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PRELIMINARY ECOLOGICAL APPRAISAL

Southcote, Burghfield Road,
Reading, Berkshire

Report Reference: BG22.281 REV1

July 2023



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Rev1	Matthew Norris Ecological Consultant		12/07/2023

Rev1	Amend all plans within report of the site to reflect change in red line boundary.
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1 Summary

- 1.1 Brindle & Green Ltd were commissioned by Southcote BESS SPV Ltd. to undertake a Preliminary Ecological Appraisal incorporating a Phase 1 Habitat Survey and Protected Species Assessment at the site known as Southcote, Holybrook Farm, Burghfield Road, Reading. This report summarises the potential ecological constraints to the full planning application for site clearance to facilitate the development of a battery storage site. Design plans are provided within Appendix 6 of this report. The survey was carried out on the 25th of October 2022.
- 1.2 The red line boundary is approximately 0.25ha in extent and comprises an area of species-poor improved grassland, tall ruderal herbs, and dense scrub with hard standing access. The site was evaluated to support site value on a local scale.
- 1.3 The habitats described within this report have the potential to support protected and/or notable species. As such, this report outlines important measures to protect species during site clearance, and recommendations to improve the biodiversity status of the site post development.

A full description of the recommendations can be found within Chapter 7, the table below is a summary of the ecological issues recommended for further consideration as a result of our initial investigations:

Ecological Consideration	Recommendations (e.g., further survey, mitigation)	Timing
Habitats	Site should be subject to Biodiversity Impact Assessment to determine impacts on habitat units as a result of the proposed scheme.	Design phase To support planning submission
Breeding Birds	Works should be sympathetic to this group of species, with vegetation clearance undertaken following Reasonable Avoidance Measures (RAMS) outlined in Chapter 7 to form a CEMP as a condition of the approved planning approval.	During Site Clearance (Optimal timing between October - March outside of breeding bird season)
Foraging and Commuting Bat species	Works should be sympathetic to this group of species by implementing a sensitive lighting scheme on site during construction and post development, as detailed within Chapter 7.	Design Phase and during construction and post development (if required).

Ecological Consideration	Recommendations (e.g., further survey, mitigation)	Timing
Badgers	Vegetation on site provided limited suitability for foraging and sett creation. RAMS are outlined in Chapter 7.	During clearance/construction phase.
Reptiles	Suitable foraging habitat for this species group found on site. RAMS are outlined in Chapter 7 to form a CEMP as a condition of the approved planning approval.	During clearance/construction phase.
Otter and Water Vole	Holy Brook lies within impact risk zone of the site and provides suitability for these species to reside in or commute through. RAMS are outlined in Chapter 7 to form a CEMP as a condition of the approved planning approval.	During clearance/construction phase.
MSPI – Brown Hare and Hedgehog	Suitability for resident individuals or populations to be present within the site. RAMS are outlined in Chapter 7 to form a CEMP as a condition of the approved planning approval.	During clearance/construction phase.

2 Introduction

- 2.1 The purpose of this assessment was to provide a Preliminary Ecological Appraisal of the site incorporating a Phase 1 Habitat Survey and Protected Species Assessment to establish the likelihood of the site supporting protected species. The survey provides detail on the need for any additional, more detailed protected species surveys, likely mitigation, and any opportunities for enhancement.
- 2.2 The red line boundary is approximately 0.25ha in extent and comprises an area of grassland, tall ruderal herbs, and dense scrub with hard standing access from Burghfield Road. The site is located south of the town of Reading, Berkshire and is bordered by a substation and associated access along the northern and eastern boundaries. The surrounding landscape is dominated by agricultural farmland and riverine habitats associated with Holy Brook to the north and the River Kennet to the south. The site is the subject of a full planning application for site clearance to facilitate the development of a battery storage facility. Design plans are provided within Appendix 6 of this report.
- 2.3 The legislation relevant to protected species within the United Kingdom is summarised within Appendix 4.
- 2.4 Results and recommendations contained within this report have been prepared by an experienced ecologist and are therefore the view of Brindle & Green Limited. The survey is based on information provided by our client, the development proposals, results of the desk study, and our survey of the site. This report pertains to this information only.

3 Methodology

3.1 Desk Study

Due to the small size of the proposed development site, the limited suitability of the habitats on site to support protected species, and the nature of the proposals, a request for third party data from the local environmental records centre pertaining to protected species and non-statutory designations was deemed disproportionate. Table 1 below lists organisations and/or resources used as part of the desk study process.

Table 1. Ecological Data Resources

Consultant	Requested Data	Search Radius	Date Requested
MAGIC Maps	National and International Site Designations Granted EPS Development Licences	2km	23/11/2022

3.2 Surveyors

The survey was carried out by Matthew Norris BSc (Hons.) MRSB, Consultant Ecologist, Natural England Great Crested Newt Licence (2020-44812-CLS-CLS) and Lloyd Wyatt QualCIEEM, Graduate Ecologist.

