

The Old Water Tower, Cockernhoe

Preliminary Ecological Appraisal

Report for Patrick Gallagher

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Executive Summary

Hawthorn Ecology was commissioned by Patrick Gallagher in February 2025 to carry out a Preliminary Ecological Appraisal (PEA), comprising a habitat survey, protected species assessment and ecological evaluation of land at The Old Water Tower, Mangrove Road, Cockernhoe, LU2 8QD (henceforth referred to as 'the site'). The proposals include the construction of two residential properties within the site. The main findings are as follows:

- The site comprised a residential property, with associated hardstanding, outbuildings, garden, and modified grassland.
- **Protected Sites** – There are no international or European designated site within 15km of the site, and no nationally designated sites within 2km of the site. Therefore, protected sites will not be impacted by the proposed development.
- **Habitats/Plants** – No Habitats of Principal Importance or plant species of concern are located on or adjacent to the site. It is considered unlikely that the Habitats of Principal Importance in the wider landscape will be impacted by the proposed works due to the small scale of the development.
- **Roosting Bats** – No potential roosting features for bats were identified on the buildings or trees on site. Therefore, it is unlikely that roosting bats will be impacted by works and no further surveys are required.
- **Foraging/Commuting Bats** – The site had limited potential for foraging/commuting bats as the majority comprised vegetated garden. The hedgerows may provide foraging/commuting resource for bats, but these are to be retained under current development proposals. Therefore, it is unlikely that foraging/commuting bats will be impacted by the works and no further surveys are required. However, suitable lighting and native species planting should be considered on site.
- **Breeding Birds** – The hedgerow and trees on site had the potential to support nesting birds and birds were recorded utilising the hedgerow for foraging during the survey. The hedgerow will not be impacted under current design proposals but any works to the trees should be undertaken outside nesting bird season that runs from March to August. If this is not possible then a nesting bird check should be undertaken within 24 hours of works commencing, with any nests identified left *in situ* until the chicks have fledged.
- **Great Crested Newts** – No waterbodies are present within 250m of the site and the terrestrial habitats on site were suboptimal for newts in their terrestrial phase due to the short sward height of the vegetated lawn. Therefore, it is unlikely that newts will be impacted by works and no further surveys are required.
- **Reptiles** – The habitats present at the time of survey were suboptimal for reptiles due to the short sward height of the vegetated lawn. Therefore, it is unlikely that reptiles will be impacted by the proposed works and no further surveys are required.

- **Badgers** – No evidence of badgers was recorded on site during the survey, and no evidence of activity including mammal runs and setts was recorded within the nearby adjacent habitats. Therefore, it is unlikely that badgers will be, or have been, impacted by works and no further surveys are required.

Recommendations to enhance the importance of the site for biodiversity in accordance with the Environment Act 2021 and national and local planning policies, should be provided following the results of the recommended surveys.

1 Introduction

BACKGROUND TO COMMISSION

- 1.1 Hawthorn Ecology was commissioned by Patrick Gallagher in February 2025 to carry out a Preliminary Ecological Appraisal (PEA) of land at The Old Water Tower, Mangrove Road, Cockernhoe, LU2 8QD. The appraisal was carried out to provide ecological information to inform a planning application for the construction of two residential properties on site. This PEA considers land within the site boundary (henceforth referred to as 'the site').

SCOPE OF THE REPORT

- 1.2 The aim of this appraisal is to provide baseline ecological information about the site. This will be used to identify any potential ecological constraints associated with the proposed development and/or to identify the need for additional survey work to further evaluate any impact that may risk contravention of legislation or policy relating to protected species and nature conservation. Where possible, this report outlines any avoidance, mitigation, compensation and enhancement measures as may be required to ensure compliance with legislation and policy.
- 1.3 This assessment has been completed in line with the established mitigation hierarchy (as set out in BS42020:2013 and CIEEM, 2019), whereby impacts are first avoided, then mitigated or reduced and, as a last resort, compensated for. Consideration has been made to existing habitats that will be retained and protected as part of the design process, with compensatory habitats proposed where losses are unavoidable.
- 1.4 This report also provides an assessment of the likelihood that the site supports roosting bats and outlines any requirement for further survey. It also provides an assessment of the value of the site for foraging and/or commuting bats. Where possible, it also outlines any avoidance, mitigation, compensation and enhancement measures as may be required to ensure compliance with legislation and policy.
- 1.5 The survey, assessment and report were conducted and written by Rosie McLaughlin BSc (Hons) MSc MCIEEM, an ecologist with over 12 years' experience who is trained and competent in carrying out habitat surveys, protected species assessment, and BNG assessments.

SITE CONTEXT AND STATUS

- 1.6 The proposed development site is approximately 0.27 hectares (ha) in size and is centred on Ordnance Survey National Grid reference TL 12351 23705 and is located in the village of Cockernhoe in Hertfordshire. The area immediately surrounding the site comprises residential

properties, and arable land. The location of site is shown in Appendix 1, Figure 1 and extent of site boundary is shown in Appendix 1, Figure 2.

- 1.7 The site comprised a residential property, with associated hardstanding, outbuildings, garden, and modified grassland.

DEVELOPMENT PROPOSALS

- 1.8 The proposals include the construction of two residential properties on site. The proposed development will result in the loss of buildings and modified grassland. The existing residential property will be retained.

RELEVANT LEGISLATION AND PLANNING POLICY

- 1.9 The key pieces of national nature conservation legislation relevant to this appraisal are detailed in Appendix 3.

2 Methodology

DESK STUDY

2.1 The following data sources were reviewed to provide information on the location of statutory or non-statutory designated sites, protected species and Species and Habitats of Principal Importance within a 2km radius of the Site, with the exception of international wildlife sites which have been identified within a 15km radius:

- Hertfordshire Environmental Records Centre and Bedfordshire and Luton Biodiversity Recording and Monitoring Centre, the local Biological Records Centres, principally for species records;
- MAGIC (<http://www.magic.gov.uk/>) - the Government's on-line mapping service; and
- Ordnance Survey mapping and publicly available aerial photography.

HABITAT SURVEY

2.2 A habitat survey of the site was carried out on the 18th February 2025 in weather conditions of 2°C, 2/12 Beaufort scale wind, 1/8 okta cloud cover, and no rain. It covered the entire site including boundary features. Habitats were described and mapped following UK Habitat Classifications (UKHab Ltd, 2023) and marked on a paper base map and subsequently digitised using QGIS software. Habitats were also assessed against descriptions of Habitat of Principal Importance as set out by the JNCC (BRIG, 2008) where appropriate.

