans provided to date.

Figure 1 Development Proposals

1.4 Structure of Report

The following sections are included within this report:

- Legislative and planning context;
- Methodology;
- UK Habitat Classification Survey;
- Background Data Search
- Results for protected species;
- Discussion; and
- Recommendations.

2 LEGISLATIVE AND POLICY CONTEXT

This section provides a summary of the legislative and planning context which has been used to inform the ecological assessment and subsequent recommendations made in this report. Appendix 1 sets out further details in relation to the most relevant legislation and policy.

2.1 Summary of Legislation

The Habitats Directive (together with the Birds Directive) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. All in all, the directive protects over 1,000 animals and plant species and over 200 "habitat types" (e.g. special types of forests, meadows, wetlands, etc.), which are of European importance. The habitats Directive and parts of the Birds Directive are transposed into legislation by the **Conservation of Habitat and Species Regulations 2017**. Further detail on legislation and designated sites is provided in appendix A1.2; with reference to the protection of Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

The Wildlife and Countryside Act 1981 (as amended) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Badgers and their setts are protected under the **Protection of Badgers Act 1992** as amended by the Hunting Act 2004.

The **Natural Environment and Rural Communities Act 2006** (the NERC act) places a duty on all public authorities, including local planning authorities, to consider biodiversity in their work. Local planning authorities are to ensure that there is no net loss of biodiversity on a site, no net loss in habitat connectivity and aims to enhance biodiversity.

The **Hedgerows Regulations 1997** protect 'important hedgerows' from being removed (uprooted or destroyed). Hedgerows are protected if they are at least 30 years old and meet at least one of the criteria listed in part II of schedule 1.

Specific legislation related to different species such as bats, birds and reptiles is outlined in Appendix 1, A1.1.

2.2 Policy

The **National Planning Policy Framework (NPPF)** aims to minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including the establishment of coherent ecological networks more resilient to current and future pressures.

The **UK Biodiversity Action Plan (UK BAP)** sets out a programme for conserving the UK's biodiversity. It led to the production of 436 action plans between 1995 and 1999 to help many of the UK's most threatened species and habitats to recover. A review of the UK BAP priority list in 2007 led to the identification of 1,150 species and 65 habitats that meet the BAP criteria at UK level.

Local Policy

The Guildford Borough Local Plan: Strategy and Sties was adopted 25th April 2019 and provides policies in relation to planning. Below are some policies related to biodiversity and development.

POLICY P2: Green Belt

1. *The Metropolitan Green Belt, as designated on the Policies Map, will continue to be protected against inappropriate development in accordance with the NPPF. Inappropriate development will not be permitted unless very special circumstances can be demonstrated. Very special circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm is clearly outweighed by other considerations.*
2. *The construction of new buildings in the Green Belt will constitute inappropriate development, unless the buildings fall within the list of exceptions identified by the NPPF. For the purpose of this policy, the following definitions will apply to those exceptions:*

Extensions or alterations

- ***a.*** *The "original building" shall mean either:*
  - ***i.*** *the building as it existed on 1 July 1948; or*
  - ***ii.*** *ii. if no building existed on 1 July 1948, then the first building as it was originally built after this date Replacement buildings*

Replacement Buildings

- ***b.*** *A new building will only constitute a "replacement" if it is sited on or in a position that substantially overlaps that of the original building, unless it can be clearly demonstrated that an alternative position would not increase the overall impact on the openness of the Green Belt.*

Limited Infilling

- ***c.*** *"limited infilling" shall mean:*
  - ***i.*** *Limited infilling within the identified settlement boundaries, as designated on the Policies Map, of the following villages. Limited infilling may also be appropriate outside the identified settlement boundaries where it can be demonstrated that the site should be considered to be within the village.*

    Albury, Compton, East Clandon, East Horsley and West Horsley (north), Gomshall, Holmbury St Mary, Peaslake, Pirbright, Puttenham, Ripley, Shere, West Clandon and Worplesdon.

  - ***ii.*** *Limited infilling may also be appropriate outside the inset settlement boundaries, as designated on the Policies Map, of the following villages where it can be demonstrated that the site should be considered to be within the village.*

Ash Green, Chilworth, East Horsley, Effingham, Fairlands, Flexford, Jacobs Well, Normandy, Peasmarsh, Ripley, Send, Send Marsh/ Burnt Common, Shalford, West Horsley and Wood Street Village.

iii. *Limited infilling may also be appropriate in the following villages, where it can be demonstrated that the site should be considered to be within the village: Artington, Eashing, Farley Green, Fox Corner, Hurtmore, Ockham, Seale, Shackleford, The Sands, Wanborough and Wisley.*

3. *Certain other forms of development are also considered not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it, and these are listed in the NPPF.*

POLICY P5: Thames Basin Heaths Special Protection Area

1. *Permission will only be granted for development proposals where it can be demonstrated that doing so would not give rise to adverse effects on the ecological integrity of the Thames Basin Heaths Special Protection Area (SPA), whether alone or in combination with other development. Where one or more adverse effects on the integrity of the SPA will arise, measures to avoid and mitigate these effects must be delivered and secured in perpetuity. These measures are unlikely to be acceptable unless agreed with Natural England in accordance with South East Plan policy NRM6.*

2. *The following principles apply:*

- ***a.*** *There is an "exclusion zone" set at 400m linear distance from the SPA boundary. Permission will not be granted for development that results in a net increase in residential units within this zone. Proposals for other types of development within this zone must undertake Habitats Regulations Assessment to demonstrate that they will not harm the integrity of the SPA.*
- ***b.*** *There is a "zone of influence" between 400m and 5km linear distance from the SPA boundary. Where net new residential development is proposed within the zone of influence, avoidance and mitigation measures must be delivered prior to occupation of new dwellings and in perpetuity. Measures must be based on a combination of 1) the provision, improvement and/or maintenance of Suitable Alternative Natural Greenspace (SANG) and 2) Strategic Access Management and Monitoring (SAMM).*
- ***c.*** *Residential development of over 50 net new dwellings that falls between five and seven kilometres from the SPA may be required to provide avoidance and mitigation measures. This will be assessed on a case-by-case basis and in consultation with Natural England.*