The survey was overseen by Lucinda Sweet PhD, MCIEEM, Natural England Bat Licence Class 2 (2019-39122-CLS-CLS), Great Crested Newt licence (2016-22852-CLS-CLS), Director.

3.3 Survey Conditions

The survey was undertaken at 12:20 on the 25/10/2022.

The outside temperature was recorded as 17°C, with dry, sunny conditions, and 3/8 cloud cover.

3.4 Extended Phase 1 Habitat Survey

- 3.4.1 A Phase 1 habitat survey was undertaken following survey guidance (JNCC 2007) to establish the presence and distribution of habitat types within the site and potential ecological constraints to development. A Phase 1 Habitat Map was produced (Appendix 1) and where additional details were required Target Notes have been provided (Appendix 2). A plant species list (Appendix 2) summarising all plants identified on site was produced during the survey and all scientific nomenclature was produced according to Stace (2010).
- 3.4.2 This survey was extended to note the potential for habitats on site to support protected and/or notable species and for evidence of any such species. The habitats on site were assessed for their suitability to support protected species in relation to the habitat type found at the site. Any incidental sightings or field signs were noted at the time of survey. Where evidence of, or the confirmed presence of a protected species was identified, further species-specific surveys may be recommended to ensure that the presence or otherwise of a legally protected species is fully considered prior to the determination of any planning approval or to guide an EPS development licence.
- 3.4.3 Hedgerows on site were assessed following the Hedgerow Survey Handbook (DEFRA 2007) and defined as species-rich if the structural species making up a surveyed 30m section of hedgerow included at least four native woody species. Results were compiled and assessed against qualifying criteria within the Hedgerow Regulations (1997) and the UK Biodiversity Action Plan / NERC Act 2006.
- 3.4.4 Legislation, guidance, and methodology for species relevant to this site are presented in full within Appendices 4 and 5 of this report.
- 3.4.5 **Site Evaluation**
- Following the ecological appraisal, the site was classified into one of six groups (Table 2), to indicate whether the site is considered to hold ecological value on a local, national, or international scale. This evaluation is intended as a guide and only targeted survey work can establish the significance of protected species populations onsite.

Table 2. Definitions of each of the six evaluation brackets, indicating the importance of each habitat type and an example of their possible habitat status. (Table constructed following The CIEEM EcIA Guidelines, Terrestrial, Freshwater, and Coastal (2016) pages 16-17).

Evaluation Value	Comparable example
International	An internationally designated site or candidate site, including habitat or species included within Special Protection Areas (SPA) / Special Areas of Conservation (SAC), Ramsar Sites, listed under Annex 1 of the Habitats Directive.
National	Sites designated at UK level, e.g., Sites of Special Scientific Interest (SSSI), supporting species considered nationally threatened or rare. A regularly occurring regionally or county significant population/number of any nationally important species A feature identified as of critical importance within Section 41 of the NERC Act (2006).
Regional	Key Habitat type included within the National Biodiversity Action Plan (BAP) /NERC Habitat of Principle Importance (HPI). A regularly occurring, locally significant number of a regionally important species.
County	Designated sites, such as Sites of Biological Importance (SBIs) or viable habitat / species populations of value at a county level (LBAP).
District	District level designated sites, such as Local Wildlife Sites (LWS) or habitats / species populations of value at a district (Which have features qualifying for LWS status). Sites/features that are scarce within the district or which appreciably enrich the district habitat resource.
Local / Site	Habitats or species populations of value in a local (i.e., within ~ 5km of the site) context. Habitats of poor to moderate biological diversity e.g., established conifer plantations, species poor hedgerows and un-intensively managed grassland which supports species which are common to the local area and whose loss can be easily mitigated.

3.5 Limitations

3.5.1 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. The protected and notable species assessment provides a preliminary view of the likelihood of these species occurring on site, based upon the suitability of the habitats, known distribution of the species in the local area and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group.

3.5.2 The assessment was undertaken outside of the optimal survey period for phase 1 survey. Certain habitat types such as improved grassland can be surveyed at any time of the year where the species that they comprise vary very little. Where habitats are more complex and support species with different growing seasons, they may be recommended for further, more detailed assessments at the appropriate time of the year. Considering the habitats present on the site, the species assemblage is unlikely to have been significantly different within the optimum period for survey compared with when the survey was completed due to the site's low ecological value.