2.3 Records for dominant and notable plants are provided, as are incidental records of birds and other fauna noted during the course of the habitat survey.

2.4 Target notes are used to provide information on specific features of ecological interest (e.g. a badger sett) or habitat features that were too small to be mapped.

PROTECTED AND INVASIVE SPECIES ASSESSMENT

2.5 The suitability of the site for protected species was assessed on the basis of relevant desk study records from the last ten years, combined with field observations from the habitat survey. The likelihood of the habitat(s) supporting protected and/or notable species was ranked on a scale from 'negligible' to 'present' as described below:

- **Present** – presence confirmed by survey or desk study.

- **High** – habitats provide the relevant requirements for the species/group with good connectivity to high quality habitat in the surrounding area. The desk study confirms presence in the local area.
- **Moderate** – habitats provide some of the relevant requirements for the species/group. Some factors that may reduce likelihood include limited connectivity to surrounding area, small area of suitable habitat, disturbance. The site is within the known range of the species/group but it has not necessarily been recorded within the desk study.
- **Low** – habitats are of relatively poor quality for the species/group, with few or no records within the desk study. However, the site is within the known range of the species/group and therefore cannot be discounted.
- **Negligible** – no suitable habitat for the species/species group, or very poor quality. No records for the species and surrounding habitat unlikely to support the species and/or separated from the site by significant barriers to dispersal.

2.6 The assessment of habitat suitability for protected or notable species was based on professional judgement drawing on experience of carrying out surveys of a large number of urban and rural sites and best practice survey guidance.

2.7 The findings of this assessment help establish the need for protected species surveys.

DATA VALIDITY AND LIMITATIONS

2.8 A Preliminary Ecological Appraisal is only able to act as a 'snapshot' to record flora and fauna that is present at the time of survey. It is therefore possible that some species may not have been present during the survey but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support some species, even when no direct evidence has been found.

2.9 The habitat survey does not constitute a full botanical survey or provide accurate mapping of invasive plant species. A full botanical list was not considered necessary for the site, due to the limited impacts upon habitats. The relevant data was obtained to determine whether the habitats were of Principal Importance or had the potential to support protected species.

2.10 Where records within the desk study were provided to only four/six figure grid references, the precise location of the record could not be determined. Therefore, distances from the site are approximate and may vary in practice.

2.11 Ecological survey data are typically valid for 12-18 months (CIEEM, 2019).

3 Results

DESIGNATED SITES

Statutory designated nature conservation sites

- 3.1 No international or European designated site within 15km of the site, and no nationally designated sites within 2km of the site.

Non-statutory designated nature conservation sites

- 3.2 There are seven non-statutory sites within 2km of the Site. The sites comprise County Wildlife Sites (CWSs), Local Wildlife Sites (LWSs) and a District Wildlife Site (DWS). Those relevant to this assessment are summarised in Table 3.1.

Table 3.1: Non-statutory Designated Sites

Site Name	Distance from Site and orientation	Qualifying features/Description
Slaughter's Wood and Green Lane CWS	0.5km south	Recognised as a CWS for ancient semi-natural woodland and hedgerows of historical importance.
Wandon End Park CWS	0.8km west	Recognised as a County Wildlife Site for meeting the criteria for a hedgerow system and containing biologically significant trees.
Stubbocks Wood LWS	1.0km east	Ancient semi-natural woodland part replanted with broadleaved species and conifers.
Great Hayes Wood DWS	1.0km north-west	The site was recognized as a DWS as semi-natural broadleaved woodland.
Putteridge Bury Icehouse LWS	1.7km north	Building and environs important for protected species.
Wigmore Park CWS	1.9km south	A species rich neutral grassland with scattered scrub and ruderal vegetation and a length of green lane.
Oaket Wood CWS	1.9km north-west	The woodland was recognized as a CWS as a small clay with flints woodland on an ancient woodland site.

Habitat inventories and landscape-scale conservation initiatives

3.3 No Priority Habitats have historically been recorded on site, but the following priority habitats have been recorded within 2km of the site:

- Four areas of ancient woodland, the closest of which is approximately 1.0km south of the site;
- More than 20 areas of deciduous woodland, the closest of which is approximately 0.3km east;
- Four areas of traditional orchard, the closest of which is approximately 0.8km north-west; and
- One large area of woodpasture and parkland, approximately 0.3km north-west.

HABITAT SURVEY

Overview

3.4 Habitat types are mapped in Appendix 1, Figure 4. A description of dominant and notable species and the composition of each habitat is provided below, along with the UKHabs code for each habitat type provided in brackets. Photographs are located in Appendix 2.

Habitat Description

3.5 The site comprised a residential property, outbuildings, hardstanding driveway, vegetated garden, modified grassland and hedgerows.

Built up area and garden (UKHab code u1)

3.6 The majority of the site comprised built up area and garden including hardstanding (developed land; sealed surface, UKHab code u1b6), buildings (UKHab code u1b5) and artificial unsealed unvegetated surface (UKHab code u1c).

3.7 The buildings comprised a residential property that was a converted water tower, four outbuildings and a greenhouse.

3.8 Artificial grass was present to the south of the residential property.

3.9 An area of artificial unsealed unvegetated surface was present to the south of the site where woodchip had been put down. A compost heap was also present.

3.10 A vegetated lawn (UKHab secondary code 828) associated with the residential property was located to the east of the site. Species present were limited but included perennial rye grass

Lolium perenne, daisy *Bellis perennis*, dandelion *Taraxacum officinale*, ribwort plantain *Plantago lanceolata*, thistle *Cirsium sp.*, and nettle *Urtica dioica*. An apple *Malus sp.*, tree (UKHab secondary code 32) was present within the lawn and an oak *Quercus sp.* tree was present to the north-east of the site.

Hedgerow (UKHab code h2)

- 3.11 A native hedgerow with a tree bordered the south of the site. Species present included field maple *Acer campestre*, hazel *Corylus avellana*, ivy *Hedera helix* and nettle. A native hedgerow bordered the west of the site. Species present included field maple, holly *Ilex aquifolium* and box honeysuckle *Lonicera ligustrina*.

PROTECTED, NOTABLE AND INVASIVE SPECIES ASSESSMENT

- 3.12 The potential for the site to support protected and/or notable species, as set out in Table 3.2 below, has been assessed using criteria provided in paragraph 2.5 and is based on the results of the desk study and observations made during the survey of habitats at the site. Those legally protected species not referred to have been scoped out as it is considered that the site does not contain habitats suitable to support them.
- 3.13 Key pieces of legislation are set out in detail in Appendix 3.