SANGs

3. *The following principles apply to the provision of SANG:*

- ***a.*** *A minimum of 8 hectares of SANG land (after discounting to account for current access and capacity) should be provided per 1,000 new occupants.*
- ***b.*** *Developments must fall within the catchment of the SANG that provides avoidance, except developments of fewer than 10 net new residential units.*
- ***c.*** *The Council will collect developer contributions towards avoidance and mitigation measures, including SANG (unless bespoke SANG is provided) and SAMM.*

d. *Developments may secure or provide bespoke SANG. Proposals for new SANGs are unlikely to be acceptable unless agreed by Natural England. Large developments may be required to provide bespoke SANG.*

3. *Where further evidence demonstrates that the integrity of the SPA can be protected using different distance thresholds or with alternative measures (including standards of SANG provision different to those set out in this policy), the Council will agree these in consultation with Natural England.*

3 METHODOLOGY

3.1 Background Data Search

A background data search was undertaken for the site using open source information from Magic map. The search included details of statutory designated sites, along with an additional search for granted EPS licences within 2km of the site using publicly available data (DEFRA MAGIC map).

3.2 UKHab

The Site was surveyed and mapped using UKHab habitat classifications (UK Habitat Classification Working Group, 2018) on 5th November 2020. The survey methodology follows a similar procedure to the succeeded Phase 1 habitat surveys and includes a detailed assessment of the land within the development boundary, including a description and mapping of all key features and habitat types. Every habitat feature is given a Primary Habitat code and, where necessary, more detail has been added with the use of Secondary Codes. UKHab has its own symbology which has been used when creating maps for the existing and proposed habitats. The survey was carried out to identify the range of habitats within the site and the predominant and notable species of flora.

3.3 Protected species surveys

3.3.1 NERC S. 41 Mammals

The survey included an assessment of the habitats on site for their potential to support NERC Section 41 species such as hedgehog *(Erinaceus europaeus)*, polecat *(Mustela putorius)*, harvest mouse *(Micromys minutus)* and brown hare *(Lepus europaeus)*. This included a search for nests, runs, latrines, paw prints, and live specimens.

3.3.2 Badger

The survey for badger *(Meles meles)* included a search of the development site for any evidence of badgers, including setts, foraging signs (snuffle holes), runs and latrines.

3.3.3 Hazel Dormouse

The survey included an assessment of the potential of the site for hazel dormouse *(Muscardinus avellanarius)*, focusing on the connectivity and suitability of the habitat on site.

3.3.4 Riparian Mammals

The survey included an assessment of the potential of the site to support riparian mammals such as otter *(Lutra lutra)* and water vole *(Arvicola amphibius)*. The principal survey technique employed was a search for field signs including holts/burrows, couches, feeding sites, spraints/latrines and tracks.

3.3.5 Bats

The methodology for the bat survey has been informed by the Bat Conservation Trust *Bat Surveys Good Practice Guidelines 2016.*

Habitats

The habitats on site were assessed for their suitability for foraging and commuting bats and the potential for roosting bats.

Preliminary Roost Inspection

Physical external inspection of the buildings was undertaken by the surveyors using the equipment described below to assist the inspection. A CLU-10 (1 million candlepower) searchlight fitted with a red filter was used to search dark areas for signs of bats. Pentax 0.5m Papilio (8.5x21) close focusing binoculars were used to view areas inaccessible on foot. A Rigid SeeSnake Inspection Camera CA 350x was used to check small holes and gaps. Approximately 2.5 hours of search effort were expended.

The physical search includes a search for live animals and a search for other signs that give an indication of past or present occupancy as outlined below. In the case of bats, typical indicators include droppings (which are characteristic and can often be speciated or at least be indicative of species type), signs of staining, urine splashing, characteristic odours, and accumulations of discarded prey remains.

3.3.6 Birds

The bird survey included an assessment of the habitats on site for their potential to support breeding birds. Surveyors were equipped with Barr and Stroud 8 x 42 binoculars and any bird species observed during all site visits were recorded.

3.3.7 Reptiles

The potential presence of reptiles on site was assessed considering the habitats present (availability of refugia and basking areas) and suitability of surrounding environment. Where possible, attempts to confirm reptile presence on site were made following *Froglife Advice Sheet 10 – Surveying for Reptiles* through direct observation in reptile "hotspots" and checking of any existing refugia.

3.3.8 Amphibians

The habitats on site were assessed for their potential to support amphibian species, including great crested newts (*Triturus cristatus)* (GCN). Surveys for GCN were informed by the *Great Crested Newt Conservation Handbook,* Froglife 2001. The site was examined for suitable waterbodies and for breeding terrestrial habitat. Terrestrial habitats providing sufficiently structured vegetation in which amphibians may forage or hibernate over winter were also

surveyed for. In addition to the on-site assessment, *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) recommend that a desktop analysis of ponds within 500m of the site be undertaken, to identify any potential breeding ponds which may require further survey. Ponds within 500m of the site were mapped on GIS with an OS OpenData base map at 1:10,000 resolution.

3.3.9 Invertebrates

Due to the many invertebrate taxonomic groups that exist, the often-large differences in invertebrate diversity between habitats and the many survey techniques available, invertebrate surveys are highly specific to individual sites. Therefore, an assessment of the potential site for invertebrates was undertaken, including the need for targeted surveys.

3.4 Personnel

The assessment was led by Jim Philips – summary details are included within table 1 below**.** Jim has surveyed on numerous similar projects and has a wide range of skills and experience, which are considered to have provided a robust ecological appraisal of the site.

