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Tackley Bridge, Tackley, Oxfordshire

Preliminary Ecological Appraisal and BNG Assessment

Report for Engineering CSL LTD

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Summary of Key Issues

Temple (formerly Temple Group comprising The Ecology Consultancy, Temple Group and Arbeco) was commissioned by Engineering CSL LTD in July 2023 to carry out a Preliminary Ecological Appraisal (PEA) comprising of a protected species assessment and ecological evaluation to inform an outline planning application for works involving the replacement of the existing temporary footbridge with a new, permanent footbridge. A Ground Level Tree Assessment and Biodiversity Net Gain (BNG) Assessment have also been completed as part of this PEA. The main findings are as follows:

- The Site does not form part of any statutory nature conservation Site.
- The Site consisted of hardstanding in the form of the railway station platforms, footway bridge and railway track, with disturbed bare ground and broadleaved woodland following the tracks. A small section of private gardens was also found east of the Site. Overall, the habitats within the Site are considered to be of local importance, primarily due to the function of the railway embankments as an important corridor for wildlife movement.
- The PEA consisted of two Site visits in July and August 2023. During both of these surveys, it was not possible to see inside the deciduous woodland north of the footbridge due to access issues. As Option 1 (constructing the new bridge from the existing platforms) has been approved by Network Rail, the deciduous woodland will be impacted and further survey is not required.
- **Roosting bats –** The Ground Level Tree Assessment (GLTA) and Preliminary Roost Assessment found no trees or structures suitable for roosting bats.
- **Dormouse –** The deciduous woodland within the Site was assessed as being suitable for hosting dormouse. Any vegetation cleared should be preceded by a check from an ecologist to ensure no dormouse are accidentally harmed.
- **Breeding birds** -The broad-leaved semi-natural woodland and disturbed ground had potential to support common but declining species of breeding bird. To avoid significant impacts to breeding birds vegetation clearance should proceed outside the breeding period (March to August inclusive). If this is not possible, vegetation

clearance should be immediately preceded by a check for active bird nests. If any are found at any time during clearance works, works within the immediate vicinity must stop until such time that all young are confirmed to have fledged.

- **Badger –** No badger setts were identified during the initial two surveys. However, an inspection for badgers, signs of badgers and their setts should be conducted in the areas that were not accessible in the initial two surveys.
- **Reptiles –** The derelict/abandoned ground within the Site has been assessed as being suitable for hosting reptiles. It is recommended that vegetation clearance is preceded by a check by an onsite ecologist to prevent the accidental injuring or killing of reptiles.
- **Non-native invasive species –** No non-native invasive species were identified in the footprint of the Option 1 works site during the initial surveys.
- Although it is considered unlikely, should the presence of other protected species be confirmed or suspected, all works must cease immediately and the advice of a suitably qualified and experienced ecologist must be sought.
- **Biodiversity Net Gain (BNG) Assessment –** the Site was found to have a baseline value of 1.94 Biodiversity Units. This BNG assessment should be updated when the final proposals are complete to identify if this project will meet Network Rail's requirement of no net loss of biodiversity.
- In line with Network Rail's biodiversity policies, several recommendations are provided to mitigate and compensate for potential impacts to ecological receptors as outlined above, taking account of the Site's representative value as woodland and its potential significant role as a habitat corridor. These will also aim to provide a net gain in biodiversity, beneficial ecosystem services and enhance the importance of the Site for biodiversity. These include the enhancement of the existing woodland habitat, woodland creation, and the incorporation of biodiverse roofs.

1 Introduction

BACKGROUND TO COMMISSION

1.1 Temple was commissioned by Engineering CSL LTD. in July 2023 to undertake an update Preliminary Ecological Appraisal (PEA), Ground Level Tree Assessment (GLTA) and Biodiversity Net Gain (BNG) Assessment of land at Tackley Railway Station, Kidlington, Oxfordshire. The appraisal was carried out to provide ecological information to inform a detailed planning application for a replacement of the existing footbridge in Tackley Railway Station. This appraisal considers land within the planning application Site boundary (henceforth referred to as 'the Site').

1.2 The survey covered a small stretch of railway track and embankment within Tackley Railway Station located within the Site boundary as indicated by the client (see Appendix 1, Map 1).

SCOPE OF REPORT

1.3 The aim of this appraisal is to provide current baseline ecological information for 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.

1.4 This appraisal is based on the following information sources:

- a desk study of the Site and land within a 1 kilometre (km) surrounding radius;
- a UK Habitat survey to identify and map the habitats present;
- a protected species assessment of the Site to identify features with potential to support legally protected species;
- an evaluation of the Site's importance for nature conservation; and
- a BNG Assessment.

1.5 This appraisal has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2018) and as detailed in British Standard 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development (British Standards Institute, 2013).

1.6 The BNG 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.

1.7 The appraisal consisted of two surveys of the Site. The initial survey was conducted by Jordan Whitcombe (BSc, QCIEEM), an experienced ecologist with three years of experience carrying out ecological surveys. The follow up survey was conducted by Sarah Ive (BSc Hons, MSc, CEnv, MCIEEM), an experienced principal ecologist with over 11 years of carrying out ecological surveys.

SITE CONTEXT AND STATUS

1.8 The Site is 0.39ha in size and is centred on Ordnance Survey National Grid reference SP 48452 20542. It consisted of a small railway station south-east of the rural village of Tackley in West Oxfordshire within a flat, open landscape. The Site bordered a residential neighbourhood to the east and agricultural fields to the west. Oxford Canal and the associated deciduous woodland that follows it was found approximately 350m north-east. Other habitats around the Site included areas of grassland used for grazing with hedgerows and treelines approximately 300m south-west.

DEVELOPMENT PROPOSALS

1.9 The development proposals for the Site will involve replacing the existing, temporary bridge crossing within Tackley Station with a new, permanent bridge crossing. Option 1 has been approved by Network Rail which will involve the

construction of the new footbridge from the existing platforms and require minor vegetation clearance adjacent to the northern edge of the Station.

RELEVANT LEGISLATION AND PLANNING POLICY

1.10 The following key pieces of nature conservation legislation are relevant to this appraisal. A more detailed description of legislation is provided in Appendix 4:

- The Conservation of Habitats and Species Regulations 2017 (as amended) (commonly referred to as the Habitats Regulations);
- Wildlife and Countryside Act 1981 (as amended);
- Natural Environment and Rural Communities Act 2006;
- Wild Mammals (Protection) Act 1996; and
- The Environmental Act 2021.

1.11 The National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021) and The Environment Act 2021 requires local authorities to avoid and minimise impacts on biodiversity and to provide net gains in biodiversity when taking planning decisions. In addition, in England, under Section 40 of the Natural Environment and Rural Communities Act 2006, all public bodies are required to have regard to biodiversity conservation when carrying out their functions.

1.12 Network Rail policy *NR/L2/ENV/015 - Environment & Social Minimum Requirements* issued by Network Rail in June 2021 states that all projects over £20,000 or a footprint of 1500m^2 which will impact biodiversity must undertake biodiversity metric calculations.

1.13 *NR/L2/EN/122* – Management of Biodiversity Standards updated by Network Rail in March 2021 states that existing (pre works) biodiversity values shall be calculated and recorded in a PEA to help determine whether the works will lead to a loss or gain of biodiversity (in terms of a biodiversity metric) once they are completed.

1.14 Other planning policies at the local level which are of relevance to this development include the Oxfordshire County Councils Strategic Plan 2022-2025 and the West Oxfordshire District Councils Local Plan 2031. Further information is provided in Appendix 4. Policy EH3 of the West Oxfordshire Local Plan 2031 requires that all developments will result in a net gain in biodiversity. Interim guidance from West Oxfordshire District Council (2021) states that all developments must achieve a 10% net gain in biodiversity in line with the Environment Bill 2021. However, requirement for net gain only applies to projects that require planning permission.

2 Methodology

DESK STUDY

2.1 The following data sources were reviewed to provide information on the location of Sites of Special Scientific Interest Impact Risk Zones, non-statutory designated sites[1], legally protected species[2], Species and Habitats of Principal Importance[3] and other notable species[4] and notable habitats[5] that have been recorded within a 1km radius of the Site and a 2km radius for statutory designated sites:

- MAGIC (MAGIC, 2016) - the Government's on-line mapping service; and
- Ordnance Survey mapping and publicly available aerial photography.

HABITAT SURVEY

2.2 Due to the difficulties of accessing the Site, two separate habitat surveys were conducted on the 9th July 2023 and the 20th of August 2023. They covered the majority of Site that could be observed, including boundary features. Habitats were described and mapped following standard UK Habitat survey methodology (UK Habitat Classification Working Group, 2018) and marked on a paper base map and subsequently digitised using ESRI ArcGIS software. Habitats were also assessed against descriptions of Habitat of Principal Importance as set out by the Joint Nature Conservation Council (Biodiversity Reporting and Information Group, 2008) where appropriate.

1 **Non-statutory sites** are designated by local authorities (e.g. Sites of Importance for Nature Conservation or Local Wildlife Sites).

2 **Legally protected species** include those listed in Schedules 1, 5 or 8 of the Wildlife and Countryside Act 1981; Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); or in the Protection of Badgers Act 1992 (as amended).

3 **Species of Principal Importance** are those listed on Section 41 of the Natural Environment and Rural Communities Act, 2006.

4 **Notable species** include Species of Principal Importance under the Natural Environment and Rural Communities Act 2006; Local Biodiversity Action Plan (LBAP) species; Birds of Conservation Concern (Eaton *et al.*, 2015); and/or Red Data Book/nationally notable species (JNCC, undated).

5 **Notable habitats** include Habitats of Principal Importance under the Natural Environment and Rural Communities Act, 2006; those included in an LBAP; Ancient Woodland Inventory sites; and Important Hedgerows as defined by the Hedgerow Regulations 1997.

2.3 A formal BNG assessment was conducted following the survey. The condition of each of these habitats on Site has been recorded in line with the BNG 4.0 Technical Supplement (Panks et al., 2021).

2.4 Records for dominant and notable plants are provided, as are incidental records of birds and other fauna noted during the habitat survey. These have been provided in Appendix 3.

