# QINETIQ SITE, FORT HALSTEAD, KENT

## CONSTRUCTION ECOLOGICAL MANAGEMENT PLAN

A Report to: QinetiQ

Report No: RT-MME-153844-01 Rev C

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The information which we have prepared is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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## 1. INTRODUCTION

#### 1.1 **PROJECT BACKGROUND**

In November 2020, QinetiQ commissioned Middlemarch Environmental Ltd to produce a Construction Ecological Management Plan (CEcMP) in order to control adverse ecological effects associated with the strategic redevelopment of QinetiQ owned land within Fort Halstead. A full description of the proposals is provided in Section 1.3.

A range of ecological surveys were completed by Waterman Group between 2006 and 2013 and by Middlemarch Environmental Ltd in 2018, with further updated surveys in 2020, to inform a separate hybrid planning application associated with the redevelopment of the wider Fort Halstead site. Land surveyed as part of these assessments included QinetiQ owned land.

Middlemarch Environmental Ltd were subsequently instructed to undertake a full suite of targeted surveys of the QinetiQ owned land, comprising:

- Preliminary Arboricultural Assessment (Report RT-MME-150872-01);
- Arboricultural Impact Assessment (Report RT-MME-150872-02 Rev B);
- Preliminary Ecological Appraisal (Report RT-MME-150872-03 Rev B);
- Preliminary Bat Roost Assessment (Report RT-MME-150872-04 Rev B);
- Badger Survey (Report RT-MME-150872-05 Rev B);
- Dusk Emergence and Dawn Re-Entry Bat Surveys (Report RT-MME-153340-01 Rev C); and,
- Winter Hibernation Bat Survey (Report RT-MME-153704-02 Rev B).

An Ecological Mitigation Strategy (Report RT-MME-150872-06 Rev B), a Bat Protection Strategy for Building X78 (Report RT-MME-150872-08 Rev B) and a Bat Mitigation Strategy for Building X9 (Report RT-MME-150872-08 Rev B) have also been prepared.

Middlemarch Environmental Ltd has also undertaken a Biodiversity Net Gain Assessment (Report RT-MME-153844-02 Rev B) and prepared a Landscape and Ecological Management Plan (LEMP, Report RT-MME-153844-03 Rev B) for the QinetiQ redevelopment.

The overall aim of the CEcMP is to minimise the potential impact of the construction works on the existing ecology of the site, and ensure works proceed in accordance with current wildlife legislation. This report contains the following information:

- Chapter 2: Ecological Baseline and Risk Assessment of Development.
- Chapter 3: General Control of Works.
- Chapter 4: Practical Measures to Avoid/Reduce Construction Impacts.
- Chapter 5: Drawings.

#### 1.2 SITE DESCRIPTION AND CONTEXT

The wider Fort Halstead site is located off Star Hill Road in Halstead, Kent, centred at National Grid Reference TQ 4970 5922. It is an irregular shaped parcel of land that measures 131.89 ha in size. The wider Fort Halstead site is bordered by the A224 Polhill to the north-east and Star Hill Road to the south-west. A mixture of arable and pastoral fields, pockets of woodland and farm buildings surround the site. The wider landscape is dominated by a rural setting, consisting of agricultural land interspersed with pockets of woodland and small settlements.

The planning application site extends to 15.8 ha and sits within the wider Fort Halstead site. The site is known as the QinetiQ enclave and is located on the southern-most boundary of the wider Fort Halstead site. The application site is bound by Crow Road to the north, the Scheduled Ancient Monument to the east, ancient woodland to the west and the existing site perimeter fence to the south.

At the time of the survey, the QinetiQ enclave comprised a defence research facility which contained a number of buildings with associated areas of hardstanding, surrounded by parcels of semi-natural and plantation woodland. Areas of neutral grassland, calcareous grassland and amenity grassland were also present, as well as patches of scrub and tall ruderal vegetation.

## 1.3 DESCRIPTION OF DEVELOPMENT

The proposals for the site are as follows:

Works to the proposed QinetiQ enclave comprising the erection of perimeter security fence, erection of a new reception building, creation of a new main site entrance along Crow Road, refurbishment of existing buildings including plant installation, creation of a new surface level car park and access, installation of two new explosive magazine stores and surrounding pendine block walls, demolition of existing buildings, installation of 6no. storage containers, installation of new site utilities and landscaping works.

#### 1.4 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Proposed Site Plan / 30002236-BHK-00-XX-DR-A-003	Baker Hicks

**Table 1.1: Documentation Provided by Client** 

# 2. ECOLOGICAL BASELINE AND RISK ASSESSMENT OF DEVELOPMENT

## 2.1 ASSESSMENT OF POTENTIALLY DAMAGING CONSTRUCTION ACTIVITIES

The following activities are likely to be required during the works:

- Use of site by construction vehicles;
- Use of site by personnel;
- Use of machinery;
- Building demolition, vegetation clearance (including tree removal) and groundworks;
- Use of lighting for work compounds; and,
- Storage of building materials on site.

In the absence of mitigation, these activities have the potential to result in the following impacts:

- Direct loss or damage to habitats scheduled for retention, in the event that areas outside the construction zone are accessed by vehicles, machinery or people;
- Physical damage or disturbance of retained trees, through compaction of soils and damage to the root stock;
- Increased noise and/or visual disturbance from vehicles, people, machinery and lighting;
- Air, ground and water pollution on and adjacent to the site due to emissions from vehicles and machinery;
- Release of dust from machinery and stored materials; and
- Killing, injury or disturbance to fauna during vegetation clearance and groundworks.

The following sections provide information regarding the existing ecological baseline of the proposed development site and further detail as to how ecological features could be impacted upon in the absence of appropriate mitigation and control measures. Legislation relevant to the ecological features which have the potential to be present on site is provided in Appendix 2.

## 2.2 NATURE CONSERVATION SITES

## 2.2.1 Statutory Sites

The desk study completed as part of the Preliminary Ecological Appraisal (Report RT-MME-127947-01) for the wider Fort Halstead site in 2018 included a search for European statutory nature conservation sites within a 5 km radius of the site (extended to 10 km for any statutory site designated for bats) and a search for UK statutory nature conservation sites within a 2 km radius, using the Multi-Agency Geographic Information for the Countryside website. No European statutory sites were identified within 5 km of the site and no UK statutory sites were identified within a 2 km radius.