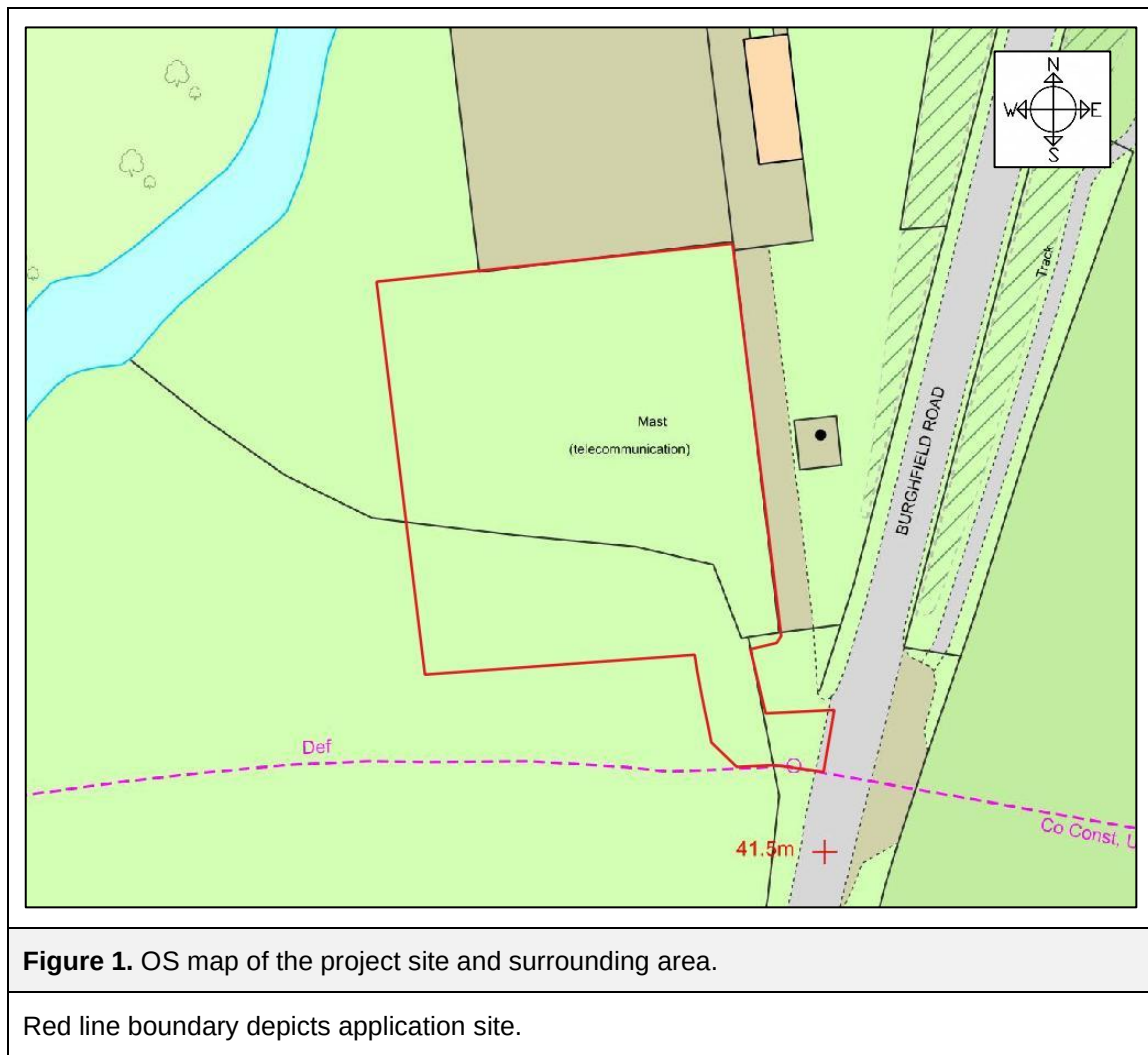
3.6 Report Lifespan

Given the transient nature of the subject we would consider the survey results contained to be accurate for 2 years.

4 Site Context

4.1 Site Description

- 4.1.1 The application site is 0.25ha in extent and can be found at SU 68229 71269. Located within a rural location, its positioned approximately 100m south of the Southcote suburb of Reading, Berkshire and approximately 120m north of Holybrook Farm. The site lies to the south of a treelined railway line running from east to west, with a fenced substation and hardstanding forming the immediate northern boundary. Rough grassland was recorded to the south and extended to the riparian woodland and corridor associated with the Holy Brook, approximately 30m at its closest point to the west of the site, flowing north east. The eastern boundary pertains to an access track to the substation, and Burghfield Road. To the east of the site is an area of cleared land used for storage, with extensive pasture beyond. Access to the site is from the south east corner, via Burghfield Road.
- 4.1.2 The site is connected to the wider landscape via scrub, woodland and trees extending east, west, and south of the application site. The River Kennet, which flows west-east approximately 280m to the south of the site provides a barrier to the dispersal of terrestrial species, such as amphibians, reptiles, and badgers, south to the recreational pools and lakes. The River supports optimal linear connectivity to the wider landscape and optimal foraging resources for protected species groups.



4.2 Zone of Influence

The zone of influence describes the geographic extent of potential impacts of a proposed development. The small scale of the proposed development reduces the likelihood of impact to the surrounding area, however suitable connective vegetation could influence the presence of protected species within the application boundary. The zone of influence was considered to be 250 metres from the application boundary for amphibians and reptiles, 30 metres for mammals such as badgers, otter and water vole and within the area of impact for breeding birds and bats.

5 Results

5.1 Desk Study

5.1.1 Designated Sites

The site was subjected to a search for designated sites within a 2km radius of the site using data supplied by the online desk-based resource MAGIC.