2.5 Common names are used where widely accepted for amphibians, birds, fish, mammals, reptiles, and vascular plants. Scientific names are provided for other groups but at first mention only if there is also an accepted common name.

2.6 The Site was also surveyed for the presence of invasive plant species as defined by Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, detailed mapping of such species is beyond the scope of this commission and the locations on the habitat plan are indicative only.

PROTECTED AND NOTABLE SPECIES ASSESSMENT

2.7 The suitability of the Site for legally protected species was assessed on the basis of relevant desk study records[6] combined with field observations from the habitat survey. The likely importance of habitat for protected species occurrence was ranked on a scale from 'negligible' to 'present' as described in Table 2.1 (see below).

2.8 The assessment of habitat suitability for protected or notable species was based on professional judgement drawing on experience of carrying out surveys of urban and rural sites and best practice survey guidance on identifying field signs which includes that for the following species: badger (e.g. Roper, 2010); bats (Collins, 2016); great crested newt (Langton et al., 2001); otter (Chanin, 2003); reptiles (Gent and Gibson, 2003); and water vole (Dean et al., 2016).

[6] Primarily dependent on the age of the records, distance from the Site and types of habitats at the Site.

2.9 The findings of this assessment establish the need for protected species surveys that are required to achieve compliance with the relevant legislation. Surveys are commonly required for widespread species such as bats, great crested newt, reptiles and badger, but may be necessary for other species if suitable habitat is present.

2.10 Surveys may be required where a site is judged to be of low suitability for a particular species/species group. However, in some cases there may be opportunities to comply with legislation, without further survey, through precautionary measures prior to and during construction.

Table 2.1: Protected species assessment categories

Category	Description
Present	Presence confirmed from the current survey or by recent, confirmed records.
High	Habitat present provides all of the known key requirements for a given species/species group. Local records are provided by desk study. The Site is within or close to a national or regional stronghold for a particular species. Good quality surrounding habitat and good connectivity.
Moderate	Habitat present provides many of the known key requirements for a given species/species group. Several desk study records and/or Site within national distribution and with suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, barriers to movement and disturbance.
Low	Habitat present is of relatively poor quality for a given species/species group. Few or no desk study records. However, presence cannot be discounted on the basis of national distribution, nature of surrounding habitats or habitat fragmentation.
Negligible	Habitat is either absent or of very poor quality for a particular species or species group. There were no desk study records. Surrounding habitat unlikely to support wider populations of a species/species group. The Site may also be outside or peripheral to known national range for a species.

SITE EVALUATION

2.11 The Site's ecological importance has been determined broadly following guidance issued by CIEEM (2018), which ranks the nature conservation importance of a site according to a geographic scale of reference: international and European; national; regional (e.g. Greater London), metropolitan, county, vice-county or other local authority-wide area; local; site scale. In evaluating the nature conservation importance of the Site, the following factors were considered: nature conservation designations; species/habitat rarity; naturalness; fragility and connectivity to other habitats.

BIODIVERSITY NET GAIN CALCULATION

2.12 The BNG Assessment has been based on the BNG Good Practice Principals for development (Baker *et al*., 2023), the Defra Technical Supplement (Natural England NE, 2023b) and calculated using the Defra Biodiversity Metric 4.0 Calculation Tool Beta Test (NE, 2023a). Using this approach, the value of a site is quantified in Biodiversity Units, calculated based on extent and quality of the habitats present.

2.13 Habitat biodiversity unit scores are influenced by:

- distinctiveness[7] - the rarity and importance of the habitat to biodiversity at a national scale;
- condition[8] - the quality of a habitat at a point in time based on management, disturbance and other environmental factors;
- strategic significance[9] – whether the location of the development and/ or off-site work has been identified locally as significant for nature; and
- connectivity[10] – proximity of the habitat parcel to similar or related habitats.

[7] Distinctiveness is automatically determined by the Biodiversity Metric 4.0 Calculation Tool for different habitat types and allocated an appropriate weighted score.

[8] The condition of the habitats has been calculated based on the condition assessment tables in Defra's Technical Appendix (NE, 2019b), and allocated a weighted score between 1 and 3. Different condition assessment criteria are used for each broad habitat type. For certain habitat types, such as hardstanding and buildings, are allocated a distinctiveness score of 0.

[9] Strategic significance weighted scores are between 1 and 1.15.

[10] NE have developed a piece of software to determine habitat connectivity on all 'High' and 'Very High' distinctiveness habitats. All other habitats are allocated a default connectivity score of low = 1.

2.14 A UKHabs survey was carried out to provide a baseline for the BNG assessment.

2.15 These factors are attributed numerical scores and multiplied by the extent of the habitat in hectares (ha) to calculate the Biodiversity Unit score for each habitat parcel.

2.16 Linear habitats, including hedgerows, rivers and vegetated walls, are assessed separately to those that represent areas. Instead of area measures in ha these habitats are measured in length (metres, m). The number of units are calculated in the same way to habitats areas, multiplying the length by weighted scores for distinctiveness, condition, connectivity and strategic importance.

2.17 When calculating Habitat Units for proposed habitats, negative multipliers are implemented to account for difficulty factors associated with habitat establishment, temporal delays and off-site risk.

2.18 The information provided in the PEA for the Site has been used to inform the assessment for habitats present prior to the development, and information provided by the design team and client has been used to inform the assessment of habitats proposed. The Biodiversity Unit value for the Site prior to development and the Biodiversity Unit value for the Site post-development were then compared to provide an assessment of the change in unit value.

PRELIMINARY ROOST ASSESSMENT - BUILDINGS

2.19 The PRA consisted of an external inspection of all features/surfaces of the buildings/structures and an internal inspection where access allowed. The survey was conducted by Jordan Whitcombe and Sarah Ive, two experienced ecologists with two and 11 years of experience respectively.

2.20 The aim of the surveys outlined below is to establish the suitability of 14 buildings/groups of buildings within the Site to support bat roosts. The suitability of structures to support roosting bats, ranging from negligible to the presence of a confirmed roost, is assessed using the findings of the survey and the desk study.

The following criteria (Table 2.2) were used to determine the suitability of the buildings for roosting bats (taken from Collins, 2016).

Table 2.2: Assessment criteria for suitability of buildings for roosting bats.

Category	Description
Negligible	While presence cannot be absolutely discounted there were no significant visible features that could be used by bats for roosting.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically; however, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain Potential Roost Features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed roost[11]	Evidence indicates a building or other structure is used by bats, for example: - Bats seen roosting or observed flying from a roost or freely in the habitat; - Droppings, carcasses and feeding remains indicative of a roost; and - Bats heard 'chattering' inside on a warm day or at dusk.

2.21 The gathered information has been used to inform whether further survey is required in the form of presence/likely absence surveys comprising a suite of dusk emergence and/or dawn re-entry surveys to fully understand how bats are using the

[11] Adapted from Cowan, A. (2006) Trees and Bats. Guidance Notes 1. ArboriculturalAssociation, Cheltenham

Site and the potential impacts of the proposals on bats, or whether an assessment can be made on the basis of the building and tree inspections alone.

2.22 The PRA was carried out on the 9th July and 19th of August 2023 in suitable weather conditions. The weather conditions were as follows:

- 13°C, 0/8 oktas (cloud cover), 0/12 Beaufort (wind strength), no precipitation.
- 13°C, 0/8 oktas, 2/12 Beaufort, no precipitation

2.23 The survey comprised an external inspection of the footbridge and electrical cabinet within the Site, involving a detailed search of all accessible architectural features for bat droppings, urine staining, scratch marks, staining around suitable crevices and feeding remains. Windowpanes and other external surfaces were checked for droppings or other secondary evidence. This included external features, such as soffits and fascias, roof lining, brickwork and window casements. Any features that could potentially provide access into internal areas such as cavity walls were noted.

2.24 The survey methodology followed best practice guidelines (Mitchell-Jones 2004; Collins, 2016). Equipment used during the building inspection included an extendable ladder, close-focusing binoculars and a high-powered torch.

2.25 Finally, all buildings/structures were inspected for evidence of/potential for breeding and/or roosting birds.

GROUND LEVEL TREE ASSESSMENT

2.26 The GLTA consisted of an external inspection of all trees within the Site. Trees that were immediately outside the Site boundary were also included. The survey and assessment were undertaken by Sarah Ive, an experienced ecologist with 11 years experience carrying ecological surveys. The GLTA for trees was carried out on the 19th August 2023. Weather conditions were as follows:

- 13°C, 0/8oktas, 2/12 Beaufort, no precipitation.

2.27 All trees on Site were assessed using the Cowan Scale (Cowan, 2006) for their level of suitability for roosting bats including; loose, flaking or folded bark; cracks and fissures in limbs; woodpecker holes; or any downward-facing crevices or holes in the limbs or trunks. They were also inspected for any signs indicating possible use by bats, such as tiny scratches, rub marks and staining around access points, bat droppings in around or below access points.

2.28 The following values were assigned in considering the availability of suitable features for roosting bats:

Table 2.3: Criteria for for suitability of trees for roosting bats.

Category	Description
No value	No visible features that could be used by bats for roosting;
Low value	One or two minor features, possibly associated with feeding or night-time roosts, such as: - Sparse ivy (Hedera helix) cover; - Minor branch split or fissure; - Small areas of loose barks ; or - Features less than 10 years old.
Moderate value	Features that may provide a more secure site for individuals or small groups of bats, such as; - Dense ivy; - Significant branch splits; - Small cavities such as woodpecker holes; and - Features present for between 10 and 30 years old.
High value	Features of particular significance, suitable for high priority roosts such as maternity roosts and likely to be used by larger groups of bats, such as; - Features that provide rare or uncommon conditions in the local area; - Large cavities or extensive branch or trunk splits; - Multiple features in the same tree; and - Features present for more than 30 years that could have been used by several generations of bats.
Confirmed roost	Evidence indicating use by bats, such as: - Droppings, carcasses, feeding remains; - Bats heard 'chattering' inside on a warm day or at dusk; and - Bats seen roosting or observed flying from a feature.

2.29 The survey methodology followed best practice guidelines (Mitchell-Jones 2004; Collins, 2016). Equipment used during the inspection included close-focusing binoculars, a hand-held LED torch and a high-powered torch.