Table 1 Surveyor experience

Ecologist	Position	Qualification/Licence	Experience
Jim Philips	Managing Director	MSc BSc (Hons), MCIEEM Class 2 Bat Licence Class 1 GCN Licence	Jim's experience in ecology covers a wide range of projects and clients and his focus is on interpreting relevant policy and legislation to ensure projects are delivered efficiently and meet the needs of the client. He holds survey licenses for bats and great crested newts in England and Wales and is a registered consultant on Natural England's Bat Low Impact Class License (BLICL)

3.5 Limitations

The survey was undertaken outside the optimal survey season for flora species. However, considering the proposals are focused on the demolition of structures this is not considered to be a significant limitation.

4 BACKGROUND DATA SEARCH

4.1 Desk study

A desk study was undertaken for the site using publicly available information from the MAGIC map (DEFRA). The search radius included all areas up to 2km from the centre of the site.

Table 2 below provides a summary of the notable sites within 2km of the site.

Table 2 Notable sites

Site name	Site designation	Site description	Distance and direction from the site
Ash to Brookwood Heaths	SSSI	Part of the Thames Basin Heaths SPA and is a site of dry heathland, wet heath and bog. The site is important for nationally rare mosses and liverworts and an important site for rare birds.	750m south
Colony Bog and Bagshot Heath	SSSI	Part of the Thames Basin Heaths SPA and includes habitats of wet and dry heath, bog and unimproved grassland.	250m north
Basingstoke Canal	SSSI	Noted for being important for invertebrates, including 24 recorded species of dragonfly. Along with being a botanically rich area.	200m south
THURSLEY, ASH, PIRBRIGHT & CHOBHAM	SAC	Annex I habitats that are the primary reason for SAC designation include: Northern Atlantic wet heaths with Erica tetralix; European dry heaths and Depressions on peat substrates of the Rhynchosporion.	250m north and 750m south
THAMES BASIN HEATHS	SPA	The TBH SPA includes areas of heathland across Surrey, Hampshire and Berkshire, covering 11 different local authorities, including Guildford Borough. The TBH SPA has been identified as an internationally important habitat for three rare species of bird - the Dartford warbler, woodlark and nightjar.	250m north and 750m south

4.1.1 Protected species

2 bat licences were identified within a 2km radius. A bat licence was granted to destroy the resting place of a common pipistrelle bat in 2015, approximately 1.4km north-east of the site. A bat licence was granted for the same reason and species in 2016 2km north-west of the site.

5 UK HABITAT CLASSIFICATION SURVEY

5.1 General site description

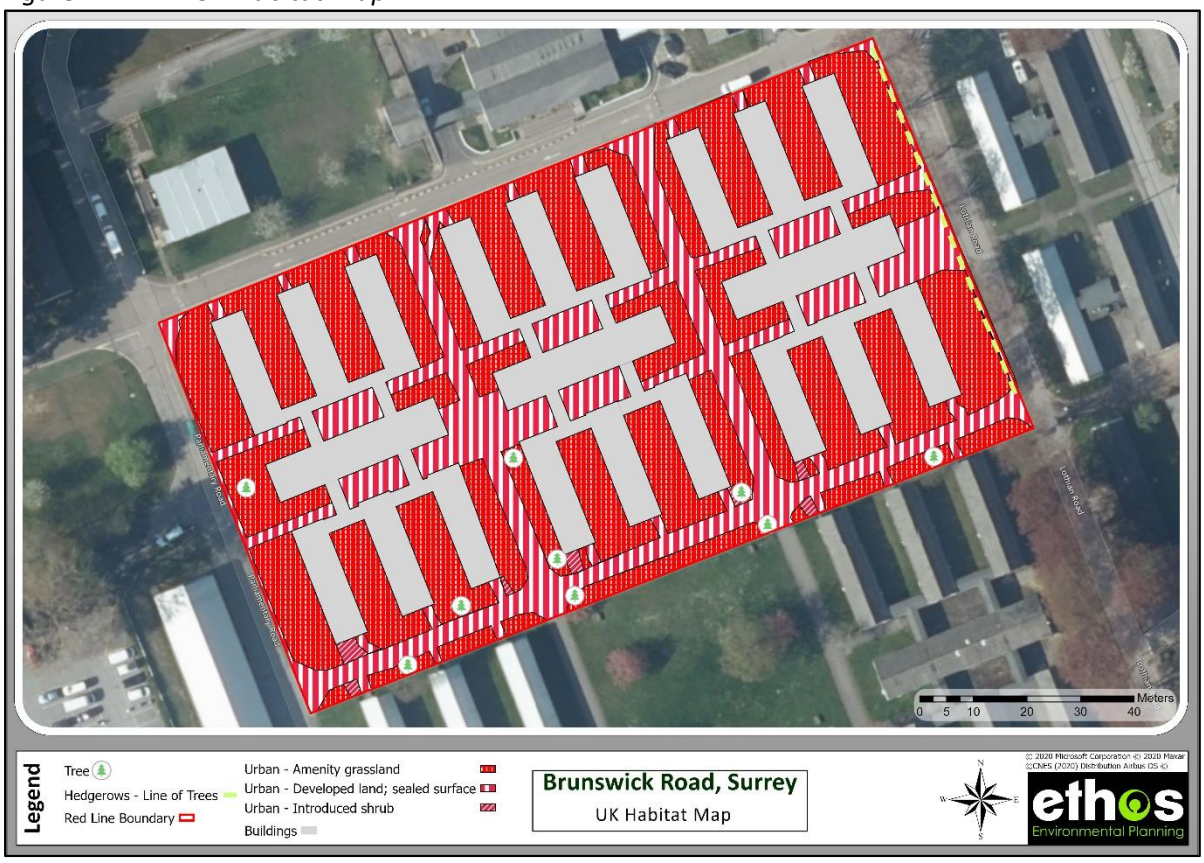
The site was dominated by concrete and tarmac hardstanding, built structures, comprising 21 buildings and their associated structural links. Short-sward amenity grassland surrounded the sealed surfaces and scattered sections of ornamental shrubbery fringed the eastern boundary paths. A line of mature beech trees bordered the eastern boundary and a few trees of mixed type interspersed the site.