Table 3.2. Protected, notable and invasive species assessment

Ecological feature	Likelihood of occurrence
Bats: Roosting Foraging/commuting	Low Roosting: The trees and buildings were surveyed for potential roosting features (PRFs) that bats may use. No PRFs were identified on the trees or buildings within the site boundary. Foraging/commuting: The site had limited potential for foraging/commuting bats but the hedgerows may provide suitable foraging/commuting habitat for bats. There were 34 desk study records for bats within 2km of the site in the last ten years, including common pipistrelle <i>Pipistrellus pipistrellus</i>, soprano pipistrelle <i>Pipistrellus pygmaeus</i> and brown long-eared bat <i>Plecotus auritus</i>. The majority of records were from walked detector surveys, with no records of roosts identified. No European Protected Species Mitigation licences for bats have been granted within 2km of the site in the last ten years.
Great crested newt	Negligible No waterbodies were identified within 250m of the site from OS mapping and the terrestrial habitats within the site boundary were considered suboptimal for great crested newts as the grassland was maintained at a short sward. No records exist for this species within 2km in the last ten years. No European Protected Species Mitigation licences for great crested newts have been granted within 2km of the site.
Birds	Moderate The hedgerow and trees had the potential to support nesting birds and dunnock were recorded foraging in the hedgerow during this survey. A total of 7,779 records of birds exist within 2km of the site in the last ten years from 98 species, 16 of which are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). The majority of these species are unlikely to be found on site due to the lack of suitable habitats.
Reptiles	Negligible The site considered suboptimal for reptiles due to the short sward height of the vegetated lawn. No records exist for reptiles within 2km of the site in the last ten years.

Ecological feature	Likelihood of occurrence
Badger	Low No badger setts, or any other evidence of badger was recorded during the survey, or within adjacent habitats visible from the site boundary. A total of 13 records exist for this species within 2km in the last ten years the locations of which have not been provided for confidentiality reasons.
Invasive non-native species	Negligible No invasive species were recorded during the survey. No records exist for invasive non-native species within 2km of the site in the last ten years.

4 Impact Appraisal and Recommendations

- 4.1 This section summarises the potential impacts on habitats and notable species that may be present at this site and sets out the recommendations for further survey and mitigation where required. The impact assessment is preliminary and further detailed assessment and surveys will be required to assess impacts and design suitable mitigation, where appropriate.

STATUTORY AND NON-STATUTORY SITES

- 4.2 Due to the small scale of the site, it is considered unlikely that any proposed development would be of such a size that designated sites will be impacted by the works.

HABITATS

- 4.3 The Habitats of Principal Importance in the surrounding area are unlikely to be impacted by the proposed works due to the size and scale of the project. No Habitats of Principal Importance were recorded on site. Therefore, it is unlikely that protected habitats will be impacted by the works.

BATS

- 4.4 No potential roosting features for bats were located on site during the survey. Therefore, it is unlikely that roosting bats will be, or have been, impacted by the works.
- 4.5 The hedgerows may provide habitat for foraging/commuting bats, although small in extent. Due to the lack of impacts on this habitat, and planting of native hedgerow and trees within the proposed development, it is unlikely that foraging/commuting bats will be significantly impacted by the works and no further surveys are required. However, suitable lighting and native species planting should be considered on site with any lighting kept to a minimum and follow guidance provided in Institute of Lighting Professionals (2023).

GREAT CRESTED NEWTS

- 4.6 No waterbodies are present within 250m of the site and the terrestrial habitats were considered suboptimal for this species, the site is unlikely to be used by great crested newts. Therefore, it is unlikely this species will be impacted by the proposed works and no further surveys are necessary.

BREEDING BIRDS

- 4.7 The habitats suitable for nesting birds were limited to the hedgerow which will not be impacted by the proposed works, and the trees on site. Any works to the trees therefore have the potential to impact nesting birds. No works to the trees should take place during the nesting bird season that runs from March to August. If this is not possible then a nesting bird check should be undertaken within 24 hours of works commencing with any nests identified left *in situ* until the chicks have fledged.

REPTILES

- 4.8 The habitats present at the time of survey were not suitable for reptiles due to the short sward height of the vegetated lawn and grassland. Therefore, it is unlikely that reptiles will be impacted by the works and no further surveys are required.

BADGER

- 4.9 No evidence of badgers was recorded on site, or on retained habitats adjacent to the site. Therefore, it is unlikely that badgers are present and unlikely that they will be impacted by the works. In the unlikely event that mammal holes appear on site prior to any further work all work must cease until it has been determined whether the holes are in use by badger. A licence may be required for any further works to proceed if badgers are discovered on or adjacent to site.

OPPORTUNITIES FOR ECOLOGICAL ENHANCEMENT

- 4.10 Planning policy at the national and local level and strategic biodiversity partnerships encourage inclusion of ecological enhancements in development projects. Ecological enhancements can also contribute to green infrastructure and ecosystem services such as storm water attenuation and reducing the urban heat island effect. Measures for ecological enhancement could include the following:
- integration of bat tubes into the newly built properties;
 - installation of bird boxes on the newly built properties;
 - native species planting including hedgerows and trees; and
 - creation of waterbodies.

References

BRIG (2008) UK Biodiversity Action Plan; Priority Habitat Descriptions (ed Ant Maddock). JNCC, Peterborough.

British Standards Institution (2013) Biodiversity. Code of practice for planning and development: 42020. BSI, London.

British Standards Institution (BSI) (2012) BS 5837:2012- *Trees in relation to design, demolition and construction*. BSI, London.

CIEEM (2019) *Advice note on the life span of ecology reports and surveys*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. Version 1.1*. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th edition. The Bat Conservation Trust, London.

MAGIC (2024) *Multi-Agency Geographic Information for the Countryside*. <http://www.magic.gov.uk/> [accessed 25/07/2024].

Ministry of Housing, Communities and Local Government (2024). *National Planning Policy Framework. Ministry of Housing, Communities and Local Government, London*. [Available online]: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [accessed 03/01/2025].

Natural England (2022) *GIS Digital Boundary Datasets – Priority Habitat Inventory*. http://www.gis.naturalengland.org.uk/pubs/gis/GIS_register.asp [accessed 24/008/2023].