DATA VALIDITY AND LIMITATIONS

2.30 Every effort has been made to provide a comprehensive description of the Site however the following limitations apply to this assessment.

- The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the Site. It should not be taken as providing a full and definitive survey of any protected species group. Additional surveys may be recommended if on the basis of the preliminary assessment or during subsequent surveys it is considered reasonably likely that protected species may be present.
- The ecological evaluation is preliminary and may change subject to the findings of further ecological surveys (should these be required).
- Even where data for a particular species group are provided in the desk study, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest, the area may simply be under-recorded.
- Where only four figure grid references are provided for protected species by third parties, the precise location of species records can be difficult to determine and they could potentially be present anywhere within the given 1km x 1km square. Equally six figure grid references may be accurate to the nearest 100m only.
- The Phase 1 habitat survey does not constitute a full botanical survey or provide accurate mapping of invasive plant species. Likewise the time of year can cause greater difficulty in detecting certain plant species due to factors such as a lack of leaves or seasonal patterns of growth.
- Ecological survey data are typically valid for eighteen months (in some instances three years) dependant on a review undertaken by a professional ecologist (CIEEM, 2019).

- The desk study did not include a records search from the Local Environmental Records Centre. As such, the location of non-statutory sites, such as Local Wildlife Sites, are not known.
- The BNG assessment within this report was carried out using the Defra Metric 4.0 as requested by the client. However, Defra are making ongoing updates to the BNG calculator tool and intend to make improvements to the metric over time. Accordingly, the calculations made in this assessment may require updates to align with any future changes to the metric and best practice standards.
- As access to the north of the Site past the bridge was not possible due to issues with access to the railway, this has made it difficult to scope the Site out for roosting bats, badgers or invasive species. However, as works will be confined to the station platforms and directly adjacent to the edge of the platforms .no ecological receptors are anticipated to be impacted by this limitation.
- As the woodland on the Site could not be viewed completely, a precautionary approach has been taken when assessing the condition of this habitat.

2.31 Despite these limitations, it is considered that this report accurately reflects the habitats present, their importance for biodiversity and the potential of the Site to support protected and notable species.

3 Results

DESK STUDY

Statutory Sites of Importance for Nature Conservation

3.1 The Site is not subject to any statutory nature conservation designations.

3.2 One internationally important site is located within a 15km radius of the proposed development Site, Oxford Meadows Special Area of Conservation (SAC) (Table 3.1).

3.3 Three nationally important statutory sites, including Kirlington Quarry Site of Special Scientific Interest (SSSI), Kirlington Quarry Local Nature Reserve (LNR) and Crecy Hill LNR, are located within 2km of the Site (Table 3.1).

3.4 The Site lies with the Impact Risk Zones of several Sites of Special Scientific Interest (SSSI). These are Rushy Meadows SSSI, Meadow Barton Fen SSSI, Shipton on Cherwell and Whitehall Farm Quarries SSSI and Sheeps Banks SSSI (Table 3.1). IRZs are intended as a tool for local planning authorities to identify when specific types of development, such as infrastructure developments, may require consultation with NE regarding their potential impact on statutory designated sites. However, the Site is not within a zone that triggers consultation with Natural England.

- **Table 3.1:** Statutory Sites

Site Name	Distance from Site and orientation	Ecological Importance	Qualifying features/Description	Potential constraint
Oxford Meadows SAC	9.8km south	This site contains habitats and species of international importance.	This site is designated for containing the Annex I habitat Lowland Hay Meadows (*Alopecurus pratensis, Sanguisorba officinalis*) and the Annex II species creeping marshwort (*Apium repens*).	No
Wychwood NNR	14.2km west	This site contains habitats of	This nature reserve contains a variety of habitats, including	No

Site Name	Distance from Site and orientation	Ecological Importance	Qualifying features/Description	Potential constraint
		national importance.	flower-rich chalk grassland, beech (*Fagus sylvatica*) woodland and juniper (*Juniperus communis*) scrub. It also supports a variety of bird life, including fieldfare (*Turdus pilaris*), redwing (*Turdus iliacus*), ouzel (*Turdus torquatus*) and at least thirty butterfly species.	
Crecy Hill LNR	580m north	This site contains species that are of local importance.	This site contains large areas of grassland with a limestone bank cut during railway construction. It is home to 100 different wild flower species, including locally rare pyramidal orchid (*Anacamptis pyramidalis*), bee orchid (*Ophrys apifera*) as well as different species of invertebrates, reptiles and toads.	No
Kirtlington Quarry SSSI	1.1km south-east	None – this site is not designated for its biological features.	This site is designated for its geological features.	No
Shipton on Cherwell and Whitehall Farm Quarries SSSI	1.9km south	None – this site is not designated for its biological features.	This site is designated for its geological features.	No
Kirtlington Quarry LNR	950 south-east	This site contains habitats and species of local importance.	This site encompasses the Kirtlington Quarry. It contains chalk grassland, deciduous woodland and exposed chalk cliff faces.	No

Habitat inventories and landscape-scale conservation initiatives

Ancient woodland

3.3 There were five areas of woodland within a 2km radius of the Site appear on the Ancient Woodland Inventory (NE, 2022). There were four areas of semi-natural ancient woodland and one area of replanted ancient woodland. The closest of these is an unmanned Ancient Semi-Natural Woodland 350m west.

Habitats of Principal Importance

3.4 There were six different types of Habitat of Principal Importance located within 2km of the Site (NE, 2022). These were; Traditional Orchard, Wood Pasture and Parkland, Lowland Fen, Coastal Floodplain and Grazing Marsh, Lowland Calcareous Grassland and Deciduous Woodland. The closest of these habitats is an unnamed area of Decious Woodland 270m west of the Site.

UK HABITAT SURVEY

Site character

3.5 The majority of the Site consisted of built habitats in the form of the two station platforms, bridge and railway track (Photograph 1.) There were several vegetated habitats identified within the Site, with scattered trees, hedgerows and ephemeral/tall ruderal habitat south of the Site and deciduous woodland north of the Site. The Site was largely open, with minimal cover provided by the scattered trees and hedgerows. There was a large, well connected grassland field margin adjacent to the Site that surrounded the agricultural field (Photograph 2.).

3.6 UK Habitat types are mapped in Appendix 1 (Figure 1) with corresponding habitat areas described in Table 3.2 (see below). A description of dominant and notable species and the composition of each habitat is also provided. A full species list can be found in Appendix 3.

3.7 Photographs are located in Appendix 2.

Table 3.2: Results from Phase 1 Habitat Survey

Primary UKHabt Type	Secondary UKHab Type	Condition	Extent (m^2)	Cover %
U1E – Built linear features	107 – Railway	N/A	0.151	38.8
U1B – Developed land, sealed surface	N/A	N/A	0.048	12.3
U1B5 – Buildings	N/A	N/A	0.003	>1
W1F – Lowland mixed deciduous woodland	N/A	Poor	0.153	39.2
U1 – built up areas and gardens	230 – Garden	N/A	0.009	2.4
U1 – Built up areas and gardens.	351 – Vacant/Derelict Land	Moderate	0.025	6.4
Total	**N/A**	**N/A**	0.39	100

Habitat description

W1F – Lowland mixed deciduous woodland

3.8 The section of track north of the footbridge was surrounded by mixed deciduous woodland (Photograph 4). There was evidence of previous management, with branches cut back from the line as well as tree stumps left from felling. It formed two long patches that followed much of the track going north. The tree species identified within this habitat were frequent hawthorn, sycamore, ash and occasional blackthorn, elder, field maple and rowan. The ground flora was largely dominated by bramble, with locally dominant patches of nettle.

351 – Vacant/Derelict land

3.9 The Site contained two areas of vacant/derelict land (Photograph 3.). These consisted of patches of soil or rubble with vegetation cover. These areas were largely unmanaged and not regularly cut. This habitat consisted of frequent common couch grass, an unknown species of meadow grass, cow parsley, hedge bindweed, nettle, occasional sowthistle, knapweed, horsetail with rare sweatpea, dandelion, dead nettle, hawthorn, creeping bent, ash, bramble, common dock, hollyhock, herb Robert, rosebay willowherb, common dandelion, teasel, ivy, spurge, nipplewort,

cleavers, dove's-foot crane's-bill, creeping thistle, white dead nettle, red dead nettle, pineapple weed, broad leaved plantain, common burdock, dog rose and yellow toadflax. There were rare saplings from oak, ash, rowan, black walnut, hawthorn and field maple.

107 – Railway

3.10 The Cherwell Valley Railway Line runs through the Site. This was a two tracks wide and had no noticeable vegetation cover.

U1B5 – Buildings

3.11 There was one building and one structures within the Site. These were an electrical cabinet on the eastern platform (Photograph 5.) and the existing footbridge that crosses the track (Photograph 6.).

U1B – Developed land, sealed surface

3.12 The Site contained two concrete platforms. These had no noticeable vegetation cover.

230 – Garden

3.13 The railway borders residential properties with gardens. A small section of this Site includes parts of these gardens. As these gardens were fenced off, they could not be completely viewed. The species that could be identified from the fence line were frequent mountain cypress, honey suckle, buckthorn and rare crab apple.

PROTECTED AND INVASIVE SPECIES ASSESSMENT

3.14 The potential for the Site to support protected and/or notable species, as set out in Table 3.4 below, has been assessed using criteria provided in Table 2.1 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.

3.15 Key pieces of statute are summarised in Section 1 and set out in greater detail in Appendix 4.

Table 3.3: Protected Species Assessment

Ecological feature	Status[12][13]	Likelihood of occurrence	Ecological importance	Potential constraint
Bats: Roosting	HR WCA S5	**Low:** The electrical cabinet (B1) and the footbridge (B2) were assessed as having negligible potential for roosting bats. Table 3.4 provides the full results of the PRA. All trees surveyed within the Site had negligible potential for roosting bats. However, as parts of the woodland could not be viewed, there may still be trees within the Site that may have PRF suitable for roosting bats. Table 3.5 provides the full details of the GLTA.	The Site could be used by bat species of both local and national importance.	**NO:** While the woodland within the Site could not be viewed entirely and there may still be trees within the Site suitable for roosting bats under the current proposal they will not be impacted by works.