5.2 Habitat description

Figure 2 below shows the key habitats using the UKHAB habitat classifications. The key features described within this section are:

- Developed land; sealed surface (u1b)
- Buildings (u1b5)
- Amenity grassland (g);
- Hedgerow – Line of trees (w1g6)
- Scattered trees (u); and
- Ornamental shrub (u)

Figure 2 UK Habitat Map



5.2.1 Buildings

The site was dominated by built structures comprising metal cladding, red brick and corrugated asbestos. There were 21 individual buildings and 12 structural links; these have been classified into Type A, B and C – see section 6.5.2 for details.

Photo 1: Type B gable end with C link to A

Photo 2: Type A with Type C link

5.2.2 Developed land; sealed surface

The site was intersected by tarmac footpaths and was surrounded by access roads for military vehicles. It also contained 6 enclosed courtyards paved to concrete.

Photo 3: Enclosed concrete courtyard

Photo 4: Tarmac footpath

5.2.3 Amenity grassland

Short-sward amenity grassland interspersed the buildings and hardstanding on site. It was dominated by perennial rye grass *(Secale cereale)* and Yorkshire fog *(Holcus lanatus)*. Other species lifted from a previous site report within 100m of the area included; yarrow *(Achillea millefolium)*, meadow buttercup *(Ranunculus acris)*, ribwort plantain *(Plantago lanceolata)*, daisy *(Bellis perennis)*, white clover *(Trifolium spp.)*, common birdsfoot trefoil *(Lotus corniculatus)* and selfheal *(Prunella vulgaris).*

Photo 5: Boundary grassland

Photo 6: Short-sward

5.2.4 Hedgerow – Line of trees

A row of mature beech trees *(Fagus sylvatica)* lined the north-eastern boundary of the line. They were considered to be in good condition with no indication of disease or damage.

Photo 7: Beech trees along NE boundary

5.2.5 Scattered trees

The scattered trees on site were mostly mature lime *(Tilia spp*) with 1 cherry *(Prunus spp)* and leyland cypress *(Cupressus × leylandii).*

Photo 8: Cherry and Cypress

Photo 9: Lime trees

5.2.6 Ornamental shrub

Small sections of ornamental shrub of box *(Buxus sempervirens)* were planted at building entrances along the southern boundary of the site. These were intensively managed at time of visit and in variable condition, from dense to sparse.

Photo 10: Dense shrub

Photo 11: Sparse shrub

6 RESULTS

6.1 NERC S. 41 Mammals

No evidence of NERC mammals was found during the phase 1 survey. The grassland on site was assessed as providing suitable foraging habitat for hedgehog *(Erinaceus europaeus)*.

6.2 Badger

No evidence of badger *(Meles meles)* was found on site; no latrines, snuffle holes or setts were present. The habitats on site were generally unsuitable for badgers, the absence of a sett either within or near to the site boundary refutes the need for further survey or recommendations. Badgers are therefore not discussed further in this assessment.

6.3 Dormouse

The habitats on site were considered to be unsuitable for dormouse *(Muscardinus avellanarius)*, with the ornamental shrubbery features lacking the vegetative density or connectivity with other suitable habitats required by this species. It was considered that dormouse are highly unlikely to be present on site and are not considered further in this assessment.

6.4 Riparian Mammals

There were no suitable waterbodies on or adjacent to the proposed site. The nearest suitable habitat was located 200m south of the proposed site, separated by urban development. The site did not provide a terrestrial link between suitable waterbodies in the wider landscape. It was therefore assessed that there was negligible potential for riparian mammals to be present on site and they are not considered further in this assessment.