5.1.2 A search of the online resource Magic Maps found one Statutory designation within the 2km radius search detailed below within Table 3. The site is present within the Impact Risk Zone (IRZ) for Sultham and Tidmarsh Wood and Meadows Special Site of Scientific Importance (SSSI) 4.4km north-west of the site.

Table 3. Summary of Designated Sites within a 2km radius of the application site

Site Name	Grid Ref	Status	Reason for Designation	Distance from site
Lousehill Copse	SU6904372752	Local Nature reserve (LNR)	Semi-ancient mature oak and hazel woodland. Some ancient woodland indicators such as bluebell are present, with ephemeral pools and marshy woodland. Area of open meadow with gorse and broom on a sandy based soil is present to the northern area of the LNR.	1.6km NE

5.1.3 Protected Species Assessment

Magic maps revealed five granted European Protected Species (EPS) licences within 2km of the site for the destruction of resting and breeding sites for brown long eared (*Plecotus auratus*), common pipistrelle (*Pipistrellus pipistrellus*), and soprano pipistrelle (*Pipistrellus pygmaeus*), which expire between 2012 and 2025, shown in Table 4 below.

Table 4. Summary of European Protected Species Records

Species	Grid ref.	Date	EPS reference number	Description
Soprano pipistrelle	SU69697241	2011 - 2014	EPSM2010-2590	Licence to destroy a breeding and resting place approximately 1.8km north-east of the development site.

Species	Grid ref.	Date	EPS reference number	Description
Common pipistrelle and soprano pipistrelle	SU69887019	2015 - 2020	2015-15548-EPS-MIT	Licence to destroy a resting place of for these species, approximately 1.95km south-east of the development site.
Brown long eared, common pipistrelle and soprano pipistrelle	SU67307299	2011 - 2013	EPSM2011-3499	Licence to destroy a resting place of for these species, approximately 1.93km north-west of the development site.
Soprano pipistrelle	SU68407166	2020 - 2025	2020-49490-EPS-MIT	Licence to destroy a resting place of for these species, approximately 411m north-east of the development site.
Brown long eared and common pipistrelle	SU67307299	2010 - 2012	EPSM2010-2341	Licence to destroy a breeding and resting place, approximately 1.93km north-west of the development site.

5.2 Habitats

5.2.1 The habitat types recorded on site are summarised below, and the frequency and distribution of habitat types is displayed within a Phase 1 Habitat Survey Map (Appendix 1 and 2).

5.2.2 Table 5 provides a list of habitat types present on site along with their inclusion (or otherwise) as a National and / or Local Habitat of Principle Importance (HPI) (Previously referred to as Biodiversity Action Plan (BAP)).

Table 5. JNCC Habitat Types found on site and inclusion within UK BAP/HPI habitats.

Habitat Type	N HPI	L HPI	N/A
Tall Ruderal Herbs			✓
Improved Grassland			✓
Neutral Semi-Improved Grassland			✓
Scrub – Dense/continuous			✓
Hard Standing			✓

5.2.3 Tall Ruderal Herbs

Tall ruderal herbs dominated by common nettle (*Urtica dioica*) cover approximately 0.13ha across the centre of the application site (Figure 2). Species include abundant creeping thistle (*Cirsium vulgare*) and frequent teasel (*Dipsacus fullonum*), mugwort (*Artemisia vulgaris*) and common hogweed (*Heracleum sphondylium*). Additional species recorded occasionally include white dead nettle (*Lamium album*), lesser burdock (*Arctium minus*), cleavers (*Galium aparine*), bindweed (*Convolvulus sp.*), bryony (*Bryonia sp.*), hawkweed (*Hieracium sp.*), bristly ox tongue (*Helminthotheca echinoides*), woundwort (*Stachys sp.*) and dog's mercury (*Mercurialis perennis*).

5.2.4 Improved Grassland

An area of improved grassland was recorded across the south and south-eastern corner of the site. The grassland was unmanaged, and the sward height was approximately 30cm (Figure 3). The sward was dominated by Yorkshire fog (*Holcus lanatus*), with abundant Cock's foot (*Dactylis glomerata*), and frequent perennial ryegrass (*Lolium perenne*) with abundant nettle.



Figure 2. Area of tall ruderal herbs across the centre of the site.



Figure 3. Improved grassland to the south and south-eastern corner of the site.

5.2.5 Poor Semi-Improved Grassland

Approximately 0.05ha was poor semi-improved grassland (Figure 4). This area of the site is likely seldom managed, with a sward over 30cm high and comprised false oatgrass (*Arrhenatherum elatius*), common sedge (*Carex nigra*), red fescue (*Festuca rubra*), Yorkshire fog and timothy (*Phleum pratense*). Occasional herbs within the sward included yarrow (*Achillea millefolium*), creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*), bindweed, ground ivy (*Glechoma hederacea*), ribwort plantain (*Plantago lanceolata*), cinquefoil (*Potentilla reptans*), creeping buttercup (*Ranunculus repens*), and vetch (*Vicia sp.*).



Figure 4. Area of poor semi-improved grassland within the central area of the site.