[12] The following abbreviations have been used to signify the legislation afforded different species: HR = Conservation of Habitats and Species Regulations 2017 (as amended); WCA S1 = Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); WCA S5 = Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); WCA S9 = Schedule 9 of the Wildlife and Countryside Act 1981 (as amended); PBA = Protection of Badgers Act 1992.

[13] The following abbreviations have been used to signify the policy of conservation assessments applying to notable species: SPI = Species of Principal Importance under the NERC Act 2006; LBAP = Local Biodiversity Action Plan species; BoCC = Birds of Conservation Concern - amber list / red list (Stanbury *et al.*, 2021); and/or RD/NN = red data book/nationally notable species (JNCC, undated).

Foraging/commuting		There were eight historic European Protected Species Mitigation (EPSM) licence application within 2km of the Site. These were licences to destroy the resting spaces of common pipistrelle, soprano pipistrelle, brown long-eared bat and barbastelle. The nearest of these was for the destruction of a common pipistrelle resting place from 2017-2023, 1.3km west of the Site. The most recent record was for the destruction of a resting space for brown long eared, common pipistrelle and common pipistrelle 1.6km south-east of the Site from 2019-2024. **Moderate:** The linear habitats (hedgerows and woodland) along the railway track provided a valuable connecting features that bats could have used to travel between foraging sites. The Site had small areas of ephemeral/tall ruderal habitat and scattered trees.		**No:** Assuming works will retain the woodland within the Site, the installation of the new bridge is not anticipated to result in the degradation of habitat suitable for foraging and commuting bats.

		These had value for foraging bats.		
Hazel dormouse	**HR** **WCA S5**	**Low:** There were wide, continuous strips of woodland that followed the railway track north of the bridge. This area of woodland is connected to larger woodlands next to Oxford canal as well as several hedges associated with the agricultural fields. The woodland present in the Site may provide a suitable habitat for hazel dormice as well as a connecting feature for their movement. There were no previous EPSM licence applications for dormouse within 2km of the Site.	Hazel dormouse is a species of both local and national importance.	**Yes:** Vegetation clearance within the woodland adjacent to the platform may result in accidental disturbance to dormice.
Great crested newt	**HR** **WCA S5**	**Low:** There are at least two ponds within 500m of the Site. These were found 380m south-west of the Site. However, the concrete platforms, housing and roads and railway track makes it unlikely that great crested newts that may use	Great crested newt is a species of national importance.	**No:** Works are not anticipated to impact great crested newts.

		these ponds would reach the Site. There was one historic survey for great crested newts identified on MAGIC. This survey was conducted between 2017-2019, 1.8km north-west of the Site. No great crested newts were found during this survey. No previous EPSM licence applications were found within 2km of the Site.		
Otter	**HR** **WCA S5**	**Negligible:** The River Cherwell is approximately 330m north-east of the Site. This river could potentially host otters. However, the distance between the Site and the river means it is unlikely that otters will be within the Site. No previous EPSM licence applications were found within 2km of the Site.	Otters are a species of national importance.	**No:** Works are not anticipated to impact otters.
Badgers	**PBA**	**Moderate:** The woodland and disturbed ground within the Site were assessed as being suitable for foraging badgers. The embankments	Badgers are a species of national importance.	**Yes:** As part of the Site could not be fully inspected, there is a risk that badgers or their

		along the railway provided some opportunity for badgers to create setts.		setts could be disturbed by works.
Birds: **Breeding**	**WCA Sections 1-8**	**Moderate:** During the PEA, several common species of birds were identified. These were wood pidgeon, wren, robin, goldfinch, rook, starling, crow, herring gull, magpie, jackdaw and collared dove. The WCA Sch1 species red kite was identified during the second survey. The Site contained disturbed land and deciduous woodland that were suitable to host nesting birds.	The Site was found to have at least one species of national importance (red kite).	**Yes:** There is a risk that works near the habitats identified could result in the accidental disturbance of nesting birds.
Reptiles	**WCA S5**	**Moderate:** The disturbed/abandoned land within the Site contained vegetation with variety of sward heights and was connected to a grass field margin around the nearby agricultural field. This habitat was assessed as having moderate potential for reptiles.	Reptiles within the Site are likely to be of local importance.	**Yes:** There is a risk that vegetation clearance may end of up in the accidental killing or injuring of common reptile species.

Invasive species	**Sch 9**	**Low:** During the PEA, no invasive non-native species were identified within the Site. However, as the Site north of the bridge, it is possible that there are invasive species within the Site that have not been identified.	The value of invasive species has been assessed as none.	**NO:** While the Site has not been completely viewed, no works are proposed in the area not inspected. As such, the works are highly unlikely to result in the accidental spread of invasive non-native species into the wild.

Table 3.4: Preliminary Roost Assessment

Building / Structure	Description	Potential Roost Features (PRFs)	Factors influencing suitability for bats	Building suitability	Evaluation
B1	Metal electrical cabinet on the eastern platform. This building appeared to be in good condition.	No PRF identified.	No PRF were identified on this building.	Negligible	This building is not anticipated to host roosting bats.
B2	Metal footbridge crossing the railway track. This bridge appeared to be in good condition with no obvious damage.	No PRF identified.	No PRF were identified on this structure.	Negligible	This structure is not anticipated to host roosting bats.

Table 3.5: Ground Level Roost Assessment

Tree Reference	Tree Species	Bat Roost Suitability	PRF	Height (m) and Orientation of PRF	Comments:
1	Ash	Negligible	N/A	N/A	No features. Semi-mature tree has x2 main trunk and is located behind a wooden fence. Tree has a dense covering of ivy. Tree has ash die-back.
2	Ash	Negligible	N/A	N/A	No features. Semi-mature tree has x2 main trunk. Tree has previously been pruned.
3	Sycamore	Negligible	N/A	N/A	No features. Semi-mature tree has previously been pruned.
4	Sycamore	Negligible	N/A	N/A	No features. Semi-mature tree has x2 main trunk. Tree has a dense covering of ivy.
5	Walnut	Negligible	N/A	N/A	No features. Mature tree.
6	Ash	Negligible	N/A	N/A	No features. Mature tree. Tree has previously been pruned. Tree has a

					dense covering of ivy on one branch. Tree has ash die-back.
7	Yew	Negligible	N/A	N/A	No features. Mature tree has previously been pruned.
8	Sycamore	Negligible	N/A	N/A	No features. Mature tree. Tree has moderate covering of ivy
9	Ash	Negligible	N/A	N/A	No features. Mature tree.
10	Sycamore	Negligible	N/A	N/A	No features. Mature tree. Viewed at a distance with binoculars.
11	Ash	Negligible	N/A	N/A	No features. Semi-mature tree. Viewed at a distance with binoculars.
12	Maple	Negligible	N/A	N/A	No features. Mature tree. Viewed at a distance with binoculars.
13	Ash	Negligible	N/A	N/A	No features. Mature tree. Viewed at a

					distance with binoculars.
14	Ash	Negligible	N/A	N/A	No features. Mature tree. Viewed at a distance with binoculars. Tree has ash die-back.

NATURE CONSERVATION EVALUATION

3.16 The Site is not subject to any nature conservation designations. It contained small areas of common and widespread habitats, none of which are Habitats of Principal Importance. It is situated on the edge of an urban area surrounded by residential property and roads and is distant from sites of habitats of nature conservation importance.

3.17 The habitats on the Site were suitable for a range of noteworthy species, including Species of Principal Importance and County (Oxfordshire) Priority species, as reported in the desk study or recorded during the survey, as follows:

- Foraging and commuting bats;
- Widespread but declining species of birds that are also species of conservation concern[14];
- Common reptile species; and
- Badgers;

3.18 The habitats at the Site and populations of the above species are likely to be of importance within the immediate vicinity of the Site only. It is unlikely that the Site would support rare species, or diverse assemblages or large populations of any noteworthy species.

3.19 If present, any populations of these species are unlikely to exceed local value, but this can only be confirmed through further survey. Measures to mitigate potential impacts on them are recommended. It is considered unlikely that the site would support any other protected or rare species, or diverse assemblages or large populations of these species.

[14] Birds of Conservation Concern - amber list / red list (Stanbury et al., 2021);

BIODIVERSITY NET GAIN ASSESSMENT

3.20 As the final design is not currently known, this BNG assessment was conducted to provide a baseline of the Site before development starts. An updated BNG will need to be conducted before works begin.

3.21 The broadleaved woodland habitats, classified as 'W1F – Lowland mixed deciduous woodland' as per UKHabs Group 2018, within the Site prior to development were considered to be of moderate distinctiveness. The disturbed ground was classified as 'Urban – Derelict or Vacant Ground'.

3.22 In line with Defra Metric 4.0 guidance, default connectivity scores of Low have been attributed to the broadleaved woodland.

3.23 For the purpose of the habitat condition assessment, the two parcels of broadleaved woodland on either side of the track have been assessed as one single habitat. This approach has also been applied to the two parcels of derelict/vacant ground.

3.24 As the woodland could not be viewed completely north of the bridge, a precautionary approach has been taken when assessing the condition of this habitat. It was assessed as being in a poor condition.

3.25 The derelict/vacant ground was assessed as being in a moderate condition.

Baseline Calculation

3.26 The biodiversity value of the habitats on site prior to construction (baseline) was found to be 1.94 Biodiversity Units. Full details of the calculations can be found within the Biodiversity Metric 4.0 Calculation Tool spreadsheet (Temple, 2023).

4 Potential Impacts and Recommendations

4.1 This section summarises the potential impacts on habitats and notable species that may be present at this Site. It also 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.

FURTHER SURVEY AND MITIGATION

4.2 For each constraint identified as being of importance at greater than the Site level, all mitigation options provided follow the established Mitigation Hierarchy as set out in Section 5.2 of BS42020:2013. This seeks as a preference to avoid impacts then to mitigate unavoidable impacts, and, as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures. The measures set out below will address no net loss of biodiversity, although no formal calculation of losses and gains has been carried out. Features deemed important at the Site level only are considered here only where further survey and/or mitigation is necessary to ensure legal compliance.

4.3 In the absence of mitigation, the following key ecological issues have been identified;

- Roosting bats;
- Badgers; and
- Breeding birds;

Roosting bats

4.4 All British species of bat are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Habitats and Species Regulations 2017 (as amended). Under this legislation it is an offence to capture, kill, disturb and damage or destroy a bat roost. Some species of bat are also Species of Principal Importance and Oxfordshire BAP species.