6.5 Bats

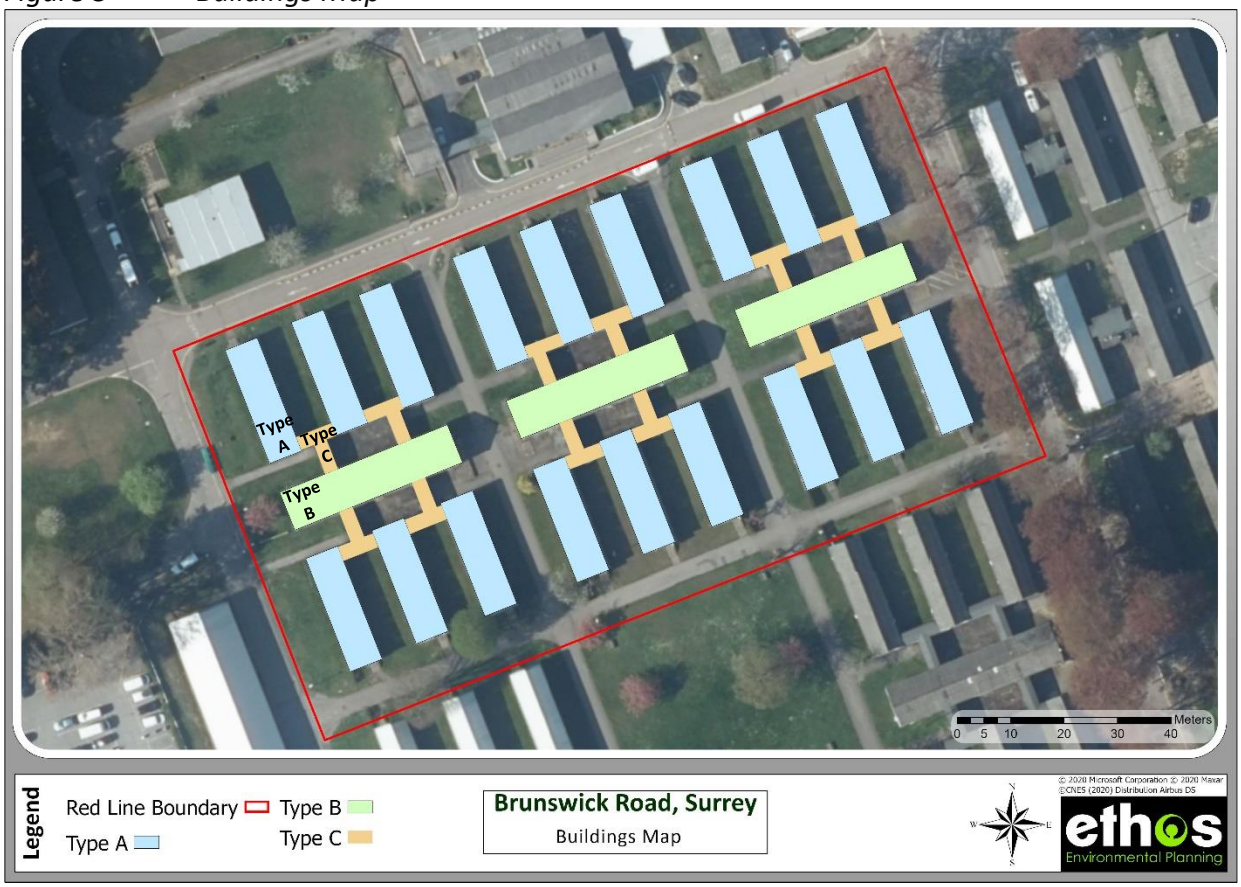
6.5.1 Habitat

The vegetation on site comprised amenity grassland, ornamental box shrubbery and a mix of non-native / native tree species. The shrubs were in isolated sections around the site offering little commute value and were in a variable condition. The lime trees had no identifiable features suitable for bats and were sparsely located throughout the area, providing minimal cover. The row of mature beech trees had no features for bats but offered cover 100m southwards towards higher quality habitat.

6.5.2 Preliminary Roost Inspection

21 buildings with an additional 12 structural links were present on site. The structures comprised 3 similar design styles as illustrated in Figure 3 below and were assessed for bat roosting potential.

Figure 3 Buildings Map



6.5.2.1 Type A

A single storey raised building with lower red brick construction and upper corrugated metal cladding. It had a double gable ended pitched roof lined with corrugated sheet and numerous double-glazed, casement windows. These were used as sleeping quarters or 'barracks'. See Section 5.2.6 for additional photos.

The brickwork was in mixed condition with some buildings showing minor cracking and flaking. Cracks present were assessed to be too small for bats with no roosting potential. The metal cladding was mostly in good condition and tight with occasional lifting above windows. The corrugated roof was in good condition but contained some gaps between the barge board and cladding with some minor roosting potential. These feature types were checked with an endoscope and found to have no evidence of bats.

Overall, the structures were assessed to hold negligible potential for roosting bats.[1]

[1] See Discussion, Section 7

Photo 12: Gaps under barge board

Photo 13: Flaking brickwork

6.5.2.2 Type B

A single storey building clad in metal sheets with a double gable ended roof of corrugated sheet. The casement windows were a mixture of double and single glazing where they had not been modernised. These buildings were 'ablutions'.

The brickwork was in fair condition with some buildings showing cracking and flaking below the concrete slab at the base of the metal cladding. The metal cladding was mostly in good condition and tight with occasional lifting above windows. The corrugated roof was in good condition but contained some gaps between the barge board and cladding with some minor roosting potential. These feature types were checked with an endoscope and found to have no evidence of bats.

Overall, the structures were assessed to hold negligible potential for roosting bats.[2]

Photo 14: Type B gable end

Photo 15: Gaps between barge board and cladding

[2] See Discussion, Section 7

6.5.2.3 Type C

A single storey structural link to facilitate passage between Type A and B buildings. These were designed to an asymmetrical 'T' shape and did not have gable ends. Their construction styles were varied between the two approaches described previously:

i) Type A – Partial brick construction with upper metal cladding and pitched asbestos roof; and
ii) Type B – Complete metal cladding but with flat asbestos roof

The brickwork was in fair condition with some buildings showing cracking and flaking below the concrete slabs. The metal cladding was mostly in good condition and tight with occasional lifting above windows. The flat asbestos roof was in good condition and contained no gaps under the eaves.

Overall, the structures were assessed to hold negligible potential for roosting bats

Photo 16: Link building

6.6 Birds

Opportunities for nesting birds were present within trees and shrub on site. It was assessed that there was moderate potential for breeding birds to be present on site.