However, the site is located within 10 km of Westerham Mines SSSI, which is located 6.93 km south-west. The principal interest of this site is the use of its abandoned ragstone mines by a variety of hibernating bats. The ancient woodland within and adjacent to the site has the potential to form part of the foraging range for populations of bats supported by Westerham Mines SSSI. As such, increased illumination associated with construction phase lighting could lead to the severance of commuting routes or a reduction in suitable foraging habitats for these bats. Nevertheless, given the distance between the site and the SSSI, any effect on local bat populations is considered to be minimal. Potential impacts can be avoided subject to the implementation of lighting control measures, detailed in Chapter 4.

## 2.2.2 Irreplaceable Habitat (Ancient Woodland)

The 2018 desk study included a search for ancient woodland sites within a 2 km radius (of the wider Fort Halstead site). A total of 81 parcels of ancient woodland were identified, one of which falls within of the QinetiQ site.

All ancient woodland within the site will be retained. A section of new perimeter fencing will be installed within ancient woodland to the east of the site, however no habitat loss is anticipated to accommodate these works. In all other areas, a buffer of at least 15 m between the woodland and the construction footprint will be implemented. However, retained ancient woodland habitat within and adjacent to the site could be temporarily adversely impacted during the construction phase of the development as a result of a localised increase in air pollutants (e.g nitrogen and dust deposition) from construction traffic and activities, leading to a decline in conservation status. Mitigation measures are provided in Chapter 4.

## 2.2.3 Non-Statutory Sites

Middlemarch Environmental Ltd requested desk study data regarding non-statutory sites within a 2 km radius of the Wider Fort Halstead site from Kent and Medway Biological Records Centre in 2018. Chevening Estate Local Wildlife Site (LWS) is the closest non-statutory site to the QinetiQ site, located 280 m south-west. All other non-statutory sites are situated at least 1.22 km from the QinetiQ site.

Due to the type of development (i.e. refurbishment of existing laboratories and offices) and the distance between the QinetiQ site and non-statutory sites, no adverse impacts on non-statutory sites are anticipated as a result of the construction works. Therefore, non-statutory sites are not considered further within this CEcMP.

### 2.3 HABITATS

A Phase 1 Habitat Survey was completed by Middlemarch Environmental Ltd in August 2020 as part of the Preliminary Ecological Appraisal (Report RT-MME-150872-03 Rev B). The following habitats were identified within the QinetiQ site:

- Amenity grassland;
- Broad-leaved semi-natural woodland;
- Buildings;
- Fencing;
- Hardstanding;
- Poor semi-improved grassland;
- Scattered scrub;
- Scattered trees;
- Tall ruderal vegetation; and,
- Unimproved calcareous grassland.

The most notable habitat recorded within the site are the broad-leaved semi-natural woodland, scattered trees and unimproved calcareous grassland. The types of woodland and grassland within the site are classed as Habitats of Principal Importance and Kent Biodiversity Strategy priority habitats, and will be retained and protected throughout the works. Further details are provided in Chapters 3 and 4.

Mature trees can provide biodiverse habitats, often possessing a range of ecological 'niches' which support numerous invertebrate, fungi and plant specialists. The ecological associations between trees and the biodiversity they support develop over time, and as such, the mature trees on site cannot be easily replaced in the short to medium term. The majority of scattered trees will be retained, although a small number will need to be removed to accommodate the works. In the absence of mitigation, construction activities associated with the proposed development, such as ground works and use of operational machinery, could result in the physical damage or disturbance of retained trees, through compaction of soils and damage to the root stock. Mitigation measures are detailed in Chapter 4.

Although not national or local priority habitats, the amenity grassland, poor semi-improved grassland, scattered scrub and tall ruderal vegetation contribute to the structural and species diversity within the site. These habitats will largely be retained and protected. Mitigation measures are detailed in Chapter 4.

The remaining habitats (buildings, fencing and hardstanding.) have negligible ecological value and are not notable considerations with respect to the proposed works. The buildings have the potential to support protected/notable species, which are discussed in Section 2.4.

## 2.4 PROTECTED/NOTABLE SPECIES

Middlemarch Environmental Ltd requested desk study data regarding protected and notable species within a 2 km radius of the Wider Fort Halstead site from Kent and Medway Biological Records Centre in 2018. Based on the 2018 desk study exercise and survey works completed at the site to date (see Section 1.1), the species or species groups deemed to be notable considerations with regards to proposed works are described below.

A confidential chapter relating to badgers *Meles meles* is provided in Appendix 1.

## 2.4.1 Bats

The 2018 desk study provided records of at least seven different bat species (common pipistrelle, soprano pipistrelle, noctule, Leisler's bat, Natterer's bat, serotine and brown long-eared bat) within a 2 km radius of the wider Fort Halstead site, in addition to records of unidentified pipistrelle, *Myotis*, and long-eared bat species. The most recent records dated from 2016 and the nearest records were attributable to common pipistrelle, Leisler's bat, Natterer's bat, brown long-eared bat and a *Myotis* species, all located on site (within the wider Fort Halstead boundary).

No bat roosts have been identified within any of the buildings within the QinetiQ site boundary during surveys completed by Waterman Group between 2007 and 2014 and Middlemarch Environmental Ltd in 2018.

A targeted Preliminary Bat Roost Assessment (Report RT-MME-150872-04 Rev B) of the buildings within the QinetiQ site was completed by Middlemarch Environmental Ltd over two site visits in August 2020. A total of 36 buildings were classed as having high potential to support roosting bats, and 26 buildings were classed as having low potential to support roosting bats. In addition, there are numerous trees across the site which may support potential roosting features for bats. As such, in the absence of mitigation, building demolition/refurbishment and tree removal works have the potential to result in the killing or injury of bats and the loss of roosts. Loss of a bat roost would be in breach of the Conservation of Habitats and Species Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended).

A brown long-eared bat transitional roost was identified in Building X9 during dusk emergence and dawn reentry bat surveys completed in 2020. A Natural England Bat Development Licence will be required before any works can proceed. The associated method statement will outline how works will proceed in order to ensure relevant legislation is followed and no bats are injured or killed during the works.