UKHab Ltd (2023) UK Habitat Classification [online]. Available at: <https://ukhab.org/>

Appendix 1: Maps

Figure 1: Site Context Map

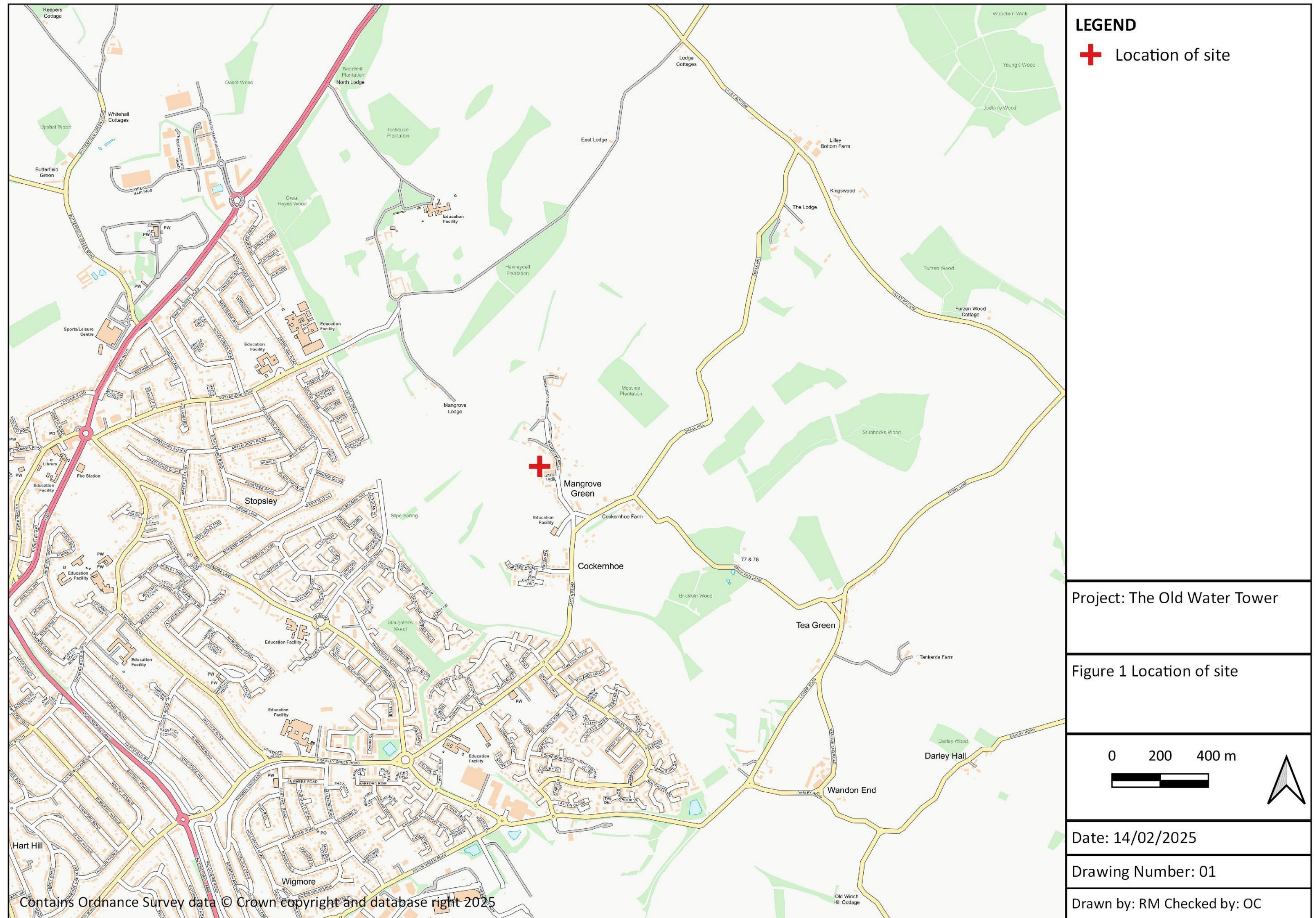


Figure 2: Extent of site boundary

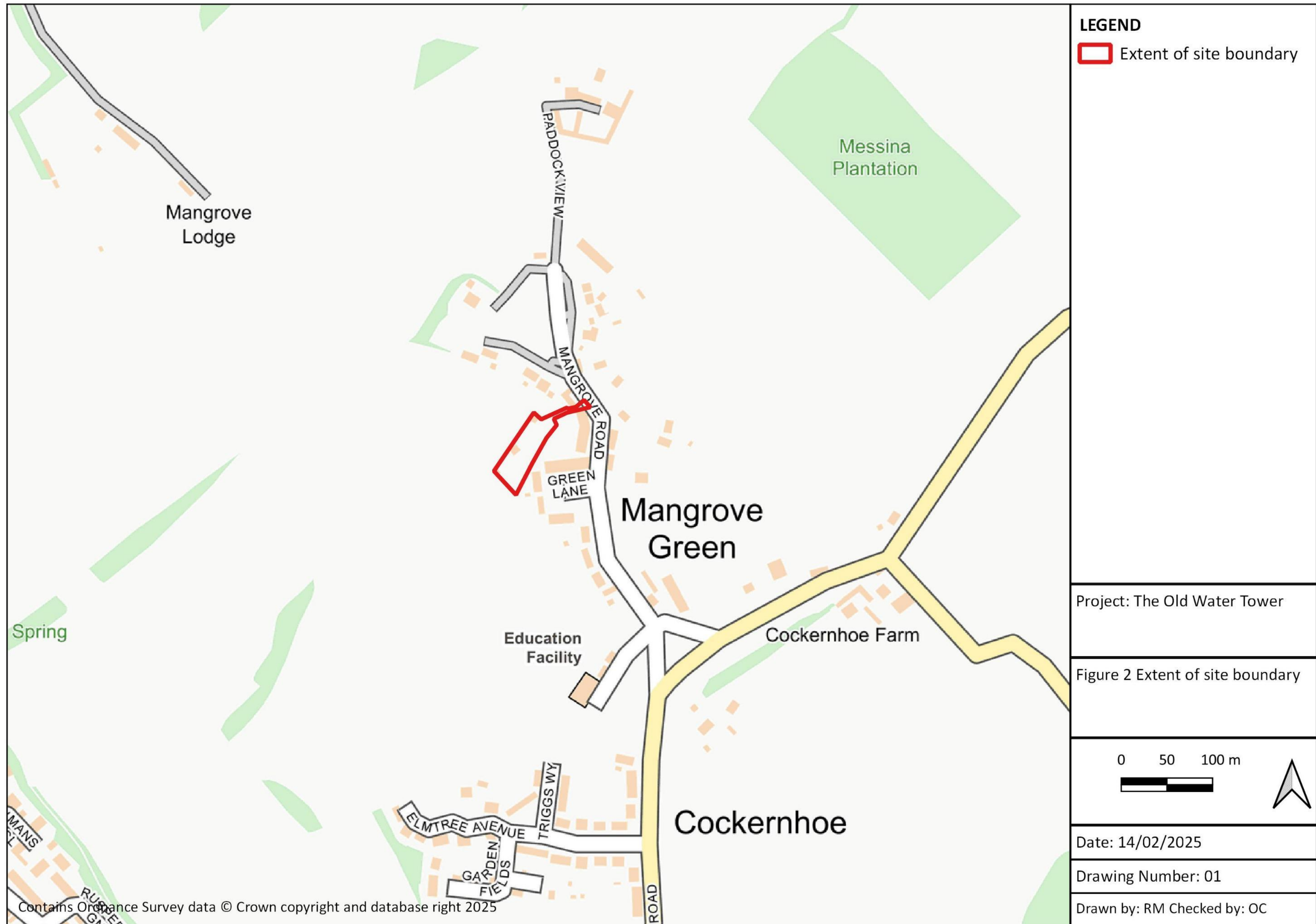
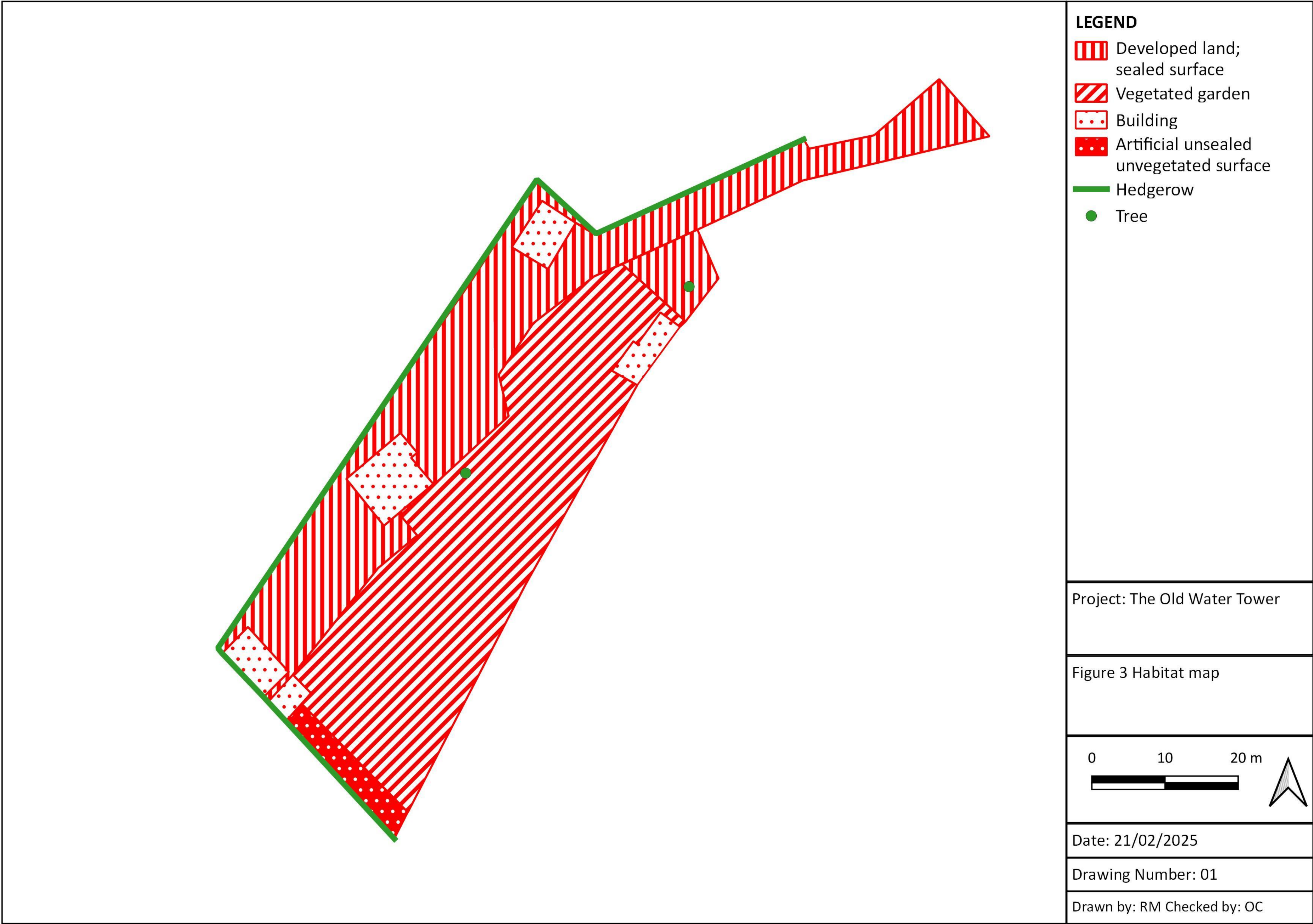


Figure 3: Habitat map



Appendix 2: Photographs

Photograph 1 Southern elevation of residential property and artificial grass to the south



Photograph 2 Northern elevation of outbuilding and greenhouse to the south-west of the site, with artificial grass to the right, and vegetated lawn to the left



Photograph 3 Vegetated lawn looking north from the south of the site



Photograph 4 Southern and western elevations of outbuildings to north-east of site



Photograph 5 Southern and eastern elevation of outbuilding to north-west of site



Photograph 6 Hardstanding driveway and northern elevation of residential property



Appendix 3: Legislation and Planning Policy

Important Notice: This section contains details of legislation applicable in England and Wales only (i.e. not including Scotland, the Isle of Man, Northern Ireland, the Republic of Ireland or the Channel Islands) and is provided for general guidance only. While every effort has been made to represent the current (at the time of writing) situation with respect to the UK's position outside of the EU and to ensure accuracy throughout, this section should not be relied upon as a definitive statement of the law.

Over the past few years, three important bills have been published which are intended to shape how growing pressures on the environment post-Brexit (post-transition period) are tackled. Both the Agriculture Bill and Fisheries Bill gained Royal Assent in November 2020 and are now the Agriculture Act 2020 and Fisheries Act 2020 respectively; and, more recently, the Environment Bill was passed into law in November 2021, becoming the Environment Act 2021. *N.B. as environment policy is a devolved matter, most of this Act applies to England only.*

A LEGISLATION AFFORDED TO SPECIES

The objective of the EC Habitats Directive¹ is to conserve the various species of plant and animal which are considered rare across Europe. The Directive is transposed into UK law by **The Conservation of Habitats and Species Regulations 2017 (as amended)** and **The 'Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended)**.