4.5 The GLTA did not find any trees suitable for roosting bats within the proposed Option 1 work footprint. If the proposals change and additional GLTA survey is recommended in order to assess trees that were identified using binoculars to confirm their suitability for roosting bats as well as to identify if there are any other trees suitable for roosting bats.

4.6 It is recommended that measures are implemented to minimise indirect impacts from artificial lighting associated with the proposed development. Artificial lighting should only be directed where necessary for health and safety reasons. In the interest of improving the Site for bats (as well as other nocturnal species), all lighting should only be used for the period of time for which it is required (Jones, 2000). This can be achieved by adopting any number of the following accepted best practices (Fure, 2006; Institute of Lighting Engineers, 2018; Bat Conservation Trust, 2011):

- The level of artificial lighting, including floor lighting, should be kept to an absolute minimum;
- Where this does not conflict with health and safety and/or security requirements, the Site should be kept dark during peak bat activity periods (0 to 1.5 hours after sunset and 1.5 hours before sunrise);
- Lighting required for security or for safety reasons should use a lamp of no greater than 2000 lumens (150 Watts) and should comprise of sensor-activated lamps;
- Lights utilising LED technology are the preferred option as these lights do not emit on the UV spectrum, are easily controllable in terms of direction/spill and can be turned on or off instantly;
- Avoid the use of sodium or metal halide lamps, these gas lamps require a lengthy period in which to turn off and the diffuse nature of the light emitted makes light spillage a significant problem;
- Lights required for night-time deliveries or security patrols could be set to activate with pressure activated sensors set into the ground;

- Lighting should be directed to where it is needed to minimise light spillage. This can be achieved by limiting the height of the lighting columns and by using as steep a downward angle as possible and/or a sheaf/hood/cowl that directs the light below the horizontal place and restricts the lit area;
- Artificial lighting should not directly illuminate any confirmed or potential bat roosting features or habitats of value to commuting/foraging bats. Similarly, any newly planted linear features or compensatory bat roosting features should not be directly lit; and
- Lighting design computer programs can be used to predict the potential impacts of light spillage.

Hazel dormouse

4.7 Dormice, their breeding sites and their resting places are protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).

4.8 The deciduous woodland within the Site was assessed as being suitable for hosting nesting and foraging dormice. As the Site is within the range of dormice in Oxfordshire, there is a risk that vegetation clearance within the deciduous woodland within the Site could lead to the accidental killing or injuring of this species.

4.9 It is recommended that any vegetation clearance carried out within this Site is preceded by a search by a suitably qualified ecologist to see if the vegetation contains any dormice or their nests.

Badgers

4.10 Badgers are protected under the Protection of Badgers Act 1992. Under this legislation it is an offence to wilfully capture, kill or injure a badger, to disturb badgers while in their setts or to damage, destroy, disturb or obstruct access to their setts.

4.11 Although no badgers or signs of badgers or their setts were found during the two initial surveys, it is recommended that a pre-construction walkover should include a search for badgers or their setts within 30ms of the proposed works footprint.

Breeding birds

4.12 All breeding birds and their nests are protected under the Wildlife and Countryside Act 1981 (as amended).

4.13 Where the proposed works require the removal of the woodland or vacant/derelict ground with potential to support breeding birds, this should be carried out between September and February inclusive, to avoid any potential offences relating to breeding birds during the main bird breeding season (Newton *et al*. 2011).

4.14 If Site clearance during the breeding season is unavoidable then potential nesting habitat must be inspected by a suitably qualified ecologist within 48 hours of the start of clearance to identify any active birds' nests. Should they be present, the nest and a suitable buffer of habitat around it must be retained until an ecologist has confirmed that the young have left the nest. If any nesting birds are found at any time during clearance works, works within the immediate surroundings of the nest must stop immediately and an ecologist consulted.

4.15 The PEA identified at least one sch1 bird species, red kite. It is an offence to disturb this species and extra care and mitigation should be in place to prevent any accidental disturbance tot his species during its breeding season (March-April).

Reptiles

4.16 All species of reptiles are protected from killing or injuring under the Wildlife and Countryside Act 1981 (as amended).

4.17 The derelict/abandoned ground within the Site has been assessed as being suitable for supporting common reptile species.

4.18 Any clearance of vegetation on the Site should be cleared during the reptile active season (March – October inclusive). Any vegetation clearance should be carried out in temperatures of at least 10oC, which would enable any reptiles to be displaced into suitable adjacent habitat.

4.19 This would involve would involve an ecological clerk of works (ECoW) handsearching suitable reptile habitats prior to a two-stage cut of the vegetation. The first cut would reduce the vegetation to a height of 150mm and be left for a period of 24 hours to allow any reptiles to move away from the works footprint. The vegetation would then be cut to ground level.

4.20 Where possible, any piles of bricks or stone should be retained to continue providing hibernacula spaces for reptiles. If any piles of disused bricks and mortar need to be moved, these should be dismantled by hand, under the supervision of an ecologist and moved into a new location near the original location so that the pile can still serve as a useful feature for reptiles.

Environmental best practice

4.1 Best environmental practice measures which should be implemented include:

- adherence to best construction practice including CIRIA guidance (Connolly and Charles, 2005);
- the storage of all materials and vehicles and the installation of a compound area to be confined to existing areas of hardstanding; and,
- the protection of retained trees and hedgerows in accordance with British Standards Institution (2012) BS 5837:2012 guidelines (BSI, 2012).

Other protected species

4.2 Works must stop immediately and advice sought from a suitably qualified ecologist in the unlikely event that any other protected species are found during Site clearance or construction.

FURTHER SURVEY REQUIREMENTS

4.3 Table 4.1 lists further survey requirements as recommended in the constraints section.

Table 4.1: Further survey requirements

Species/Habitat	Survey Requirement	Number of surveys and seasonal considerations
Badger	Badger walkover of the works footprint and a 30m surrounding radius	To be undertaken up to 3 months before, then re checked once the vegetation is cleared as it can be difficult to survey in dense bramble etc. This will allow time for an NE licence application should badgers be found within the Site.
Birds	Nesting bird check	If works to habitats suitable for breeding birds are required during the nesting bird season (March-September inclusive), a single check is required within 48hrs of removal of suitable habitat. Multiple checks may be required if this work extends longer than 48hrs. If any nesting birds are found at any time during clearance works, works within the immediate surroundings of the nests must stop immediately and an ecologist consulted. Any active nests must be protected until such time as the young have left the nest, as confirmed by an ecologist. Extra care should also be taken when working during the breeding season for red kites (March-April).
Dormouse	Precautionary clearance	Any clearance within the woodland on site should be preceded by a check from an ecologist to ensure that no dormice are disturbed.
Reptiles	Precautionary clearance	The deciduous woodland and derelict/abandoned habitats along the northern and southern railway embankments on Site should be cleared during the reptile active season (March – October inclusive), and should be conducted under ecological supervision.

BIODIVERISTY NET GAIN

4.4 The baseline of the BNG returned a score of 1.94.

4.5 As the final proposals of works have not been finalised, it is not known if works will lead to a net loss in biodiversity.

4.6 The updated BNG assessment should be updated when the proposals of the scheme. This BNG should be made to achieve Network Rail's target of zero net loss in biodiversity.

OPPORTUNITIES FOR ECOLOGICAL ENHANCEMENT

4.7 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. The following measures would be suitable for integration into the proposed development's design but would require a more detailed design to successfully implement. Subject to the design, many of these measures may also become on site compensation for the unavoidable habitat losses.

Native scrub and tree planting

4.8 It is recommended that native tree and scrub species are planted on Site post construction to replace any areas of broad-leaved semi-natural woodland and derelict/abandoned ground lost by the development and to enhance the Site and improve connectivity. Native broadleaved woodland is a Habitat of Principal Importance (HPI), and Oxfordshire Biodiversity Action Plan (BAP) habitat. To best replicate this, woodland areas should be primarily composed of native species, and diversity of species should be high. Some feature non-natives could be included, but non-natives should make up less than 10% of cover. Fallen and standing deadwood including large dead branches/stems should be included to provide habitat for invertebrates. When planting, a natural structure should be emulated, planting mixes of species rather than single species blocks; incorporate open spaces; and include scrubby or understorey species such as willow, elder, wild cherry, dog rose, hawthorn, hazel, blackthorn, wild privet, guelder rose as appropriate to the Site. Plant these along edges as well as within the main mix. Climbers can also be included to help provide a varied structure, such as honeysuckle or wild rose.

Species such as bramble may come in naturally, and add t the variety of structure and habitat value. It is recommended that native species are used of recognised wildlife value. The use of nectar-rich and berry producing plants will attract a wider range of insects, birds and mammals and continue to accommodate those already recorded at the Site. Planting native species will attract insects and provide a potential food source for bats throughout the bat activity period (spring to autumn). Suitable tree and shrub species include, silver birch, hazel, oak, apple, cherry, honeysuckle, hawthorn and elder (JNCC, 2001; BCT, Undated). If planting is not possible within the Site, planting in habitats offsite should also be explored.

4.9 Good horticultural practice should be utilised, including the use of peat-free composts, mulches and soil conditioners, native plants with local provenance and the avoidance of the use of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Woodland

4.10 The retained woodland should be managed with the general aim of maintaining and restoring the natural diversity of species, increasing the baseline condition of the woodland habitat to improve the BNG score, diversity of structure and habitats, and maintenance of mature habitat such as dead or dying trees. The general principles set out in The Management of Semi-natural Woodlands (Forestry Commission, 2003) should be followed where appropriate. This should include:

- retention of old trees and standing and fallen deadwood;
- planting of native trees such as oak, elm, ash, cherry, alder and hornbeam to aid regeneration where natural regeneration is not occurring;
- understorey species such as hawthorn, and hazel should be allowed to naturally regenerate;
- removal of any invasive non-native species;
- weeding of undesirable species, removal of invasive species and removal of vigorous bramble growth; and

- maintenance of open habitats such as rides or woodland edges which support a diversity of plant species and in turn wildlife.