There is the potential for roosts present within retained buildings and trees to be disturbed as a result of vibration, noise and illumination during the construction phase of the Proposed Development. In addition, the use of temporary lighting during the construction phase has the potential to disrupt or fragment bat commuting and foraging corridors. These impacts could lead to reductions in breeding or foraging success and subsequent declines in the favorable conservation status of local bat populations.

To avoid impacts on roosting, foraging and commuting bats, the measures outlined in Chapter 4 will be implemented.

A separate Bat Protection Strategy (Report RT-MME-15872-08 Rev B) has been prepared to allow for the reroofing of Building X78 to commence and should be read in conjunction with this CEcMP.

## 2.4.2 Dormice

Two records of dormouse were provided in the 2018 desk study, with the most recent record dating from 2015 and the nearest located 510 m south of the wider Fort Halstead site. During the 2018 Dormouse Survey (Report RT-MME-127947-10) of the wider Fort Halstead site, a single dormouse was identified in a nest tube located within an area of bramble scrub, located towards the south-western corner of the QinetiQ site, connected to the semi-natural broadleaved woodland which extends around the site.

As stated in EMS (Report RT-MME-150872-06 Rev B), it is understood that the habitats suitable for dormouse (woodland and scrub) will largely be retained and therefore impacts on this species are unlikely. However, if any clearance of scrub vegetation within the QinetiQ site is required to accommodate the works, there is the potential for the works to result in the accidental killing, injury or disturbance of dormice, the fragmentation of commuting routes and a reduction in foraging and nesting habitat, which would be in breach of the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).

Precautionary mitigation measures are provided in Chapter 4.

## 2.4.3 Other terrestrial mammals (brown hare and hedgehog)

Five records of hedgehog within a 2 km radius of the wider Fort Halstead site were identified in the 2018 desk study. The most recent record dated from 2014 and the nearest record was located over 1.3 km north of the wider site. No records of brown hare were provided in the desk study. The mosaic of woodland, grassland and scrub within the southern part of the QinetiQ site provides suitable foraging and refuge

opportunities for terrestrial mammals, particularly hedgehog. The open grassland located in the southeastern part of the QinetiQ site may be utilised by brown hare.

In the absence of mitigation, individual foraging terrestrial mammals could become trapped and harmed in open excavations. In addition, vegetation clearance could disturb terrestrial mammals. Mitigation measures are outlined in Chapter 4.

## 2.4.4 Birds

The desk study provided records of numerous species of bird listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), although due to the specific breeding ranges and habitat requirements of many of these species, they are highly unlikely to occur within the site.

The desk study also included records of 31 bird species listed as Species of Principal Importance, including 13 Birds of Conservation Concern 4 Red List species (corn bunting, cuckoo, house sparrow, lesser spotted woodpecker, marsh tit, skylark, song thrush, starling, tree sparrow, turtle dove, willow tit, yellow wagtail and yellowhammer) and four Birds of Conservation Concern 4 Amber List species (bullfinch, dunnock, nightjar and reed bunting). There are suitable habitats within the QinetiQ site for several of these notable species.

A range of notable bird species have been recorded within the QinetiQ site during breeding and winter bird surveys completed by Middlemarch Environmental Ltd in 2018 and 2019, comprising song thrush, spotted flycatcher and yellowhammer (Species of Principal Importance in England and Birds of Conservation Concern 4 Red List species); bullfinch and dunnock (Species of Principal Importance in England and Birds of Conservation Conservation Concern 4 Amber List species); and, stock dove and tawny owl (Birds of Conservation Concern 4 Amber List species).

The woodland, scrub, trees and buildings on site provide suitable nesting opportunities for birds. In the absence of avoidance or mitigation measures, building demolition/refurbishment works and tree removal works could lead to the killing or injury of nesting birds, which would be in breach of the Wildlife and Countryside Act 1981 (as amended) and could lead to reductions in breeding or foraging success and subsequent declines in the favorable conservation status of local bird populations. Appropriate mitigation measures are outlined in Chapter 4.

## 2.4.5 Reptiles

The 2018 desk study revealed records of four reptile species within a 2 km radius of the wider Fort Halstead site, comprising common lizard, slow worm, grass snake and adder. The nearest records were attributable to common lizard and slow worm, located on site. The most recent record was attributable to grass snake, dating from 2016.

During the 2018 Reptile Survey (Report RT-MME-127947-09), populations of slow worm and common lizard were recorded within the southern part of the site wider Fort Halstead site, including a good population of slow-worm and a good population of common lizard within the area of unimproved calcareous grassland located within the southern part of the QinetiQ site.

The majority of habitats where reptiles have been recorded will be retained and protected throughout the development works, and the risk of harm to reptiles during construction works is considered to be low. However, any temporary works, including the storage of construction materials within the 'Downs Range' area of the site have the potential to impact reptiles. Whilst the upper 'Downs Range' area was found to be of low value to reptiles during the 2018 survey as a result of frequent mowing, it is directly connected to the lower 'Downs Range', where good populations of slow-worm and common lizard were recorded. As such, during construction, there is the potential for the killing, injury or disturbance to individual slow worms or common lizards utilising habitats at the site. Without mitigation, the works would likely cause a breach of wildlife legislation: these species are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional killing or injuring. Appropriate precautionary mitigation measures are outlined in Chapter 4.

## 2.4.6 Protected/Notable Species Scoped Out

The following protected species and species groups are not considered to be material considerations due to the lack of desk study records or the absence of suitable habitats within the survey area and its surroundings: otter, water vole, pine marten, polecat, red squirrel, great crested newt and common amphibians and white-clawed crayfish.

## 2.6 SUMMARY

A summary of the biodiversity risk assessment is provided in Table 2.1, which details the key ecological features that could be subject to adverse impacts in the absence of mitigation during the proposed works.