5.2.6 Dense Scrub

Dense bramble (*Rubus fruticosus*) scrub is present in small patches at the north-eastern corner and along the south-eastern boundary of the site (Figure 5). The understorey of the scrub comprised abundant common nettle and occasional white dead nettle.

5.2.7 Hard Standing

An area of tarmac hard standing in poor condition with pot holes lies to the south-east of the site, providing access from Burghfield Road (Figure 6). No plant species were present within this habitat.

5.2.8 Invasive Weeds Assessment

An assessment of the site was made to establish the presence of invasive weeds included on schedule 9 of the Wildlife and Countryside Act 1981 (as amended). No recordings of invasive weed species were found within, or adjacent to the application area.



Figure 5. Dense scrub in the north-eastern corner of the site.



Figure 6. Hard standing tarmacked road access in poor condition.

5.3 Fauna

5.3.1 Breeding Birds

5.3.1.1 Scrub and grassland on site provide suitable nesting habitat for common bird species. Two species of bird were recorded onsite during the survey, including wren (*Troglodytes troglodytes*) and blue tit (*Cyanistes caeruleus*). During the survey red kite (*Milvus milvus*) were present flying over the site and the adjacent land.

5.3.1.2 Based on a review of the habitat types on site and the list of bird species recorded onsite during the survey, the site is considered to support an assemblage of bird species including some species considered to be of high conservation concern that are either legally protected or UK BAP species, such as sky lark (*Alauda arvensis*), house sparrow (*Passer domesticus*), and mistle thrush (*Turdus viscivorus*).

5.3.2 Bats

The Magic data search showed five records of EPS licences for bat roosts, with the nearest recorded within 411m north-east of the site.

5.3.2.1 Roosting Bats

A single elder (*Sambuca nigra*) tree (T1) was present within the site development boundary to the northern corner (SU68207127), it was assessed and categorised based upon Bat Conservation Trust guidance (Appendix 5), with an assessment of negligible suitability to support roosting bats, as it lacked suitable cracks, fissures, or holes to support roosting bats due to its immaturity.

5.3.2.2 Foraging and Commuting Bats

Scrub, grassland, and tall ruderals may provide foraging opportunities for bats. However, the application site was positioned to the edge of intensively managed pastoral land, with suitable vegetative foraging areas in the wider environment, but no onsite connectivity. As such, the site is considered to provide negligible suitability for foraging and commuting bats, however it is expected that bats may be present in the local area.

5.3.3 Badgers (*Meles meles*)

No evidence of badger setts, or activity such as mammal runs, snuffle holes and latrines were found during the ecological appraisal of the site. However, the site supported habitat features such as dense scrub and tall ruderal which were considered conducive to supporting badger populations. The extent of the site, and the location within an agricultural dominated landscape suggest that this transient species could forage or commute within the surrounding environment but are not dependant on habitats within the redline boundary.

5.3.4 Great Crested Newts (*Triturus cristatus*)

5.3.4.1 The site supported a mixture of scrub, poor semi-improved grassland, and improved grassland, which is considered suitable to support the terrestrial phase of this species. However, no waterbodies were recorded on site or within the 250m zone of influence considered for the site. Holy Brook to the north and River Kennet to the south of the development act as barriers to species dispersal.

5.3.4.2 Magic returned a single survey record for the species within 2km of the site within 2018, however this was outside of the 250m zone of influence and indicated the species absence within the surveyed waterbody. Figure 7 shows the site location and the 250m zone of influence for Great crested newt (GCN).