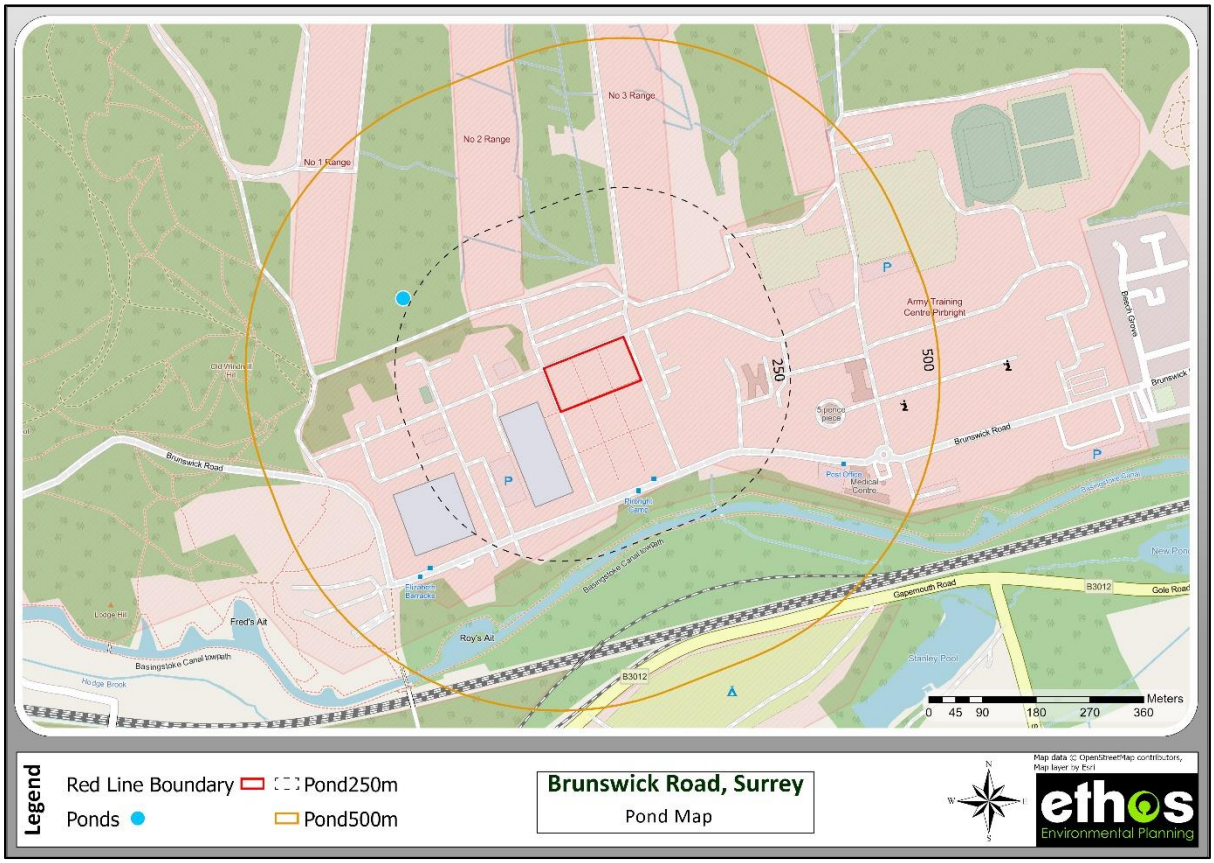
6.7 Reptiles

The site offered negligible value habitat for reptiles; the grassland was in short sward and trees lacked suitable understorey vegetation to be used by these species. The immediate environment was dominated by hard standing, other buildings and the site had poor connectivity with the wider environment. It was assessed that reptiles are likely absent from the site and they are not considered further in this assessment.

6.8 Amphibians

A desk study mapped the nearby ponds within 500m of the site, as shown in Figure 4. A single pond was located approximately 300m north of the site located within a woodland. There were no ponds located on site and therefore no suitable breeding habitat on site. The amenity grassland was assessed as having low potential for GCN and the ornamental shrub was in poor condition and located in isolated pockets. Due to the lack of connectivity, it was assessed that the site had negligible potential for GCN and they are not considering further in this assessment.

Figure 4 Ponds within 500m of the proposed site



6.8.1 Invertebrates

The habitats on site were assessed to hold minimal value for invertebrates. The majority of the tree habitat with the most to offer are being retained under proposals. . It was therefore considered that there would be no significant impact on these species.

7 DISCUSSION

7.1 Habitats

The site was located within a military base and characterised by buildings, hardstanding and amenity grassland. The development proposals are for the construction of four new modular units and will necessitate the demolition of a number of existing structures. The site currently offers minimal opportunities for biodiversity and there is some scope to make improvements if hardstanding is not increased.

The key features were identified as the line of mature beech trees on the eastern boundary. They were assessed to have moderate ecological value for their maturity and potential connectivity; recommendations have been made that they should be protected during development. The scattered native trees on site had low ecological value and could be replaced if needed for a greater diversity of native species.

The grassland was common at a local level and not afforded any special levels of protection, The ornamental shrubbery was non-native in isolated patches and in varied condition of density. It was assessed that the loss of these habitats would not have a significant negative ecological impact on site.

Due to the high quality habitat in the surrounding area and extent to which existing buildings are to be removed, recommendations have been made for habitat enhancements in Section 8.

7.2 Designated sites

The site is located within close proximity of the Thames Basin Heaths SPA and THURSLEY, ASH, PIRBRIGHT & CHOBHAM SAC which also include nearby SSSIs. The site is located centrally within the Brunswick military base and the proposals are for the construction of four new military blocks only. Given the use of the proposed building will be by the existing military base, it is unlikely that the proposals will result in any further impacts of local designated sites.

7.3 Protected Species

7.3.1 NERC S. 41 Mammals

The habitats on site were assessed to hold limited potential for foraging hedgehogs, with a focus on the amenity grassland. The proposals may result in the loss of this habitat, which offers some foraging opportunities for this species. Recommendations have been made in section 8 to protect hedgehogs during construction.

7.3.2 Bats

The habitats on site were assessed to hold low value for bats and the amenity grassland was assessed to be of low value for foraging. The wider landscape was dominated by optimal

woodland habitat, which was assessed to provide high suitability for commuting and foraging bats. The line of mature beech trees extending south, offered some cover habitat if bats were to commute through the site.

The structures were subject to a full internal and external inspection. The only feature that could be used by bats on the structures was at the gable ends of structures type A and B. Thes features were located where the barge boards on the gable ends overlapped the corrugated metal cladding. Each of these features was inspected for bats and no evidence found. It is considered that it would not be proportional to undertake targeted emergent surveys of this type of feature as this would be unlikely to return any additional evidence as to the presence/evidence of bats.

Therefore, whilst these features could be used by bats, due to the lack of evidence, an overall conclusion is that these structures had negligible potential for bats. However, as the features could in theory be used by bats at any point in the future, recommendations in relation to a precautionary destructive search for bats has been recommended in section 8.