Ecological Feature	Potential Impacts and Effects from Proposed Works (in the Absence of Mitigation)
Habitats	
Notable habitats (woodland, unimproved calcareous grassland, scattered trees)	Damage to habitats due to encroachment of construction vehicles and machinery outside of works footprint. Pollution and dust deposition due to emissions from construction vehicles and machinery. Compaction in Root Protection Areas of trees. Leading to decline in habitat quality, function or ability to support wildlife.
Other habitats (amenity grassland, poor	Habitat loss or damage. Habitats generally of low ecological value but do
semi-improved grassland, scattered scrub and tall ruderal)	provide some structural diversity and may support protected species (e.g. nesting birds).
Protected/Notable Species	
Bats	Loss of habitat; killing or injury of roosting bats during building demolition/refurbishment or tree removal works; fragmentation of habitat due to lighting; disturbance due to noise and vibration in proximity to roosts. Breach of wildlife legislation and potential decline in favourable conservation status of local bat populations.
Badger	See Appendix 1.
Dormouse	Loss/fragmentation of habitat; killing or injury during vegetation clearance works. Breach of wildlife legislation and potential decline in favourable conservation status of local populations.
Terrestrial mammals (brown hare and hedgehog)	Disturbance/harm during vegetation clearance and groundworks. Potential decline in favourable conservation status of local mammal populations.
Birds	Loss of potential nesting habitat; killing or injury during building demolition/refurbishment or tree removal works. Breach of wildlife legislation and potential decline in favourable conservation status of local bird populations.
Reptiles	Loss of habitat; killing or injury during vegetation clearance and groundworks. Breach of wildlife legislation and potential decline in favourable conservation status of local reptile populations.

#### Table 2.1: Summary of Potential Impacts/Effects on Ecological Features from Proposed Works

Control measures to prevent and manage potentially adverse impacts on ecological features during the construction phase/s of the development are provided in Chapters 3 and 4.

# 3. GENERAL CONTROL OF WORKS

This section of the report provides information with respect to the methods that will be implemented during the construction phase, in order to ensure the protection of ecologically sensitive habitats within the site and to prevent significant adverse impacts on any notable species present.

## 3.1 ECOLOGICAL MANAGEMENT TEAM

The overall responsibility for ensuring construction works proceed in accordance with the CEcMP will lie with QinetiQ and/or the contractor.

QinetiQ and/or the contractor will appoint an Ecological Manager. The responsibilities of the Ecological Manager will include developing method statements and site protocols as required, providing guidance for the site team in dealing with environmental matters, and liaising with contractors/sub-contractors and any statutory or third party with an ecological interest in the scheme. The Ecological Manager will ensure that all site personnel are appropriately briefed on the ecological issues within the site. This will be undertaken through inclusion of ecological briefings within the 'toolbox' talks given to all staff as part of the site induction process.

A suitably qualified Ecological Clerk of Works will be appointed by QinetiQ and/or the contractor to advise and oversee construction activities where appropriate and ensure the site team and sub-contractors comply with site protocols and control/mitigation measures. Any failings will be reported to the Project Manager immediately, who will be responsible for ensuring that remedial action is implemented.

The Ecological Clerk of Works will be responsible to the Ecological Manager and will approve all method statements, in addition to ensuring that any relevant site ecological protocols are appended and that these controls are adhered to.

The ecological management team for this project is summarised in Table 3.1.

Role	Persons Responsible
Project Manager / Site Manager	QinetiQ and/or the contractor
Ecological Manager	Middlemarch Environmental Ltd
Ecological Clerk of Works	Middlemarch Environmental Ltd

 Table 3.1: Ecological Management Team

## 3.2 IDENTIFICATION OF BIODIVERSITY PROTECTION ZONES

In order to categorise the site according to ecological risk and to identify areas where certain construction activities are prohibited or restricted, a traffic light system will be implemented. The works area has been divided into Red, Amber and Green Zones, with Red Zones being those areas of highest biodiversity interest and of greatest risk from construction.

The areas of the site falling into each of the Biodiversity Protection Zones are detailed in Sections 3.2.1 to 3.2.3, and are shown on Drawing C153844-01-01 in Chapter 5.

## 3.2.1 Red Zones / Features

Red Zones are defined as the most ecologically sensitive parts of the development site, or the areas most vulnerable to ecological damage. Red Zones are the areas that will be retained and protected throughout the development, and works will be subject to ongoing monitoring by the Ecological Clerk of the Works (see Section 4.3). Measures that will be implemented to ensure that Red Zones are protected are summarised in Chapter 4.

The following features are included within this category:

- Ancient woodland and other broad-leaved semi-natural woodland;
- Unimproved calcareous grassland (and scattered scrub and tall ruderal); and,
- Trees to be retained.

### 3.2.2 Amber Zones / Features

Amber Zones are defined as areas of moderate to high ecological value that may be subject to direct or indirect impacts as a result of the proposed development. The following features are included within this category:

- Trees to be removed;
- Buildings to be demolished;
- Pockets of amenity grassland and poor semi-improved grassland which have the potential to be impacted by the proposals.

All works within Amber Zones should proceed with caution and should be subject to regular monitoring by the Ecological Clerk of Works. Specific mitigation and control proposals that will be implemented to minimise the ecological impact of work in Amber Zones are detailed in Chapter 4.

#### 3.2.3 Green Zones / Features

Green Zones are areas identified as having low ecological interest where breaches of wildlife legislation are unlikely to occur. They are of low intrinsic value, and do not offer any key habitat for notable or protected species. Fences and hardstanding are included within this category, although due to their limited extent, these habitats are not depicted on Drawing C153844-01-01.

Works within Green Zones are permitted to proceed without supervision by the Ecological Clerk of Works, provided that ecological best practice is adhered to at all times. Should any ecological issues be identified, works will cease and the Ecological Clerk of Works will be contacted for advice.

#### 3.3 QUALITY CONTROL

#### 3.3.1 Site Inductions / Toolbox Talks

All personnel on site will receive a site induction prior to commencing any work activities. The site induction will highlight key issues, operations, times of year and areas in relation to ecology. The induction will include:

- Awareness of the Biodiversity Protection Zones Map (see Drawing C153844-01-01 in Chapter 5);
- Site activity method statements;
- Reporting hierarchy; and,
- Permit system.

#### 3.3.2 Ecological Permits

Ecological Permits will be required for working in Red or Amber Zones. These will be valid for specific time periods and should be renewed at least once a month.