Various amendments to the 2017 Regulations in England and Wales have been made through the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. These changes came into effect on the 1 January 2021 following the UK's departure from the EU and the end of the Transition Period. The changes are largely limited to 'operability changes' that will ensure the Regulations can continue to have the same working effect as before.

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.

Since the passing of the Wildlife & Countryside Act 1981, various amendments have been made, details of which can be found on www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CROW) Act (2000).

As well as delivering long-term targets to reduce waste and improve resource efficiency and improve air and water quality targets, the **Environment Act 2021** aims to halt the decline of nature by 2030,

¹ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora

mandates Biodiversity Net Gain for developments in England and amends the Wildlife and Countryside Act 1981 (as amended) to introduce an additional purpose for granting a protected species licence in relation to development which is 'for reasons of overriding public interest'. The Act also introduces the Office for Environmental Protection (OEP), which will be a new public body intended to hold government and public authorities to account, although the government will be able to issue guidance to the OEP on how it enforces policies and legislation.

Some of the key biodiversity elements in the Act that will have a bearing on species protection in the UK include:

- A strengthened biodiversity duty on Local Planning Authorities;
- Biodiversity net gain to ensure developments, including Nationally Significant Infrastructure Projects (NSIP), deliver at least 10% increase in biodiversity;
- Local Nature Recovery Strategies to support a Nature Recovery Network;
- Duty upon Local Authorities to consult on street tree felling;
- Strengthen woodland protection enforcement measures;
- Conservation Covenants;
- Protected Site Strategies and Species Conservation Strategies to support the design and delivery of strategic approaches to deliver better outcomes for nature;
- Introduces the power for the Habitats Regulations to be amended or 'refocused' to 'to deliver creative public policy thinking that delivers results'.

This section does not provide further detail on the Environment Act 2021 as, at the time of writing (November 2021), the Act, in its final form, has not been published and it remains to be seen how and when the various elements will be enacted at a national and local level.

Other legislative Acts affording protection to wildlife and their habitats include:

- Salmon and Freshwater Fisheries Act 1975;
- Deer Act 1991;
- Protection of Badgers Act 1992;
- Wild Mammals (Protection) Act 1996;
- Countryside and Rights of Way (CROW) Act 2000;
- Natural Environment & Rural Communities (NERC) Act 2006;
- The Eels (England and Wales) Regulations 2009; and
- Environment (Wales) Act 2016.

Species and species groups that are protected or otherwise regulated under the aforementioned legislation, and that are most likely to be affected by development activities, include herpetofauna (amphibians and reptiles), badger, bats, birds, dormouse, invasive species, otter, plants, red squirrel, water vole and white clawed crayfish.

Explanatory notes relating to species protected under The Conservation of Habitats and Species Regulations 2017 (as amended), which includes smooth snake, sand lizard, great crested newt, natterjack toad, all bat species, otter, dormouse and some plant, invertebrate and fish species, are given below. **These should be read in conjunction with the relevant species sections that follow.**

- In the Habitats Directive, the term ‘deliberate’ is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.
- The Conservation of Habitats and Species Regulations 2017 (as amended) does not define the act of ‘migration’ and therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered where relevant.
- In order to obtain a mitigation licence for species protected under the Conservation of Habitats and Species Regulations 2017 (as amended), the application must demonstrate that it meets all of the following three ‘tests’: i) the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment; ii) that there is no satisfactory alternative and iii) that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

Badger

Badgers *Meles meles* receive protection under The Protection of Badgers Act 1992 which consolidates the previous Badger Acts of 1973 and 1991 and is amended, in Scotland, by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2011. The Act makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger;
- Cruelly ill-treat a badger, including use of tongs and digging;
- Possess or control a dead badger or any part thereof;

- Intentionally or recklessly damage, destroy or obstruct access to a badger sett² or any part thereof;
- Intentionally or recklessly disturb³ a badger when it is occupying a badger sett;
- Intentionally or recklessly cause a dog to enter a badger sett; and
- Sell or offer for sale, possess or have under his control, a live badger.

How is the legislation pertaining to badgers liable to affect development works?

The appropriate licence (e.g. a Development Licence⁴) will be required from the relevant countryside agency (e.g. Natural England, Natural Resources Wales) for any development works liable to affect an active badger sett, or to disturb badgers whilst in the sett. In Wales, the Welsh Government is responsible for issuing licences in relation to agricultural and forestry operations or works to maintain or improve any existing watercourse or drainage works, or to construct new works required for the drainage of land, including works of defence against seawater or tidal water.

Depending on the nature of the works and the specifics of the sett and its environs, badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett itself. The countryside agencies have issued guidelines on what constitutes a licensable activity. N.B. there is no provision in law for the capture of badgers for development purposes and therefore it is not possible to obtain a licence to translocate badgers from one area to another.

² A badger sett is defined in the legislation as "any structure or place which displays signs indicating current use by a badger". This includes seasonally used setts. Natural England (2009) has issued guidance on what is likely to constitute current use of a badger sett:
https://webarchive.nationalarchives.gov.uk/20140605121602/http://www.naturalengland.org.uk/Images/WMLG17_tm6-11815.pdf

³ For guidance on what constitutes disturbance and other licensing queries, see Natural England (2006 revised 2011) Badgers & Development: A Guide to Best Practice and Licensing (IN75) <https://webarchive.nationalarchives.gov.uk/20150303064749/http://publications.naturalengland.org.uk/publication/73034>; Natural England (2009) Interpretation of 'Disturbance' in relation to badgers occupying a sett <https://webarchive.nationalarchives.gov.uk/20150303064749/http://publications.naturalengland.org.uk/publication/73034>; and Natural Resources Wales (2018) Badgers – A Guide for Developers <https://cdn.naturalresources.wales/media/684003/badger-fact-sheet-for-developers-english.pdf?mode=pad&rnd=131620320080000000> and Guidance on working close to badger setts without a licence via <https://naturalresourceswales.gov.uk/permits-and-permissions/species-licensing/uk-protected-species-licensing/badger-licences-issued-by-natural-resources-wales-and-the-welsh-government/?lang=en>

⁴ Natural England and Natural Resources Wales will only consider issuing a licence where detailed planning permission (if applicable to operation) has already been granted.

Bats

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats);
- Deliberate disturbance of bat species as:
 - a) to impair their ability:
 - to survive, breed, or reproduce, or to rear or nurture young; or
 - to hibernate or migrate.
 - b) to affect significantly the local distribution or abundance of the species.
- Damage or destruction of a breeding site or resting place; and
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) in respect to sub-sections 9 (4) (b) and (c) and 9 (5) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance while in their place of shelter (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

How is the legislation pertaining to bats liable to affect development works?