7.3.3 Birds

The habitats on site were assessed to offer moderate potential for nesting birds, with the shrubbery, grassland and trees providing nesting and feeding opportunities. The line of beech trees offers nuts or 'mast' in autumn, which certain species will feed on. The proposals indicate the loss of a small amount of foraging and potential nesting habitat to accommodate the development and these activities have the potential to disturb nesting birds. Mitigation and compensation measures have been included in Section 8 in order to protect nesting birds using the site.

8 RECOMMENDATIONS

8.1 Habitats

These initial recommendations have been made in the assumption that the majority of habitats on site are to be lost to development, excluding the line of mature beech trees. If detailed plans indicate significant change, additional recommendations will likely be required.

- New or replanted areas of amenity grassland should be sown with a wildflower seed mix, such as Emorsgate EL1 (Flowering Lawn Mixture). The margins to
- The ornamental shrubbery to be removed should be replaced with native woody fruiting species, such as hazel, holly, beech, hawthorn and field maple;
- If it is not possible to retain the mature lime trees or if there is additional room, a selection of trees are recommended for the area, including; common plum *(Prunus domestica)*, European pear *(Pyrus communis),* rowan *(Sorbus aucuparia),* crab apple *(Malus sylvestris)* and common alder *(Alnus glutinosa).*
- These species flower at variable times of year and will be good for pollinators. The plum and pear are also edible for people.

8.2 Protected Species

8.2.1 NERC S. 41 Mammals

The following recommendations have been made in relation to hedgehogs but will also protect other species including badgers, amphibians and other small mammals.

<u>During Construction</u>

- Any trenches should have an escape route or be covered at night;
- Any external lighting used during construction must be switched off at night time to prevent disturbance to nocturnal animals.

8.2.2 Birds

- Vegetation clearance will be undertaken outside of the breeding bird season (March to September inclusive). If this is not possible, areas of vegetation to be cleared should be confirmed absent of active nests by a Suitably Qualified Ecologist (SQE);
- Tree and hedgerow planting recommended will benefit bird foraging and nesting opportunities and compensate for loss of habitat during construction.

8.2.3 Bats

- 2 Schwegler 2Fn bat boxes will be installed in the line of mature beech trees on the eastern boundary. If bats are found during ECOW, they can be placed inside them
- New lighting created on site should not exceed existing light levels.

8.3 Precautionary Method Statement for Bats

The following precautionary working method statement relates only to the works relating to the demolition of the buildings on site:

1. Before any works commence, a licensed ecologist shall brief any site contractors on the legal status of bats, appropriate procedures and control measures to be put in place;
2. The gable end barge boards for buildings Type 'A' and 'B' will undergo a 'soft-strip' destructive search prior to building demolition. This will be achieved by lifting the asbestos roof felt at the gable edges to allow the SQE to check for roosting bats;
3. This will be under the direct supervision of the SQE;
4. If more than 24 hours are to pass between inspection and building demolition, the SQE must sign-off that its condition does not offer new or further roosting potential; or the gaps should be soft-blocked to prevent bat access;
5. In the unlikely event that bats are encountered works must immediately stop, and the licenced ecologist will rescue the bat in line with the recommendations in the Bat Workers Manual (Nature Conservancy Council, 2004). *'Catch (don't handle bats; use a box, gloves or cloth), keep safely and release nearby at dusk the same day. Proceed carefully with work'.* Bats may also be deposited into bat boxes installed on site.

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APPENDIX 1 LEGISLATION AND POLICY DETAILS

A1.1 Legislation - Species

This section outlines the key legislation related to the habitats and species considered within this survey report.

A1.1.1 Bats

All British bats are fully protected under Section 9 Schedule 5 of the Wildlife and Countryside Act 1981 and amendments. Agreement, and are fully protected under The Conservation of Habitats and Species Regulations 2017. In addition, they are protected under the Berne Convention; they are given migratory species protection within the Bonn Convention.
Regulation 43 (1) of The Conservation of Habitats and Species Regulation 2017 makes it an offence to:

- *deliberately capture, injure or kill any species of bat;*
- *deliberately disturb any species of bat;*
- *damage or destroy a breeding site or resting place of any species of bat.*

It is an offence to disturb any bat roosting site, whether the bats are there or not. Under Regulations 43 (2) disturbance includes in particular any disturbance which is likely:

- *To impair their ability*
  - *to survive, to breed or reproduce, or to rear or nurture their young; or*
  - *in the case of a hibernating or migratory species, to hibernate or migrate; or*
- *To affect significantly the local distribution or abundance of the species to which they belong.*

Presence of bats does not necessarily mean that development cannot go ahead, but that with suitable, approved mitigation, exemptions can be granted from the protection afforded to bats under regulation 43 by means of a licence. Natural England (NE) is the appropriate authority for determining licence applications for works associated with developments affecting bats, including demolition of their roost sites. In cases where licences are required, certain conditions have to be met to satisfy Natural England. Before the Statutory Nature Conservation Organisation (SNCO), in this case NE, can issue a licence to permit otherwise prohibited acts three tests have to be satisfied under the requirement of Regulation 55. These are:

1. Imperative Reasons of Overriding Public Interest [Reg 55(2)(e)];
2. No Satisfactory Alternative [Reg 55(9)(a)];
3. Maintenance of Favourable Conservation Status [Reg 55(9)(b)].

In order to meet the tests, SNCO usually expects the planning position to be fully resolved as this is necessary to satisfy tests 1 and 2. Full planning permission, if applicable, will need to have been granted and any conditions relating to bats fully discharged. ahead of any licence application to the SNCO. The LPA have a legal duty under The Conservation of Habitats and Species Regulations 2017, to assess whether the application is likely to meet the Three Tests

and therefore the requirements for Natural England licensing, prior to determination of an application The Licence application process may take two months before a licence is issued. Planning Permission and granting of a bat licence are separate legal functions. Therefore receiving planning permission from the Local Authority is no guarantee that the SNCO will issue a derogation licence.