#### 3.3.3 Ecological Certificates

Once an activity has been completed or work in a designated area is finished, a certificate will be signed by the Ecological Manager to confirm it has been carried out to an acceptable standard.

#### 3.3.4 Rectification Notices

Rectification notices will be issued by the Ecological Clerk of Works to the Site Manager or a representative of the site team for implementation of action required. These will be signed on completion by the site manager or a representative of the site team and counter signed by the Ecological Manager or Clerk of Works.

## 3.3.5 Daily Record Sheets

The Ecological Clerk of Works will record activities and observations onto a record sheet during visits to the site.

#### 3.3.6 Progress Report

The Ecological Manager will produce a monthly report based on the record sheets, highlighting any issues raised during the programme. The report will include copies of:

- Ecological Permits;
- Ecological Certificates; and,
- Rectification Notices.

## 3.3.7 Revisions to Scheme

Should the need to amend any details of the scheme arise, such as the proposed methods of working or the extent of the works, the proposed changes will be approved in writing by the Ecological Clerk of Works prior to implementation, and also by the Local Planning Authority if required.

## 4. PRACTICAL MEASURES TO AVOID/REDUCE CONSTRUCTION IMPACTS

This chapter details practical measures that will be implemented to ensure that biodiversity features on site are protected at all times throughout the construction process.

## 4.1 Use of Protective Fencing, Barriers and Warning Signs

To ensure habitats outside of the works footprint are not adversely impacted, the following protective fencing / barriers are required:

- To protect the most ecologically sensitive habitats (woodland and unimproved calcareous grassland – the 'Red Zones'), Heras fencing will be installed to prevent encroachment into these habitats. A buffer zone of a minimum of 15 m will be implemented around all ancient woodland, in accordance with standing advice from Natural England and the Forestry Commission (2018)<sup>1</sup>;
- Scattered trees within the site scheduled for retention will be protected during the works by the
  installation of protective fencing (e.g. Heras fencing). This fencing will ensure the integrity of the Root
  Protection Area of the trees and should meet the requirements of British Standard 5837: 2012
  "Trees in relation to design, demolition and construction recommendations".

All fencing will be installed on site prior to the commencement of works under the supervision of an Ecological or Aboricultural Clerk of Works.

The fencing will be temporary, but sufficiently robust to prevent accidental incursions into the protected areas. Suitable signs will be attached to the fencing in strategic locations to inform site personnel about sensitive ecological features and prevent incursion into areas outside of the works footprint.

#### 4.2 SITE COMPOUND AND STORAGE OF MATERIALS

Site compounds / material storage areas will be located in the northern part of the site within habitats of low or negligible ecological value. The exact location of these areas will be agreed with the Ecological Clerk of Works. No storage of materials will be permitted within the Root Protection Area of retained trees or within 15 m of ancient woodland.

#### 4.3 POLLUTION PREVENTION

Environment Agency Pollution Prevention Guidelines were formerly withdrawn in December 2015, although do provide a useful framework for the design of working practices. Guidance on Pollution Prevention for Businesses is provided by Defra and the Environment Agency (2019)<sup>2</sup>. These guidelines include details for the design of working practices to avoid pollution during construction, and should be followed throughout the construction period.

No bulk storage of fuel and other liquids will be permitted on site. Fuels and other liquids which must be stored on site will be kept in bunded containers within habitats of negligible value. Spill kits will be available on site and procedures will be in place to deal with any incidents efficiently and quickly.

Refueling of plant/machinery on site should be avoided. If refueling is required, then it should be undertaken as far away from notable habitats as possible, over a drip tray.

Appropriate dust suppression measures will be put in place to reduce impacts to habitats and species outside of the works area. The 'Construction Dust Information Sheet' issued by the Health and Safety Executive (2020<sup>3</sup>) provides guidance on controlling construction dust and will be followed throughout the construction period.

<sup>&</sup>lt;sup>1</sup> Natural England and Forestry Commission (2018). *Guidance. Ancient woodland, ancient trees and veteran* 

trees: protecting them from development. Available at: https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protectionsurveys-licences

<sup>&</sup>lt;sup>2</sup> Department for Environment, Food and Rural Affairs and Environment Agency (2019). *Guidance. Pollution prevention for businesses.* Available at: <u>https://www.gov.uk/guidance/pollution-prevention-for-businesses</u>

<sup>&</sup>lt;sup>3</sup> Health and Safety Executive (2020) Construction Dust – Construction Information Sheet No 36 (Revision 3). March 2020.

## 4.4 LIGHTING

It is not anticipated that working at night would be necessary. However, if any security lighting or lighting at night is required, then it will be low level and directional, ensuring that there is no increase in illumination of woodland or trees.

#### 4.5 NOISE AND VIBRATION

Reasonable measures should be taken to avoid significant increases in noise and vibration during the construction phase of the development. Any construction works on site will be carried out in accordance with British Standard 5228:2009 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' (British Standards Institution, 2009) <sup>4</sup>.

Engines of construction vehicles will be turned off when these vehicles are stationary to minimise noise and vibration disturbance.

## 4.6 FIRE PREVENTION

During construction, fires will not be permitted on the site and the work force will be made aware of the risks of accidental fires on surrounding retained habitats.

## 4.7 MITIGATION MEASURES FOR NOTABLE HABITATS AND SPECIES

#### 4.7.1 Woodland, unimproved calcareous grassland and trees

Woodland, unimproved calcareous grassland and trees will be protected according to the measures outlined in Section 4.1. Where construction works require the loss, damage or management of trees, then vegetation clearance will need to be undertaken in accordance with specific species mitigation strategies outlined in the following sections.

A confidential chapter relating to badgers is provided in Appendix 1.

## 4.7.2 Bats

Buildings with bat roosting potential which will be impacted by the works were subject to a full suite of bat surveys in 2020. A brown long-eared bat transitional roost was identified in Building X9 and a Natural England Bat Development Licence will be required before any works can proceed. The associated method statement will outline how works will proceed in order to relevant legislation is followed and no bats are injured or killed during the works. As detailed in the EMS (Report RT-MME-150872-06 Rev B), any further buildings and trees with bat roosting potential which have not been surveyed and will be impacted by the works will be subject to a full suite of bat surveys completed during the 2021 bat activity season, in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016)<sup>5</sup>. If any bat roosts are identified, a Method Statement will be prepared to support a Bat Development Licence application to Natural England.