The appropriate licence issued by the relevant countryside agency (e.g. Natural England, Natural Resources Wales) will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to derogate from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Though there is no case law to date, the legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded

protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost⁵.

Birds

All wild birds, their nests and eggs are protected under Sections 1-8 of the Wildlife and Countryside Act 1981 (as amended). A wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Among other things, the legislation makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy an egg of any wild bird; or
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.

Certain species of bird, for example the barn owl *Tyto alba*, black redstart *Phoenicurus ochruros*, hobby *Falco subbuteo*, bittern *Botaurus stellaris* and kingfisher *Alcedo atthis* receive additional special protection under Schedule 1 of the Act. This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young.
- Intentional or reckless disturbance of dependent young of such a bird.

How is the legislation pertaining to birds liable to affect development works?

To avoid contravention of the Wildlife and Countryside Act 1981 (as amended), works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction is to undertake work outside the main bird nesting season which typically runs from March to August⁶. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

⁵ Garland and Markham (2008) Is important bat foraging and commuting habitat legally protected? Mammal News, No. 150. The Mammal Society, Southampton.

⁶ It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species, geographical location of the site and vagaries of the season in any particular year) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

Those species of bird listed on Schedule 1 are also protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest. It should be noted that there is no threshold under which disturbance is not an offence, that is to say that disturbance need not be 'significant' for an offence to be committed.

While it is possible to obtain a licence to permit some activities that would otherwise constitute an offence, these can only be issued for specific purposes set out in the Act. This includes damage to crops, to preserve public health or safety and to preserve air safety, but does not include development, some land management and recreational activities and damage to property.

Herpetofauna (Amphibians and Reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, great crested newt *Triturus cristatus* and pool frog *Pelophylax lessonae* receive full protection under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of species listed on Schedule 2;
- Deliberate disturbance of any Schedule 2 species as:
 - to impair their ability:
 - to survive, breed, or reproduce, or to rear or nurture young; and
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate.
 - to affect significantly the local distribution or abundance of the species.
- Deliberate taking or destroying of the eggs of a Schedule 2 species;
- Damage or destruction of a breeding site or resting place; and
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

With the exception of the pool frog, these species are also listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect to sub-sections 9 (4) (b) and (c) and 9 (5). The pool frog is afforded protection in respect of sub-sections 9(4) (b) and (c) for England only. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance while in their place of shelter (at any level);
- Intentional or reckless obstruction of access to any place of shelter or protection; and

- Selling, offering or exposing for sale, possession or transporting for purpose of sale (excluding pool frog).

Other native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Species such as the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis* are listed in respect to sub-section 9 (1) & (5). For these species, it is prohibited to:

- Intentionally kill or injure these species; and
- Sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

Common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris* and palmate newt *L. helveticus* are listed in respect to sub-section 9 (5) only which affords them protection against sale, offering or exposing for sale, possession or transport for the purpose of sale.

How is the legislation pertaining to herpetofauna liable to affect development works?

The appropriate licence issued by the relevant countryside agency (e.g. Natural England, Natural Resources Wales) will be required for works liable to affect the breeding sites or resting places of those amphibian and reptile species protected under The Conservation of Habitats and Species Regulations 2017 (as amended). A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to derogate from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the Wildlife and Countryside Act 1981 (as amended).

Wild Mammals (Protection) Act 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to:

- Mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Non-native species (fauna)

Under Section 14 (1) of the Wildlife and Countryside Act 1981 (as amended), it is an offence to release, or allow to escape into the wild, *any* animal that is not ordinarily resident in and is not a regular visitor to Great Britain in a wild state, or is listed on Schedule 9 of the Act. Examples of species included on Schedule 9 are signal crayfish *Pacifastacus leniusculus*, American mink *Neovison vison*, grey squirrel *Sciurus carolinensis* and European pond terrapin *Emys orbicularis*. In the main, Schedule 9 species are those that are already established in the wild, but which continue to pose a threat to the conservation of native biodiversity and habitats, such that further releases should be regulated. The Schedule also includes some native species, such as barn owl *Tyto alba*, to ensure that any releases or re-introduction programmes are undertaken in consultation with the relevant authorities and in accordance with best practice guidelines.

How is the legislation pertaining to non-native faunal species liable to affect development works?

In most cases, development works are unlikely to infringe the legislation. This is because such operations are unlikely to result in the release or escape of non-native faunal species. However, there may be circumstances, particularly where works involve watercourses or water bodies, which have the potential to exacerbate the spread of e.g. signal crayfish or certain fish or amphibian species. If this is deemed a possibility, it will be necessary to ensure appropriate preventative measures are in place prior to and during the works.

B EUROPEAN AND NATIONAL LEGISLATION AFFORDED TO SITES AND HABITATS

As for certain species described above, habitats and sites are also protected directly through the Wildlife & Countryside Act 1981 (as amended), The Conservation of Habitats and Species Regulations 2017 (as amended) and The 'Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) through the notification, classification or designation of various protected sites as detailed below.

In addition, The Environment Act 2021 and the Water Framework Directive indirectly afford protection to non-designated habitats through the duties placed on public and private bodies to promote nature conservation and biodiversity, for example, the creation of Local Nature Recovery Strategies (LNRS) and associated Species Conservation and Protected Site strategies, and to reduce or avoid harmful

activities. Many of these duties and targets form the basis for national and local planning policy and wider conservation strategies and are not covered in detail here.

Statutory Site Designations: National

Nationally important areas of special scientific interest, by reason of their flora, fauna, or geological or physiographical features, are notified by the countryside agencies as statutory **Sites of Special Scientific Interest** (SSSI) under the National Parks and Access to the Countryside Act 1949 and latterly the Wildlife & Countryside Act 1981 (as amended). As well as underpinning other national designations (such as **National Nature Reserves** which are declared by the countryside agencies under the same legislation), the system also provides statutory protection for terrestrial and coastal sites which are important within a European context (formerly referred to as part of the Natura 2000 network and recently amended to the National Site Network in line with the UK's departure from the EU) and globally (such as Wetlands of International Importance) - see subsequent sections for details of these designations. Improved provisions for the protection and management of SSSI have been introduced by the Countryside and Rights of Way Act 2000.

The Wildlife & Countryside Act 1981 (as amended) also provides for the making of Limestone Pavement Orders, which prohibit the disturbance and removal of limestone from such designated areas, and the designation of Marine Nature Reserves, for which byelaws must be made to protect them.