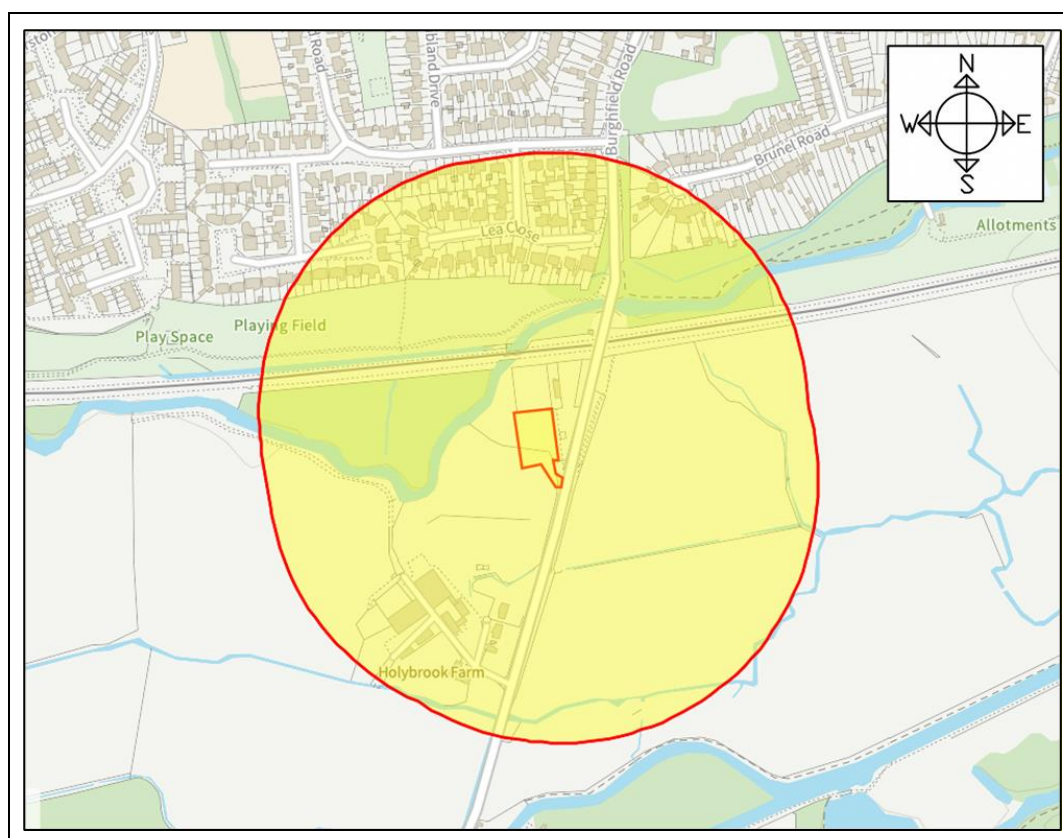


Figure 7. OS Map showing no ponds within a 250-metre radius of the site.

5.3.5 Reptiles

No evidence of reptiles was recorded during the survey; however, the site supported a suitable habitat matrix to support reptiles such as grass snake (*Natrix helvetica*), with good connectivity to the surrounding pastoral landscape, with scrub and Holy Brook likely to be utilised by grass snake. The improved and semi-improved grasslands on site provided a variable sward structure, with tall ruderal and scrub present providing cover for reptile species. Suitable reptile refugia such as scrap metal and tyres was also present within and off the site recorded in patches within the tall ruderal and adjacent to the areas of dense scrub.

5.3.6 Otter and Water Vole

The site is located less than 30m to the east of Holy Brook, as such is within the zone of influence for otter and water vole. Holy Brook provides suitability for otter and water voles to utilise for foraging purposes and commuting suitability due to its riparian bankside vegetation and has the potential for holt/burrow creation for breeding within the banks.

5.3.7 MSPI – Brown Hare and Western European Hedgehog

The site supports habitats such as poor semi-improved and improved grassland suitable for foraging brown hare (*Lepus europaeus*). Good connectivity to adjacent pastoral land also provides suitability for the species to forage within and adjacent to the site, as well commute through the development area intermittently. The site also has suitability for European hedgehog (*Erinaceus europaeus*) with tall ruderal, grasslands, and scrub suitable for foraging, resting, and commuting through the development site occasionally.

6 Evaluation

6.1 Development Proposals

The site is the subject of a full application for a battery storage facility. Design proposals for the site are presented in Appendix 6 of this report.

6.2 Desk Study Impacts

6.2.1 Direct impacts on nearby designated sites as a result of the proposed development are considered unlikely. The application site is positioned over 1.5km north-east of the Lousehill Copse LNR an area of semi-natural woodland. The development site and the LNR are not connected by suitable habitat corridors, with the Southcote residential suburb of Reading positioned between the development site and the LNR..

6.2.2 The site is located within the impact risk zone (IRZ) of Sultham and Tidmarsh Wood and Meadows site of special scientific interest (SSSI), located approximately 4.4km north-west of the site. As the proposals do not meet criteria requiring consultation with Natural England no further action is required. As such the proposals are not considered to impact this SSSI. The initial proposals set out for the site (Appendix 6) show that the extent of the development proposals are contained within the site boundary and indirect impacts on locally designated sites are considered unlikely.

6.3 Habitats

The habitats on site have been evaluated as having site value in relation to the immediate surroundings and a regional context. The site was dominated by tall ruderal herbs, with dense scrub, improved and poor semi-improved grassland areas. Habitats close to the site, such as Holy Brook could be impacted by the construction activities through the run-off of chemicals, for example fuel, during construction. Chapter 7 provides recommendations relating to the need for a Biodiversity Impact Assessment to establish the value of habitats on site to ensure appropriate mitigation is provided.

6.4 Breeding Birds

6.4.1 All wild birds, their eggs and nests are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure, or take any wild bird whilst nesting, or take, damage, or destroy the nest of any such bird while in use or being built.

6.4.2 The scrub on site was considered to provide suitable nesting habitat for common bird species and has the potential to support populations of birds of local and national interest such as skylark, house sparrow, and mistle thrush. In the absence of mitigation direct or indirect impacts on individual birds, their young, eggs and habitats could occur. Chapter 7 provides recommendations relating to the need for mitigation to lessen the impacts of the development of this group of species.

6.5 **Bats**

All bats in the United Kingdom and their habitats are fully protected under the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species Regulations 2017 (as amended). It is an offence to damage or destroy any bat roost, intentionally or recklessly obstruct a bat roost, deliberately, intentionally, or recklessly disturb a bat, or intentionally kill, injure, or take any bat.