In order to reduce the impact of the works on foraging and commuting bats, the following mitigation measures will be implemented:

- The woodland and trees scheduled for retention will be protected according to measures outlined in Section 4.1.
- Construction phase lighting, noise and vibration will be kept to a minimum, in line with the measures outlined in Sections 4.4 and 4.5.

#### 4.7.3 Dormouse

Although the majority of habitats suitable for dormice will be retained, if any scrub vegetation within the southern part of the site is to be cleared, an assessment by a suitably qualified and experienced ecologist will be undertaken to establish the potential for impacts on dormice. If there is any risk of harm to dormice (and a potential breach in wildlife legislation), then a Method Statement will be prepared to support a Dormice Development Licence application to Natural England, prior to works commencing.

 <sup>&</sup>lt;sup>4</sup> British Standards Institution (2009) BS 5228-2:2009 Code of practice for noise and vibration control on construction and open sites.
 <sup>5</sup> Collins, J. (ed). (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Since any habitat loss will be minimal, the most suitable method for moving dormice will be 'persuasion' (i.e. carefully clearing habitat to persuade dormice to move to connected areas of undisturbed habitat). There are two options for timing of vegetation clearance, as detailed in The Dormouse Conservation Handbook (Bright et al, 2006)<sup>6</sup>:

- Vegetation clearance can be undertaken by hand between late-September and October, when dormice are active but not breeding or supporting dependent young, outside of the peak-season for nesting birds (see Section 4.8.5) and during the active season for reptiles (see Section 4.8.6).
- Alternatively, vegetation clearance can be undertaken over two phases, with above-ground woody vegetation removed between November and March inclusive, avoiding impacts on the ground or roots where dormice or reptiles may be hibernating, and outside of the bird nesting season (see Section 4.8.5). Roots can then be dug up between May and October, once dormice have emerged from hibernation and had the opportunity to move into the nearest retained vegetation and when reptiles are active (see Section 4.8.6).

All woodland (which provides suitable habitat for dormice) will be protected according to measures outlined in Section 4.1).

## 4.7.4 Terrestrial mammals (brown hare and hedgehog)

To avoid adverse impacts on terrestrial mammals, the following measures will be implemented:

- Vegetation clearance of scrub should be avoided when hedgehogs may be hibernating. This is
  weather dependent, but generally considered to extend between November and February. If this is
  not feasible, then the Ecological Clerk of Works will check suitable areas prior to works commencing.
  If hedgehogs are found to be hibernating, the Ecological Clerk of Works will move them carefully into
  suitable undisturbed habitats away from the construction area.
- Any excavations which are left overnight will be covered or be fitted with ramps to prevent any harm to any terrestrial mammals which may pass through the site.
- Any open pipework with an outside diameter of greater than 150 mm will be covered at the end of each work day to prevent terrestrial mammals entering/becoming trapped.
- Construction phase lighting, noise and vibration will be kept to a minimum, in line with the measures outlined in Sections 4.4 and 4.5.

## 4.7.5 Birds

In order to avoid any breach of legislation with regard to nesting birds in general, the following measures will be implemented:

- Vegetation management/clearance and building demolition and refurbishment will be undertaken outside of the bird nesting season. The bird nesting season is weather dependent but generally extends between March and September inclusive (peak period March-August). If this is not possible, then any vegetation to be removed/disturbed or buildings to be demolished/refurbished should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting, any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use. Vegetation clearance will be carried out in accordance with measures for dormice (Section 4.8.3) and reptiles (Section 4.8.6).
- Woodland and trees to be retained will be protected according to measures outlined in Section 4.1.
- Noise and vibration will be kept to a minimum, in line with the measures outlined in Section 4.5.

## 4.7.6 Reptiles

A Herpetofauna Mitigation Strategy has been provided in the EMS (Report RT-MME-150872-06 Rev B) with measures reiterated here for ease of reference, although some amendments to the timing of works have been made to account for dormice (see Section 4.8.3). To ensure that no harm to individual reptiles occurs during site clearance works, it is proposed that a programme of habitat manipulation and destructive searches will be implemented. The clearance of terrestrial habitats will be undertaken in a sensitive manner in order to control any potential risk to reptiles.

<sup>&</sup>lt;sup>6</sup> Bright, P., Morris, P. and Wroot, S. (2006). *The Dormouse Conservation Handbook*. Second Edition. English Nature.

#### Vegetation Clearance and Soil Strip

Taking into account potential impacts on dormice (Section 4.8.3), nesting birds (see Section 4.8.5) and reptiles, the following approach is proposed:

#### Phase 1

Between November and February (prior to the active season for herpetofauna, during the period when dormice are most likely to be hibernating at ground level, and outside of the nesting season for birds):

 Scrub and longer grass will be cut to a height of 0.1 m – 0.2 m, with grass cut in a directional manner, towards retained habitats around the site peripheries.

#### Phase 2

Between May and October (once dormice have emerged from hibernation and when reptiles are active):

- The site will be subject to a walkover by the Ecological Clerk of Works to identify any potential refugia for herpetofauna e.g. piles of rubble / rubbish / logs / mammal holes etc). These will be checked and where possible removed from the area.
- The proposed construction area will then be searched by hand to ensure that no reptiles (or amphibians) are present. Suitably experienced ecologists will undertake all direct search works and all reptiles (and common amphibians) found will be moved to retained habitat around the peripheries of the plot.
- Following the direct search, a topsoil strip will be undertaken under direct supervision of the Ecological Clerk of Works. The removal of roots will be undertaken with care by an excavator to allow the careful inspection of the root areas, with vegetation removed from the site so as not to create new refuges.

In the event that initial management of scrub and longer grass ('Phase 1' works) cannot be undertaken between November and February, then <u>all</u> vegetation clearance works will be completed between late-September and October, during the active period for reptiles (between March and October inclusive), when dormice are active but not breeding (see Section 4.8.3), and outside of the peak-season for nesting birds (see Section 4.8.5).