4.11 All new tree planting will be in accordance with British Standard 8545: Trees: From Nursery to Independence in the Landscape – Recommendations (2014). All trees and shrubs will be sourced from suppliers who have adopted Flora Locale's Code[15] of Practice for collectors, growers and suppliers of native flora. If it is not possible to carry this out on Site, offsite enhancement should also be explored.

Wildflower grassland

4.12 Any derelict/abandoned ground lost on Site should be replaced through the creation of a wildflower grassland on Site. An appropriate mix for the Site could be Emorsgate EM7. The grassland should be managed with a relaxed cutting scheme to allow the growth of flowering plant species and provide cover for invertebrates and reptiles.

Sustainable horticulture

4.13 It is recommended that sustainable horticultural practices are employed to minimise off-site ecological impacts, when incorporating new areas of landscaping. These include:

- All native plant material should be sourced from suppliers who have adopted Flora Locale's (2012) Code of Practice for collectors, growers and suppliers of native flora;
- The use of peat-free composts and soil conditioners to reduce the loss of important peat bogs;
- Feeding of plants using organic based fertilisers and improving the soil structure by incorporating organic material, preferably composted municipal waste;

[15] http://www.florallocale.org

- The use of drought tolerant plants and mulches to reduce evaporation and the amount of mains water needed for horticulture; and
- Minimising the use of pesticides (herbicides, insecticides, and fungicides) to prevent cumulative fatal effects to animals via the food chain. Where use is unavoidable, non-residual chemicals should be applied.

Provision of bat roosting opportunities

4.14 As the Site is suitable to support bats, the provision of artificial bat roosting opportunities will be a valuable and effective enhancement for the Site. These roosting opportunities may include bat boxes located on retained trees within the Site. Bat boxes should be positioned between 3-5m above ground level facing south-east to south-west in a locations that will not be lit by artificial lighting. When incorporating more than one box, they should be placed apart from one another, ideally on different trees. Models from Schwegler such as, Improved Crevice bat box – double crevice version and 1FFH Universal bat box are appropriate for the species potentially utilising the Site. More information regarding the bat boxes are available through the Schwegler website16. These can be installed offsite if it is not possible to install these onsite.

Bird boxes

4.15 It is recommended that bird nesting opportunities are created on the Site post-development. The inclusion of woodcrete bird boxes (or equivalent) are recommended as they are available in a range of designs, are long lasting compared to wooden boxes and insulate occupants from extremes of temperature and condensation. House sparrow boxes should be located at least 3m in height, out of direct sunlight but not obscured by dense vegetation and adjacent to dense hedgerows and wildflower meadow to maximise foraging opportunities and away from areas of high foot traffic. The boxes should be cleaned out yearly during the

16 www.schwegler-natur.de

winter months (September-February) and old boxes should be replaced or repaired as necessary.

Creation of log piles and hibernacula

4.16 Log piles and hibernacula that can be used as shelters and hibernation sites for reptiles could be created on site. Specifications for log piles should be in accordance with HA DMRB, Volume 10 Section 4 Annex D (Highways Agency, 2005). These deadwood piles should be made from native hardwood stacked approximately 1m in height, either in a pyramidal shape (bound with wire to prevent them breaking apart over time) or against a semi-mature/mature tree trunk.

4.17 Hibernacula should be constructed above or below ground and should comprise native hardwood locally cut from around the Site covered with turf or moss from within the Site. Hibernacula should be approximately 1m in width and 2m in length.

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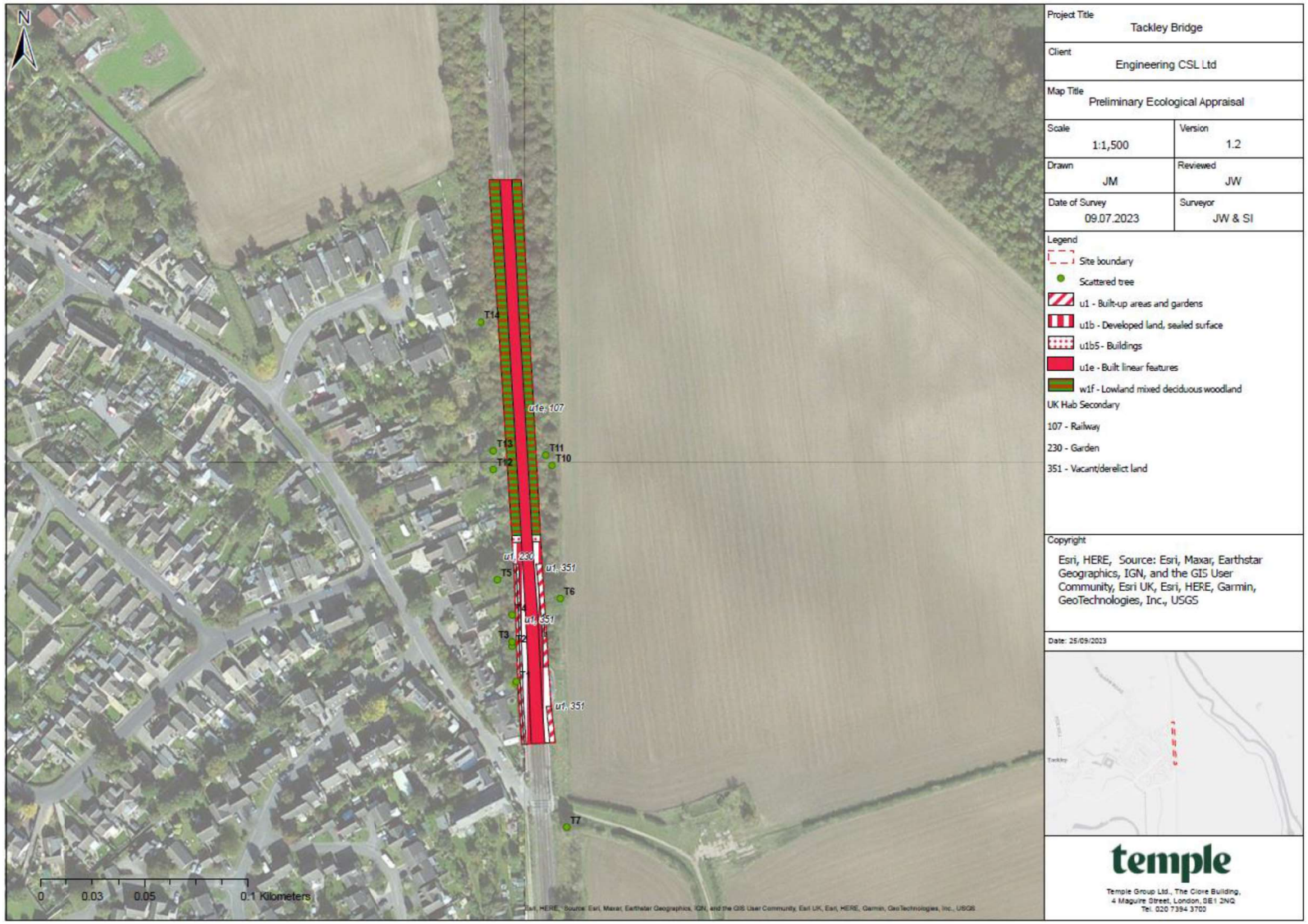
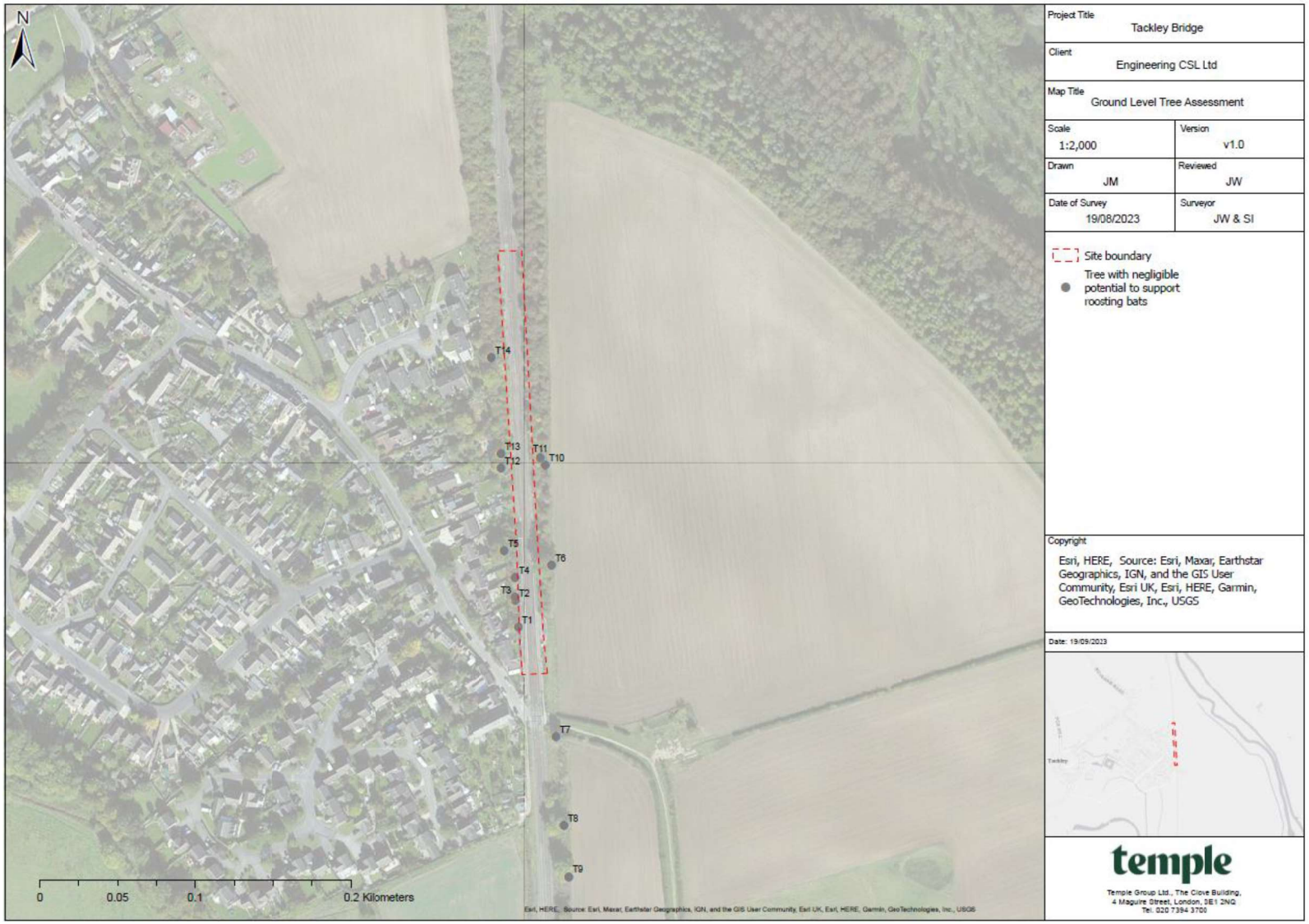
Appendix 1: Maps