6.5.1 *Roosting bats*

A single elder tree (T1) on site (SU68207127) was not considered suitable to support roosting bats due to a lack of suitable features for roosting bats such as cracks, fissures, and crevices. As such, it is not anticipated that bat species will be impacted by the development and are not considered further within this report.

6.5.2 *Foraging and Commuting Bats*

Woodland along the banks of Holy Brook provides suitable foraging and commuting habitat for bats from the site to the wider environment, and the area is considered to have a high suitability following BCT assessment guidelines. However, the area within the red-line boundary itself was considered to have negligible foraging and commuting suitability due to its limited connectivity to off-site linear features and small development area. However, mitigation of impacts on retained off-site habitats would be desirable for the continued success of any bats in the surrounding area. As such, Chapter 7 details recommendations relating to foraging and commuting bat species.

6.6 **Badgers**

Under the Protection of Badgers Act 1992, in England and Wales it is an offence to wilfully kill, injure, disturb, or take any badger, or intentionally or recklessly damage, destroy, or obstruct access to any part of a badger sett. There was no evidence of badger activity within zone of influence, however the rural location of the site, good connectivity with the surrounding landscape, and habitats present on the development site suggest that badgers may be present in the wider environment and could forage and commute through the red line boundary on an intermittent basis. Chapter 7 sets out important guidance on measures to avoid impacts on this species and measures to support its conservation status.

6.7 **Great Crested Newts**

Great crested newts and their eggs, breeding sites and resting places are fully protected under the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species Regulations 2017 (as amended). It is considered unlikely that GCN would present a constraint to the planning application, particularly given the increasingly low densities at which GCN are found at increased distances from optimal habitat and breeding ponds. GCN are not thought to be present within the redline boundary due to a lack of waterbodies within 250m of the development site and significant barriers to dispersal with two watercourses, Holy Brook, and the River Kennet, to the North and south of the site respectively. As such, GCN are not considered further within this report. If any evidence of GCN presence is uncovered during development works, then works should cease and the advice of an ecologist sought.

6.8 **Reptiles**

Reptiles are protected under the Wildlife and Countryside Act 1981 (as amended) making it illegal to intentionally kill or injure reptiles. No evidence of reptiles was recorded during the survey; however, the site supported a suitable habitat matrix comprising grassland, tall ruderal, scrub and scrap metal and tyre refugia. Given the small scale of the site, it is unlikely that a population is dependent on the site, with the loss of such habitat not considered significant due to the availability of optimal habitat within the wider landscape but connectivity with wider optimal habitat suggest presence. It is therefore likely that harm or injury could be sustained to this group of species during the pre-

construction clearing of the site. Chapter 7 sets out important guidance on measures to avoid impacts on this species and measures to support its conservation status.

6.9 Otter and Water Vole

6.9.1 Otters are fully protected as a European Protected Species (EPS) under the Habitat Regulations 2017 (as amended) and are also listed under Schedule 5 and 6 of the Wildlife & Countryside Act 1981 (as amended). Their legal protections make it an offence to, recklessly or intentionally, capture, kill disturb or injure otters, to damage or destroy a breeding or resting place (holt), to obstruct access to a place of rest or shelter and to possess, sell, control or transport live or dead otters or parts thereof.

6.9.2 With the water vole also receiving full protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Legal protection makes it an offence to intentionally kill, injure, or take (capture) a water vole. It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place.

6.9.3 Holy Brook located to the north and north-west of the development site provides suitability for both species for foraging and commuting habitat to the wider river network. As the development red-line boundary is 30m from the brook this should act as a substantial buffer zone of the brook, however a Construction Ecological Management Plan (CEMP) will be compiled to provide a delineated buffer to safeguard the brook and protected species. If this cannot be achieved then further surveys within the Brook are required, included in Chapter 7.

6.10 MSPI Brown Hare and Western European Hedgehog

Section 41 of the NERC Act (2006) highlights seventeen species of principal importance in England. From this list, the habitats on site were considered conducive to supporting Western European hedgehog and brown hare. No evidence of West European hedgehog or brown hare was recorded during the survey. Habitats such as improved and semi-improved grassland, tall ruderal and scrub are considered suitable for these species. Therefore, it is likely that there is a risk of harm to individuals of these species that may be using the site,

during any site clearance. As such, Chapter 7 set out precautionary measures to minimise the risk of harm to these species during site clearance.

7 Recommendations

The site does not require further survey to assess impacts of the proposed development. However, various recommendations are made below for the incorporation of native species into the design proposals to ensure a no net loss to biodiversity where possible.

This survey can be used to guide the Master Plan to ensure that mitigation is employed to retain and enhance local biodiversity. As with all development sites; efforts should be made to support National and Local Biodiversity Action Plans and seek opportunities to incorporate ecological enhancement schemes within the proposed development. Such site enhancements are viewed positively in light of the NPPF (2021) which seeks biodiversity enhancements and net gain through the planning process.