A1.1.4 Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) and cannot be killed or taken, their nests and eggs taken, damaged or destroyed while their nest is in use or being built. It also prohibits or controls certain methods of killing or taking except under licence. Other activities that are prohibited include possession and sale. Activities such as killing or taking birds (including relocating) which would otherwise be illegal can be carried out under licence where there is suitable justification and the issue cannot be resolved by alternative means.

Specially protected or Schedule 1 birds receive full protection under the Wildlife and Countryside Act 1981 (as amended). Part I birds are protected at all times, Part II during the close season only. In addition to the protection from killing or taking that all birds, their nests and eggs have under the Act, Schedule 1 birds and their young must not be disturbed at the nest.

A1.2 Legislation – Habitats

A1.2.1 European Designated Sites: Special Area of Conservation / Special Protection Area

The legal requirements relating to the designation, protection and management of SACs and SPAs in England are set out in the Conservation of Habitats and Species Regulations 2017 (SI No. 1012) , often referred to as 'the Habitats Regulations'. The 2017 regulations encapsulate all the amendments since they were last consolidated in 2010. SACs are designated under the EC Habitats Directive and SPAs under the EC Birds Directive. Collectively this network of EU-wide nature conservation site is referred to as Natura 2000 sites.

All SACs and SPAs in England are also Sites of Special Scientific Interest (SSSIs). The additional SAC/SPA designation is recognition that some or all of the wildlife habitats and species within a SSSI are particularly valued in a European context and require additional protection.

The Habitats Regulations require that any plans, projects or activities that is likely to significantly affect a SAC/SPA, either alone or in combination with other plans or project, must be subject to an assessment. This is irrespective of whether planning permission or other consent is required. The plan or project can only be consented or proceed if strict conditions are met to ensure protection of the site / favourable conservation status of qualifying species is met with no net negative impacts. The assessment must include consideration of potential off-site impacts to populations for which the sites are designated (for example loss of key foraging habitat beyond the SAC/SPA boundary), and in-direct impacts such as recreational pressure to SAC/SPA habitats and species.

The process is known as a Habitat Regulations Assessment (HRA) and comprises four stages:

i) Screening – Test of Likely Significant Effect (TOLSE)
ii) Appropriate Assessment and the Integrity Stage
iii) Alternative Solutions
iv) Imperative Reasons of Overriding Public Interest and Compensatory Measures.

The first stage is for the Competent Authority, usually the Local Authority, to carry out a TOLSE, or to request that a shadow HRA is completed to be adopted by the Competent Authority. The screening stage can take the form of an iterative process, whereby potential Likely Significant Effects are designed out or mitigated for. Whilst not a legal requirement until Stage 2 of the HRA process, this stage of the assessment is usually carried out in consultation with Natural England. Mitigation measures must be sufficiently detailed to inform the screening assessment and then secured through condition if it is for a planning proposal. In some situations, this may mean that the Competent Authority may request details for the screening process that would not usually be presented or submitted until the later stages of a proposal.

The decision-making authority may only permit or undertake the proposals if the screening assessment concludes that there would no adverse effect on the integrity of the SAC. Where it cannot reach this conclusion, the project can then only proceed by undertaking an 'Appropriate Assessment' of the adverse effect(s) which could not be screened out. This must be detailed, objective, based on best available scientific evidence and carried out in on-going consultation with Natural England, a legal requirement under the Habitat Regulations. If, with additional assessment and additional mitigation measures, the Competent Authority can still not ascertain that an adverse effect on the SAC/SPA habitats or favourable conservation status of qualifying species cannot be protected/maintained, permission to proceed with the plan or project should not be granted – subject to the provisions of Regulations 64 and 68: i) Overriding Public Interest (in the absence of alternative solutions) and ii) Secure Compensatory Measures (to ensure overall coherence of Natura 2000 is protected) respectively.

The HRA process allows those proposals which clearly will not impact upon the special European wildlife interest of a SAC to proceed. Natural England is able to provide advice to authorities on how proposed activities can avoid adverse impacts on a SAC/SPA.

Under the Habitats Regulations planning authorities must also require that any permitted development normally carried out under a general planning permission, but which may affect a SAC requires further approval before being undertaken.

As the statutory nature conservation body in England, Natural England is duty bound to ensure that SACs/SPAs are protected and managed favourably for conservation in line with the requirements of the Habitats Directive. Our experience is that it is usually possible to find mutually acceptable solutions where sustainable land use and wildlife can flourish.

A1.2.2 UK Designated Sites – National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI)

Nationally protected sites are designated under the Wildlife and Countryside Act 1981 (as amended), reinforcing protection provided by the National Parks and Access to the Countryside Act 1948. SSSIs may also form component units of SACs. Natural England have a statutory duty to protect NNRs and SSSIs and must be consulted for activities or applications where there is risk of damage to the SSSI. Consent from Natural England ('Request permission for works or activity on a SSSI') may be required for certain activities within or near to a SSSI.

A1.3 Policy considerations

The National Planning Policy Framework (NPPF) set out the Government's planning Policies for England, to provide the framework and planning requirements for local plans; to deliver strategic and sustainable development.

A1.3.1 National Planning Policy

NPPF 2018

The 2012 National Planning Policy Framework has been updated and replaced with NPPF 2018. This consolidates proposals from various Government consultation documents in recent years.

The NPPF 2018 sets out principles for conserving and enhancing the local environment. Key policies are that local plans should allocate land with least environmental or amenity value and take a strategic approach to maintaining and strengthening networks of habitats and green infrastructure.

Para 173 sets out nature conservation principles that LPAs should apply to the determination of planning applications:
'*When determining planning applications, local planning authorities should apply the following principles:*

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland) should be refused, unless there are wholly exceptional reasons and a suitable mitigation strategy exists. Where development would involve the loss of individual aged or veteran trees that lie outside ancient woodland, it should be refused unless the need for, and benefits of, development in that location would clearly outweigh the loss; and
d) 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 the environment.'