Any reptiles (or common amphibians) which are found during the mitigation works will be translocated by suitably experienced ecologists using suitable personal protective equipment to the retained unimproved calcareous and semi-improved neutral habitats in the southern part of the site, outside of the works footprint. These habitats will not be subject to future development and will remain connected to further suitable habitats within the site and the surrounding landscape.

Following the supervised vegetation clearance and soil strip works, the construction footprint will be subject to regular management, consisting of the removal of colonising vegetation, at least once every two weeks between April and October, to reduce the suitability of this area for reptiles.

## General Construction Phase Measures

Implementation of the following measures will ensure that there are no impacts reptiles during the construction period of the proposed development:

- Avoidance of creation of potential refuges within active work areas.
  - Reptiles will utilise stacked materials such as wood, stone, boards or metal sheets as refuges. Active work areas should be kept tidy and materials should be stored off the ground – for example on pallets where possible. Should it be necessary to store materials such as topsoil on site, then these will be stored in raised skips, trailers or containers on raised pallets.
- Prevention of trapping fauna in open excavations.
  - If any excavations are required to be left open overnight, ramps will be left within them to allow fauna to easily exit. Open excavations will be inspected at start of each day to ensure fauna have not become trapped.
- Staff awareness.
  - All contractors should be made aware of the potential presence of reptiles within the site during the initial site induction and regular toolbox talks.

As a matter of general good ecological practice, an understanding of reptiles and the undertaking of sympathetic working practices will reduce the likelihood of an encounter with, or harm to, reptile individuals.

## 4.8 TIMING RESTRICTIONS

Table 4.1 details a master timetable of works constrained by timing restrictions in order to minimise the ecological impact of the works.

Ecological features	Time of Year											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Works Within 'Red Zones'												
Woodland, unimproved												
calcareous grassland, retained												
trees												
Works Within 'Amber Zones'	<u> </u>		<u> </u>									
Building demolition/refurbishment	and tre	e remo	val									
Bats	Wor	ks to c	omme strateg	nce in jies an	accord d Natu	ance w ral Eng	vith rele land Li	evant p cences	rotecti s, as re	on and quired	l mitiga	tion
Nesting birds	*	*	*	*	*	*	*	*	*	*	*	*
Badger	Dei pre-	molitio -comm	n of Bu encem	uilding: ent sur I	s X47, X vey ha Englan	X56, X7 Is been d Licer	6 and comp nce is i	X77 to leted a n place	comme nd, if re	ence or equirec	nly ond I, a Nat	e a ural
Other species (dormice, other terrestrial mammals, reptiles)	*	*	*	*	*	*	*	*	*	*	*	*
Clearance of above-ground wood	y veget	ation (s	crub), a	avoiding	g impac	ts on g	round c	or roots				
Dormice	*	*	*	*	*	*	*	*	*	*	*	*
Nesting birds	*	*	*	*	*	*	*	*	*	*	*	*
Other species (bats, badger, other terrestrial mammals, reptiles)	*	*	*	*	*	*	*	*	*	*	*	*
Clearance of roots and grass (ass	suming a	above-	ground	woody	vegeta	tion has	s alread	ly been	cleared	d)		
Dormice	*	*	*	*	*	*	*	*	*	*	*	*
Reptiles	*	*	*	*	*	*	*	*	*	*	*	*
Other species (bats, other terrestrial mammals, nesting birds)	*	*	*	*	*	*	*	*	*	*	*	*
Key:         Red. No works permitted         Amber: Potential time for action to take place (within constraints detailed in Chapters 3 and 4)         Green: Optimal time for action to take place (within constraints detailed in Chapters 3 and 4)         *: All vegetation clearance works must proceed in accordance with methodologies detailed in Chapter 4												

Table 4.1: Master Timetable of Timing Restricted Work Activities

## 4.9 SUPERVISION AND MONITORING BY ECOLOGICAL CLERK OF WORKS

No disturbance of Red Zones is permitted during construction works.

Works within Amber Zones will be pre-approved by the Ecological Clerk of Works, and ecological supervision will be undertaken as and when required, e.g. if vegetation clearance is required during the bird nesting season.

## 4.10 CONTINGENCY MEASURES

Should any unexpected events occur, e.g. the discovery of unexpected species on site, work will cease and the Ecological Manager / Clerk of Works will be contacted to determine the most appropriate way to proceed.

# 5. DRAWINGS

Drawing C153844-01-01 – Biodiversity Protection Zones



## APPENDICES

- APPENDIX 1 Confidential Badger Appendix
- APPENDIX 2 Summary of Wildlife Legislation Applicable to Proposed Development
- APPENDIX 3 Sample Ecological Permits, Certificates and Forms

## CONFIDENTIAL BADGER APPENDIX

(Provided as a separate document)

## **APPENDIX 2**

SUMMARY OF WILDLIFE LEGISLATION APPLICABLE TO PROPOSED DEVELOPMENT

This section contains a summary of legislation with relation to the species present or potentially present in the survey area. The reader should refer to the original legislation for definitive interpretation.

#### Bats

Bats and the places they use for shelter or protection (i.e. roosts) receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals 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 animals 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.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to intentionally kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly*\* damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly*\* disturb any protected species while it is occupying a structure or place which it uses for shelter or protection.

\*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

## Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992. The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury, badgers are not protected for conservation reasons. The following are criminal offences:

- To intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.
- To wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so.

A badger sett is defined in the legislation as: 'Any structure or place that displays signs indicating current use by a badger'. 'Current use' is not synonymous with current occupation and a sett is defined as such (and thus protected) as long as signs of current usage are present. Therefore, a sett is protected until such a time as the field signs deteriorate to such an extent that they no longer indicate 'current usage'.

Badger sett interference can result from a multitude of operations including excavation and coring, even if there is no direct damage to the sett, such as through the disturbance of badgers whilst occupying the sett. Any intentional or reckless work that results in the interference of badger setts is illegal without a licence from Natural England. In England a licence must be obtained from Natural England before any interference with a badger sett occurs.