Appendix 1, Figure 1: Site context map

Appendix 1, Figure 2: Habitat survey map

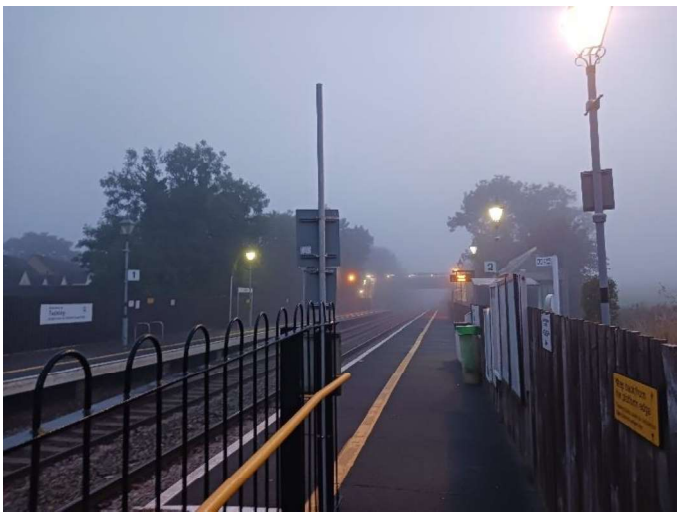


Appendix 1, Figure 3 : Results of the Ground Level Roost Assessment

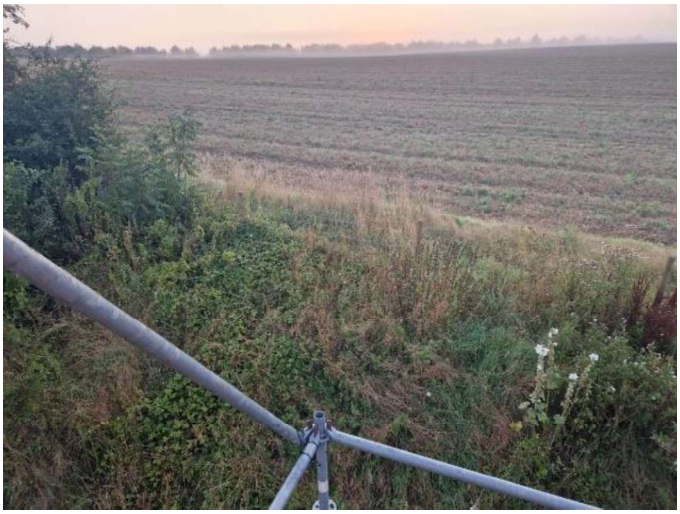


Appendix 2: Photographs

Photograph 1
View of Tackley Station from eastern platform, facing north.



Photograph 2
Neighbouring agricultural field adjacent to the Site, facing east.



Photograph 3
Disturbed ground behind eastern platform, facing south-east.

Photograph 4
View of broadleaved woodland past the footbridge, facing north.

Photograph 5
View of building B1 (electrical cabinet), facing north.

Photograph 6
View of building B2 (footbridge), facing north.

Appendix 3: Plant Species List

Plant Species List for Tackley Bridge, Tackley, Oxfordshire compiled from Phase 1 habitat survey carried out in June 2022.

Scientific nomenclature and common names for vascular plants follow Stace (2010). Please note that this plant species list was generated as part of a Phase 1 habitat survey, does not constitute a full botanical survey and should be read in conjunction with the associated results section of this PEA.

Abundance was estimated using the DAFOR scale as follows:

D = dominant, A = abundant, F = frequent, O = occasional, R = rare, L = locally c=clumped, e=edge only, g=garden origin, p=planted, y = young, s=seedling or sucker, t=tree, h=hedgerow, w=water

Latin Name	Common name	Abundance	Qualifiers
Rubus fruticosus	Bramble	D	
Urtica dioica	Nettle	D	
Poa annua	Meadow grass	F	
Anthriscus sylvestris	Cow parsley	F	
Calystegia sepium	Hedge bindweed	F	
Widdringtonia nodiflora	Mountain cypress	F	
Lonicera periclymenum	Honeysuckle	F	
Rhamnus cathartica	Buckthorn	F	
Malus sylvestris	Crab apple	F	
Crataegus monogyna	Hawthorne	F	
Acer pseudoplatanus	Sycamore	F	
Fraxinus excelsior	Ash	F	
Prunus spinosa	Blackthorn	O	
Sambucus nigra	Elder	O	
Acer campestre	Field maple	O	
Sorbus aucuparia	Rowan	O	
Sonchus oleraceus	Common sowthistle	O	
Centaurea nigra	Knapweed	O	
Equisetum arvense	Horsetail	O	
Lathyrus odoratus	sweatpea	R	
Taraxcum offcinale	Dandelion	R	
Lamium purpureum	Dead nettle	R	
Agrostis stolonifera	Creeping bent	R	
Dipsacus fullonum	Teasel	R	
Hedera helix	Ivy	R	

Latin Name	Common name	Abundance	Qualifiers
Euphorbia sp.	Spurge	R	
Lapsana communis	Nipplewort	R	
Galium aparine	Cleavers	R	
Geranium molle	Dove'sfoot cranesbill	R	
Cirsium arvense	Creeping thistle	R	
Lamium album	Whtie dead-nettle	R	
Lamium purpureum	Red deadnettle	R	
Matricaria discoidea	Pineapple weed	R	
Plantago major	Broadleaved plantain	R	
Arctium minus	Common burdock	R	
Rosa canina	Dog rose	R	
Linaria vulgaris	Yellow toadflax	R	
Quercus robur	Oak	R	
Juglans nigra	Black walnut	R	
Acer campestre	Field maple	R	

Appendix 4: Legislation and Planning Policy

Important Notice: This section contains details of legislation applicable in England 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 Directive[17] 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.

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

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, mandates BNG 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 (but which do not have a current bearing on this project) include:

- A strengthened biodiversity duty on Local Planning Authorities;
- BNG 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 sett[18] or any part thereof;

[18] 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. NE (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_tcm6-11815.pdf

- Intentionally or recklessly disturb[19] a badger when it is occupying a badger sett;
- Intentionally or recklessly cause a dog to enter a badger sett; and
- Sell or offers for sale, possesses or has 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 Licence[20]) will be required from the relevant countryside agency (e.g. NE, 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.

[19] For guidance on what constitutes disturbance and other licensing queries, see NE (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; NE (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

[20] NE 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. NE, 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 roost[21].

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.

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

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 August[22]. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

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

[22] 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.

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. NE, 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.

Plants and Fungi

All wild plants are protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence for an 'unauthorised' person to intentionally uproot wild plants.

An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant and fungi, for example some species of orchid, red-tipped cudweed *Filago lutescens*, spiked speedwell *Veronica spicata*, holly-leaved naiad *Najas marina,* field cow wheat *Melampyrum arvense* and sandy stilt puffball *Battarraea phalloides* are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 13. This prohibits any person:

- Intentionally picking, uprooting or destruction of any wild Schedule 8 species; and
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof.

In addition to the legislation outlined above, several plant species, such as slender naiad *Najas flexilis*, fen orchid *Liparis loeselii* and early gentian *Gentianella anglica*, are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2017 (as amended). These are species of European importance. Regulation 45 makes it an offence to:

- Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species; and
- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

How is the legislation pertaining to protected plants liable to affect development works?

A mitigation licence issued by the relevant countryside agency (e.g. NE, Natural Resources Wales) will be required for works liable to affect species of plant listed under The Conservation of Habitats and Species Regulations 2017 (as amended). 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.

Invasive Plant Species

Under Section 14 (2) of the Wildlife and Countryside Act 1981 (as amended), it is an offence to plant or otherwise cause to grow in the wild any species of plant listed on Part II of Schedule 9. Schedule 9 plant species include Japanese knotweed *Fallopia japonica,* giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera.* 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.

How is the legislation pertaining to invasive plants liable to affect development works?

Although it is not an offence to have these plants on your land *per se*, it is an offence to *cause* these species to grow in the wild. Therefore, if they are present on site and development activities (for example movement of spoil, disposal of cut waste or vehicular movements) have the potential to cause the further spread of these species to new areas, it will be necessary to ensure appropriate measures are in place to prevent this happening prior to the commencement of works.

As a rule, planting on managed land (private gardens, estates and amenity planting, for example), where it is expected that the spread of the plant will be kept under control, and where the plant will not have an adverse impact, is not regarded as planting in the wild and thus would not constitute an offence. However, where the plant is inadequately managed or contained and is likely to have an adverse effect, it may. Whether or not planting is an offence should therefore be judged on a case by case basis, taking into account the potential impacts on habitats and native flora and fauna, and the existence or extent of management practices to be employed[23].

Plants: Injurious Weeds

Under the Weeds Act 1959 any land owner or occupier may be required prevent the spread of certain 'injurious weeds' such as spear thistle *Cirsium vulgare*, creeping thistle

[23] Defra (2010) Guidance on Section 14 of the Wildlife and Countryside Act, 1981. [ARCHIVED CONTENT] (nationalarchives.gov.uk)

Cirsium arvense, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, and common ragwort *Senecio jacobaea* onto agricultural land, particularly grazing areas or land which is used to produce conserved forage. It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice[24] as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines on how to prevent the spread of this species but is not legally binding.

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.

[24] Defra (2004) Code of Practice on How to Prevent the Spread of Ragwort: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69264/pb9840-cop-ragwort.pdf

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) exemption[25].