Statutory Site Designations: International

Special Protection Areas (SPAs), together with Special Areas of Conservation (SACs) form the basis of the National Site Network (until recently, these were part of the Natura 2000 network whilst the UK was part of the EU). SPAs are identified and classified by the Government under the EC Birds Directive (Council Directive 2009/147/EC (formerly 79/409/EEC)) on the Conservation of Wild Birds) via the mechanisms set out in the Habitats Regulations (as applicable at the time of classification).

SPAs are areas of the most important habitat for rare (listed on Annex I of the Directive) and migratory birds within the European Union. Protection afforded SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles (nm) is given by The Conservation of Habitats & Species Regulations 2017 (as amended). The 'Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) provide a mechanism for the classification and protection of European Marine Sites or EMS (SPAs and SACs) in UK offshore waters (from 12-200 nm).

SACs are identified and designated under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) via the mechanisms set out in the Habitats Regulations (as applicable at the time of designation). These are areas which have been identified as best representing the range and variety of habitats and (non-bird) species listed on Annexes I and II to the Directive within the European Union. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are protected under The Conservation of Habitats & Species Regulations 2017 (as amended). The 'Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) provide a mechanism for the designation and protection of European marine sites or EMS (SACs and SPAs) in UK offshore waters (from 12-200 nm).

Ramsar sites are listed under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and wise use, in particular recognizing wetlands as ecosystems that are globally important for biodiversity conservation. Wetlands can include areas of marsh, fen, peatland or water and may be natural or artificial, permanent or temporary. Wetlands may also incorporate riparian and coastal zones adjacent to the wetlands. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSI) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000. Policy statements have been issued by the Government highlighting the special status of Ramsar sites. This effectively extends the level of protection to that afforded to sites in England and Wales which have been designated under the EC Birds and Habitats Directives as part of the Natura 2000 network and now the National Site Network (e.g. SACs and SPAs).

Statutory Designations: Local

Under the National Parks and Access to the Countryside Act 1949 **Local Nature Reserves** (LNRs) may be declared by local authorities after consultation with the relevant countryside agency. LNRs are declared for sites holding special wildlife or geological interest at a local level and are managed for nature conservation and provide opportunities for research and education and enjoyment of nature.

Statutory Protection of Aquatic Habitats

Water Framework Directive and The Environment Act 2021

Aquatic habitats are also afforded protection under The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017, which transposes the Water Framework Directive 2000/60/EC (The WFD). At its core it aims to prevent deterioration of the water environment and improve water quality by managing water in natural river basin districts, rather than by administrative boundaries. It looks at ecological, physico-chemical, quantitative and morphological aspects of the water environment and requires that improvements take account of economic aspects, including costs and benefits. Plans to improve the status of water bodies are set out in River Basin Management Plans (RBMPs). The Directive aims for 'good status' of all ground and surface water (rivers, lakes, transitional water and coastal waters) in the EU and the UK. The Environment Agency and Natural Resources Wales are the competent authorities for river basin planning in England and Wales.

Any works which could affect the hydro-morphology, ecology or water quality of any classified waterbody up to 1nm out to sea requires an assessment under the WFD to demonstrate how any adverse impacts will be mitigated and, where possible, the status of the waterbody enhanced in order to achieve the required good status targets. Construction must have no permanent, unmitigated effects which cause any deterioration in the current status of any surface-water or groundwater body. If a WFD assessment shows an activity will either cause a deterioration in the status of a water body or jeopardise a water body achieving good status, it may then be necessary to consider whether it meets the criteria for an Article 4(7) exemption⁷.

The Environment Act also places a new statutory duty on government to produce a plan to reduce discharges from storm overflows, on water companies and the Environment Agency to publish data on storm overflow operation and on water companies to monitor the water quality upstream and downstream of storm overflows and sewage disposal works. The Act also contains a new duty on the water sector to create drainage and sewerage management plans and enables the revocation or variation of permanent abstraction licences where the change is necessary to protect the environment. This is because some older abstraction licences do not take account of fluctuating water availability and may enable too much water to be taken from the environment.

Non-Statutory Designations

Areas considered to be of local conservation interest may be designated by local authorities as a **Wildlife Site**, under a variety of names such as **Local Wildlife Sites (LWS)**, **County Wildlife Sites (CWS)**,

⁷ https://circabc.europa.eu/sd/a/e0352ec3-9f3b-4d91-bdbb-939185be3e89/CIS_Guidance_Article_4_7_FINAL.PDF

Listed Wildlife Sites (LWS), Local Nature Conservation Sites (LNCS), Sites of Biological Importance (SBIs), Sites of Importance for Nature Conservation (SINCs), or Sites of Nature Conservation Importance (SNICIs). The criteria for designation may vary between counties.

Together with the statutory designations, these are defined in Local Plan documents under the Town and Country Planning system and are a material consideration when planning applications are being determined. The level of protection afforded to these sites through local planning policies may vary between counties.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are intended to protect 'important' countryside hedgerows from destruction or damage. Under the 'Wildlife and Landscape' criteria of the Regulations, a hedgerow is considered important if (a) it has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy important hedgerows without permission from the local planning authority. Hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys are covered by these regulations. Hedgerows '*within or marking the boundary of the curtilage of a dwelling-house*' are not.

C PLANNING POLICY

National Planning Policy Framework

The National Planning Policy Framework replaced PPS9 and emphasises the need for sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species (see Section D below). An emphasis is also made for the need for ecological networks via preservation, restoration and re-creation. The protection and recovery of priority species is also listed as a requirement of planning policy. In determining planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

Section 40 of The Natural Environment and Rural Communities (NERC) Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

D BIODIVERSITY ACTION PLANS (BAPs)

Since the publication of the UK BAP in 1994, new strategies and frameworks have resulted in the development of biodiversity issues and changes in the terminology used to describe these habitats and species in England. This has been brought about through the replacement of the previous England Biodiversity Strategy with *Biodiversity 2020: A Strategy For England's Wildlife and Ecosystem Services* (2011) and the replacement of the UK BAP itself with the *UK Post-2010 Biodiversity Framework* (2012). All previous UK BAP species and habitats are still of material consideration in the planning process but are now referred to as Habitats and Species of Principal Importance (as described under the NERC Act 2006 above).

The distribution of BAP/priority habitats has been used to identify Biodiversity Opportunity Areas at a regional scale through Biodiversity Strategies/Partnerships. They represent a strategic landscape scale approach to habitat creation, restoration or expansion. They represent regional priority areas of opportunity to restore and create key habitats. They are therefore a spatial representation of targets for Habitats of Principal Importance and are areas of opportunity, not constraint.