Previous guidance from English Nature, Badgers and Development (English Nature, 2002) considered that the following types of activity may require licensing within certain distances of the sett entrances (these distances are not included within the Protection of Badgers Act, 1992):

- using very heavy machinery (generally tracked vehicles) within 30 m of any entrance to an active sett;
- using lighter machinery (generally wheeled vehicles), particularly any digging operation, within 20 m of any entrance to the active sett;
- light work such as hand digging or scrub clearance within 10 m of any entrance to the active sett.

However, some activities may cause disturbance at greater distances, including pile driving and the use of explosives. These activities require individual consideration to ensure that best ecological practice is followed, however, it is generally considered that a licence is more likely to be required if these works are undertaken within 50m of an active badger sett.

New guidance was issued by NE in 2009 which states that disturbance is something less than what might otherwise be considered damage to a sett, but it is also something more than limited noise or activity near a sett at levels which badgers commonly tolerate, without apparently being disturbed. NE therefore believes that badgers are relatively tolerant of moderate levels of disturbance at or near to badger setts, but such disturbance does not necessarily disturb the badgers occupying the setts. The disturbance, which different activities may or may not cause to a badger sett, should therefore be assessed on a case by case basis.

Although the above prescriptive distances are no longer referred to by NE, they can be used as an aid to assess where works would constitute a disturbance to each sett.

#### Dormouse

Dormice and the places they use for shelter or protection receive European protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that dormice, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a dormouse;
- deliberately disturb dormice; or
- damage or destroy a breeding site or resting place.

Disturbance of animals 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 animals 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.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead dormouse, part of a dormouse or anything derived from a dormouse, which has been unlawfully taken from the wild.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly*\* damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly*\* disturb any protected species while it is occupying a structure or place which it uses for shelter or protection.

\*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

#### Hedgehog

Hedgehogs receive some protection under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended); this section of the Act lists animals which may not be killed or taken by certain methods, namely traps and nets, poisons, automatic weapons, electrical devices, smokes/gases and various others. Humane trapping for research purposes requires a licence.

Hedgehogs are a Species of Principal Importance for Nature Conservation in England and are thus capable of being material considerations in the planning process.

#### Birds

The Conservation of Habitats and Species Regulations 2017, (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019) places a duty on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds.

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended).

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Some species (listed in Schedule 1 of the WCA) are protected by special penalties. Subject to the provisions of the act, if any person intentionally or recklessly:

- disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird, he shall be guilty of an offence.

Several bird species are Species of Principal Importance for Nature Conservation in England, making them capable of being material considerations in the planning process.

#### Reptiles

All of the UK's native reptiles are protected by law. The two rarest species – sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* – benefit from the greatest protection.

Common lizard *Zootoca vivipar*a, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica* are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional killing or injuring.

Sand lizard and smooth snake are protected under The Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended) which together make it illegal to kill, injure, capture, handle or disturb these animals. Places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed. It is also illegal to obstruct these animals from

using such areas.

All native reptile species are listed as Species of Principal Importance on the UK Post-2010 Biodiversity Framework (2012), and as such are material considerations in the planning process.

This is a simplified description of the legislation. In particular, the offences mentioned here may be absolute, intentional, deliberate or reckless. Note that where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.

## **APPENDIX 3**

SAMPLE ECOLOGICAL PERMITS, CERTIFICATES AND FORMS

## ECOLOGICAL PERMIT TO WORK (SAMPLE)

CONTRACT NAME:	CONTRACT NO:	PERMIT NO:		
RECEPIENT:				
ZONE/AREA:				

PROPOSED NATURE OF WORKS:										
ECOLOGICAL ISSUES:										
	Nesting birds Rei			otiles Other						
ECOLOGICAL CONTROL LEVEL:	Gre	Green / Amber / Red								
ECOLOGICAL CONTROL MEASURES:	Nesting bird check			Repti super	le habita vision	at	Ot	her		
Vegetation clearance must be undertaken within 48 hours of:										

PROPOSED NATURE OF WORKS:												
ECOLOGICAL ISSUES:												
	Nest	ing birds		Repti	les		Other					_
ECOLOGICAL CONTROL LEVEL:	Gree	n / Amber / I	Red	•								
ECOLOGICAL CONTROL MEASURES:	Nesting bird ch			k	:	Repti supe	eptile habitat		Ot	ther		
Vegetation clearance mus	t be ui	ndertaken wi	ithin	48 ho	urs	of:						
MS APPROVAL		YES NO			ECW sign:							
NOTES/ISSUES												
ECOLOGICAL MANAGER												
ECoW												
Notes:												
1. Ecological control levels	Ecological control levels Red = No access to areas for working or storage											
	Amber = Full-time to part-time ECoW supervision											
	Green = Visiting ECoW role											
Permit Valid Dates	From:			T	To:							
Document No:	Document	dat	e:		R	evision	No:					

## ECOLOGY CERTIFICATE 1 (SAMPLE)

Form of Certificate to be used by the Ecological Manager for certifying that the relevant Works have been completed.

1. We certify that we have used reasonable professional skill and care in examining the Works carried out listed below and that in our opinion all such Works have been completed in all respects in accordance with the Contract, so as to accord with the Ecological Design to which there has been no objection under the Review and Certification Procedure and so as to satisfy the Employer's Requirements and the Contractor's Proposals as amended by the following Contractor's Changes and Employer's Changes.

## [DETAILS OF ECOLOGICAL WORKS]

Signed
Environmental Manager (Partner or Director)
Name
Title
Date

Signed
Project Manager (Principal)
Name
Title
Date
# Where the Environmental Manager is not a specialist in this area

#### 2. This certificate is

- i accepted\*
- ii accepted with comments:\*
- iii returned unaccepted with comments:\*
- \*delete as appropriate

Signed ..... Employer's Agent

Name .....

Date .....

## DAILY RECORD SHEET (SAMPLE)

SITE NAME								
	ECOLOGICAL CLERK OF WORKS - DAILY RECORD SHEET							
DATE: TE	BC	PROJECT NO:						
ECOW N	AME:	WEATHER: TEMPERATURE- CLOUD- WIND- PRECIPITATION-						
PLOT REF.	ACTIVITY SUPERVISED, NOTES ETC		ACTION REQUIRED (WHOM)					