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

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

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), **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** (SNCIs). 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.

Network Rail Policy

- *NR/L2/ENV/015 - Environment & Social Minimum Requirements* issued by Network Rail in June 2021 states that all projects over £20,000 or a footprint of 1500m^2 which will impact biodiversity must undertake biodiversity metric calculations.
- NR/L2/EN/122 - Management of Biodiversity Standards updated by Network Rail in March 2021 states that existing (pre works) biodiversity values shall be calculated and recorded in a PEA to help determine whether the works will lead to a loss or gain of biodiversity (in terms of a biodiversity metric) once they are completed.

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.

Oxfordshire County Council Strategic Plan 2022-2025

The Oxfordshire County Council Strategic Plan 2022-2025 has nine goals which area;

- Put action to address the climate emergency at the heart of our work.
- Tackle inequalities in Oxfordshire.
- Prioritise the health and wellbeing of residents.
- Support carers and the social care system.
- Invest in an inclusive, integrates and sustainable transport network.
- Preserve and improve access to nature and green spaces.
- Create opportunities for children and young people to reach their full potential.
- Play out part in a vibrant and participatory local democracy.
- Work with local business and partners for environmental, economic and social benefit.

The policy contains broad goals to "Accelerate work on supporting biodiversity and nature recovery in parallel with adaptation to climate change, including potential impacts of extreme weather and supply chain disruption.".

WEST OXFORDSHIRE LOCAL PLAN 2031

Policy EH2: Landscape Character

"The quality, character and distinctiveness of West Oxfordshire's natural environment, including its landscape, cultural and historic value, tranquillity, geology, countryside, soil and biodiversity, will be conserved and enhanced. New development should conserve and, where possible, enhance the intrinsic character, quality and distinctive natural and man-made features of the local landscape, including individual or groups of features and their settings, such as stone walls, trees, hedges, woodlands, rivers, streams and ponds.

Conditions may be imposed on development proposals to ensure every opportunity is made to retain such features and ensure their long-term survival through appropriate management and restoration. Proposals which would result in the loss of features, important for their visual, amenity, or historic value will not be permitted unless the loss can be justified by appropriate mitigation and/or compensatory measures which can be secured to the satisfaction of the Council. Proposed development should avoid causing pollution, especially noise and light, which has an adverse impact upon landscape character and should incorporate measures to maintain or improve the existing level of tranquillity and dark-sky quality, reversing existing pollution where possible. Special attention and protection will be given to the landscape and biodiversity of the Lower Windrush Valley Project, the Windrush in Witney Project Area and the Wychwood Project Area."

Policy EH3: Biodiversity and Geodiversity

"The biodiversity of West Oxfordshire shall be protected and enhanced to achieve an overall net gain in biodiversity and minimise impacts on geodiversity, including by:

- Giving sites and species of international nature conservation importance and nationally impor tant sites of special scientific interest the highest level of protection from any development that will have an adverse impact
- Requiring a Habitats Regulations Assessment to be undertaken of any development proposal that is likely to have a significant adverse effect, either alone or in combination, on the Oxford Meadows SAC, particularly in relation to air quality and nitrogen oxide emissions and deposition;
- Avoiding loss, deterioration or harm to locally important wildlife and geological sites and sites supporting irreplaceable habitats (including ancient woodland, Plantations on Ancient Woodland Sites and aged or veteran trees), UK priority habitats and priority species, except in exceptional circumstances where the importance of the development significantly and demonstrably outweighs the harm and the harm can be mitigated through appropriate measures and a net gain in biodiversity is secured;
- Ensuring development works towards achieving the aims and objectives of the Conservation Target Areas (CTAs) and Nature Improvement Areas (NIAs);

- Promoting conservation, restoration and recreation of priority habitats, ecological networks and the protection and recovery of priority species populations, particularly within the CTAs and NIAs;
- Taking all opportunities to enhance the biodiversity of the site or the locality, especially where this will help deliver networks of biodiversity and green infrastructure and UK priority habitats and species targets and meet the aims of CTAs;
- Ensuring that all applications that might adversely affect biodiversity are accompanied by adequate ecological survey information in accordance with BS 42020:2013 unless alternative approaches are agreed as being appropriate with the District Council's ecologist;
- All major and minor applications demonstrating a net gain in biodiversity where possible. For major applications this should be demonstrated in a quantifiable way through the use of a Biodiversity Impact Assessment Calculator (BIAC) based on that described in the DEFRA Biodiversity Offsetting guidance or a suitably amended version. For minor applications a BIAC will not usually be required but might be requested at the Council's discretion;
- All development incorporating biodiversity enhancement features.

All developments will be expected to provide towards the provision of necessary enhancements in areas of biodiversity importance."

- 8.12 – The landscape and biodiversity of an area are inter-related. In the same way as West Oxfordshire has a rich and diverse landscape, so too does it contain a rich variety of habitats, which support a wide range of legally protected species, priority species and other wildlife (including those listed in the NERC Act Section 41 list). Both reflect the underlying soils and geological diversity of the area. About 4% of the District's countryside falls within sites identified for their biodiversity or geological importance, including 29 Sites of Special Scientific Interest and the internationally important Cassington Meadows Special Area of Conservation (SAC), part of the Oxford Meadow.
- 8.13 – However, the bulk of wildlife lives outside nature reserves and specifically protected areas so, in order to meet the Government's aim of minimising impacts on biodiversity and achieving net gains and improvements for nature (helping to meet the international commitment of halting and reversing the decline of biodiversity by 2020), it is important that biodiversity is carefully considered in

relation to all development proposals. British Standards BS 42020: 2013 'Biodiversity – Code of practice for planning and development', provides clear guidance on biodiversity conservation and enhancement, which the Council expects will be applied as good practice.

- 8.14 – Biodiversity protection and enhancement provides clear benefits to nature but the benefits are far wider than this alone. Nature's services – using the ecosystem services approach advocated by the Government through the Natural Environment White Paper – include: cultural services to people and the economy (such as the role fulfilled by the Wychwood National Nature Reserve in terms of sense of place, recreation, tourism and education); regulating services (e.g. the water meadows along the River Thames and its tributaries providing natural flood relief and water purification and improving water quality); and provisioning services (ranging from wine and cider to food and timber production from our countryside).
- 8.15 – In recognition of their wide ranging benefits, the protection of West Oxfordshire's wildlife and the conservation, enhancement and restoration of its biodiversity and geodiversity are promoted. A strategic approach is advocated, giving recognition to the contributions made by sites, areas and features, individually (following the national hierarchical approach to site and species protection29) and in combination to wider ecological networks. Within the NPPF, Section 11 and Paragraph 109 and 118 are of particular relevance, along with the accompanying PPG.
- 8.16 – Networks of natural habitats provide a particularly valuable resource and need protection and, where possible, reinforcement, integration and expansion, creating links between fragmented habitats to create greater coherence and resilience, not least because this will increase the opportunity for species and habitats to adapt to climate change and other pressures. Landscape features such as hedgerows, woods, rivers, meadows, ponds and floodplains can be invaluable components of these networks, providing wildlife corridors and stepping-stones in both urban and rural areas. The early identification of features of value is needed in any development proposal to 29 Circular 06/2005 provides guidance in respect of statutory obligations for biological conservation and their impact within the planning system. Section 11 of the NPPF is also of particular relevance. ensure adequate measures are taken for their incorporation, enhancement and protection. In order to identify how such features within a development site form part of a wider ecological network, the landscape context of the site and the habitat connectivity beyond its boundaries should be taken into account.
- 8.17 – A partnership of conservation bodies in Oxfordshire (formerly the Oxfordshire Nature Conservation Forum and now Wild Oxfordshire) has assessed

the county's key strategic habitats and species and devised Conservation Target Areas (CTA) - see Figure 8c. These are the most important areas for wildlife conservation where targeted conservation action will have the greatest benefit. The main aim within CTAs is to restore biodiversity at a landscape-scale through maintenance, restoration and creation of UK priority habitats and areas for priority species.

- 8.18 – In planning terms, CTAs can be considered as potential areas of ecological constraint and, more positively, as areas of ecological opportunity. Development proposed within or close to a CTA should identify the biodiversity constraints and opportunities and show how the proposal will help to achieve the aims of the CTA. West Oxfordshire CTAs include the Upper Windrush and Wychwood Forest.
- 8.19 – The creation of coherent and resilient large scale ecological networks is being encouraged by the Government through the establishment of Nature Improvement Areas (NIAs), where the aim is to achieve significant and demonstrable enhancement through partnership working. It is intended that during the Plan period, new, locally determined, NIAs will be identified and established in the county. The CTAs, Strategic Green Infrastructure and Natural Character Areas are likely to form the core of these NIAs. The Cotswolds Ecological Networks Partnership has already identified two Cotswolds NIAs; extensive parts of West Oxfordshire are covered by the Cotswolds Valleys NIA.

Policy EH3: Biodiversity and Geodiversity

"High design quality is central to the strategy for West Oxfordshire. New development should respect the historic, architectural and landscape character of the locality, contribute to local distinctiveness and, where possible, enhance the character and quality of the surroundings and should:

- Demonstrate high quality, inclusive and sustainable design with the provision of a safe, pleasant, convenient and interesting environment where the quality of the public realm is enhanced and the likelihood of crime and fear of crime is reduced; and
- Not harm the use or enjoyment of land and buildings nearby including living conditions in residential properties; and
- Demonstrate resilience to future climate change, particularly increasing temperatures and flood risk, and the use of water conservation and management measures; and
- Conserve or enhance areas, buildings and features of historic, architectural and environmental significance, including both designated and non-designated heritage assets and habitats of biodiversity value; and

- Enhance local green infrastructure and its biodiversity, including the provision of attractive, safe and convenient amenity open space commensurate with the scale and type of development, with play space where appropriate.

Designers of new development will be expected to provide supporting evidence for their design approach. They should have regard to specific design advice contained in supplementary planning guidance covering the District. The West Oxfordshire Design Guide, Oxfordshire Historic Landscape Appraisal, Landscape Assessments, Conservation Area Appraisals and Cotswolds AONB guidance documents are key tools for interpreting local distinctiveness and informing high design quality.".

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