7.1 Habitats

Habitats / Botanical	Timing
Recommendations	
A Biodiversity Impact Assessment should be undertaken to influence the design of the master plan. It should be used to inform the native planting and landscaping to be incorporated into the overall design of the scheme, achieve the target of at least no net loss but ideally 10% net gain as outlined within The Environment Act 2021.	During design phase
A Construction Ecological Management Plan (CEMP) will be compiled to provide a delineated buffer to safeguard protected and priority habitats and species associated with Holy Brook.	Secured as a condition of planning application approval.
Enhancement Prescriptions	
Enhancement prescriptions will be detailed within the Biodiversity Impact Assessment report. However, re-instatement of key habitats for species such as scrub, or the inclusion of priority habitats such as hedgerow and/or woodland planting, could provide an enhancement of habitats for the site compared with current habitats found on the site.	During design phase.

7.2 Breeding Birds

Breeding Birds	Timing
Recommendations	
Habitats on site were considered suitable for breeding birds. Given their protection, development must be sympathetic to the value of these habitats and potential impacts on breeding birds, their eggs, nests and young. The breeding bird season is generally accepted as being between March and September. Consideration and implementation must be given to the following options most appropriate to the scheme. • Undertake any clearance of vegetation between the months of October and February where possible. • Clearance between the months of March and September should be subjected to a search for active birds' nests 24 hours prior to commencement of works.	Works outside of the breeding season (Oct-Feb) If unachievable, follow steps in recommendation.
Enhancement Prescriptions	
Scrub planting with a variety of native species, including fruiting varieties such as holly (<i>Ilex aquifolium</i>) and blackthorn (<i>Prunus spinosa</i>) within the site's landscaping will provide suitable nesting habitat for breeding birds. This would replace habitats lost through development and enhance on the availability of nesting and foraging habitat.	During design phase.

7.3 Foraging & Commuting Bats

Foraging & Commuting Bats	Timing
Recommendations	
The site itself was assessed to support negligible foraging and commuting bat suitability, however off-site habitats within the near vicinity of the development site are high suitability. To minimise the impact of the development on foraging and commuting bat species to the surrounding off-site habitat a sensitive lighting scheme is recommended, following the principles set out in 'Bats and artificial lighting in the UK' (ILP & BCT, 2018). It should incorporate downward lighting to minimise the overall light spillage to the surrounding landscape, particularly the riparian corridor associated with Holy Brook, using	During clearance, construction, and post development.

an appropriate lighting colour or warmth to minimise harsh lighting overspill.	
Enhancement Prescriptions	
The creation of linear vegetative features, with native species planting within the soft landscaping would provide greater connectivity with the surrounding landscape.	During the design phase.

7.4 Badgers

Badgers	Timing
Recommendations	
The habitats on site provided limited suitability for foraging and sett creation, with suitable habitat also present in the wider landscape within the 30m zone of influence. Reasonable Avoidance Methods (RAMs) incorporating a pre-works walkover no more than 3 months prior to and during construction phase of development, secured within a CEMP are also recommended. RAMS should include the following: • Ground works should be covered overnight or incorporate a means of escape in the form of sloping sides, or a ramp such as a wooden plank out of the trench/groundwork(s). • Spoil mounds should be removed as soon as possible or stored within skips so that they are off the ground as much as possible, to prevent colonisation overnight by the species. • Piping should be capped to prevent the entrapment of badgers or hedgehogs overnight and when not in use materials should be stored above ground on pallets. • Chemicals such as fuels, should be stored in secure containers and spill kits should be available to use by contractors if spillages occur. If a badger sett, or a suspected badger sett is discovered during the works, works should cease, and an ecologist sought.	Reasonable Avoidance Measures – During development

7.5 Reptiles

Reptiles	Timing
Recommendations The tall ruderal herbs, scrub and grassland habitats on site were suitable to support intermittent use by reptiles. There is therefore a risk that reptiles may be present on site during any site clearance/construction and the following avoidance measures secured within a CEMP as a planning condition, are recommended to minimise risk to reptiles: • Clearance of suitable refugia such as scrap metal/tyres by hand. Any evidence of reptiles to be moved safely. • Construction materials should be stored on pallets and waste should be placed into skips. • Machinery stored overnight should be positioned on a hard surface. • If trenches will be dug, a means of escape should be inserted into the trench, such as a plank or branch. Any vegetation to be cleared should initially be cut to a height of approximately 150mm using hand-held strimmer's or brush cutters. The cleared areas should then be left for at least two days prior to further cutting to ground level. Brash should be removed from site immediately. The area of cleared vegetation should be maintained by further mowing and strimming until development work commences to prevent colonisation/re-colonisation by reptiles.	During site clearance/construction April – May & August - September
Enhancement Prescriptions Hibernacula should be constructed within the western portion of the site to replace the loss of the current refugia within the site. Hibernacula consist of an excavated hollow infilled with materials such as building rubble and/or tree roots. Small drainage pipes are placed around the edges of the hollow that lead from the surface into voids and spaces within the building rubble and/or tree roots. This allows access for reptiles into the voids within the material used. The hollow is then covered over with loose turfs of soil and allowed to revegetate naturally.	

7.6 Otter and Water Vole

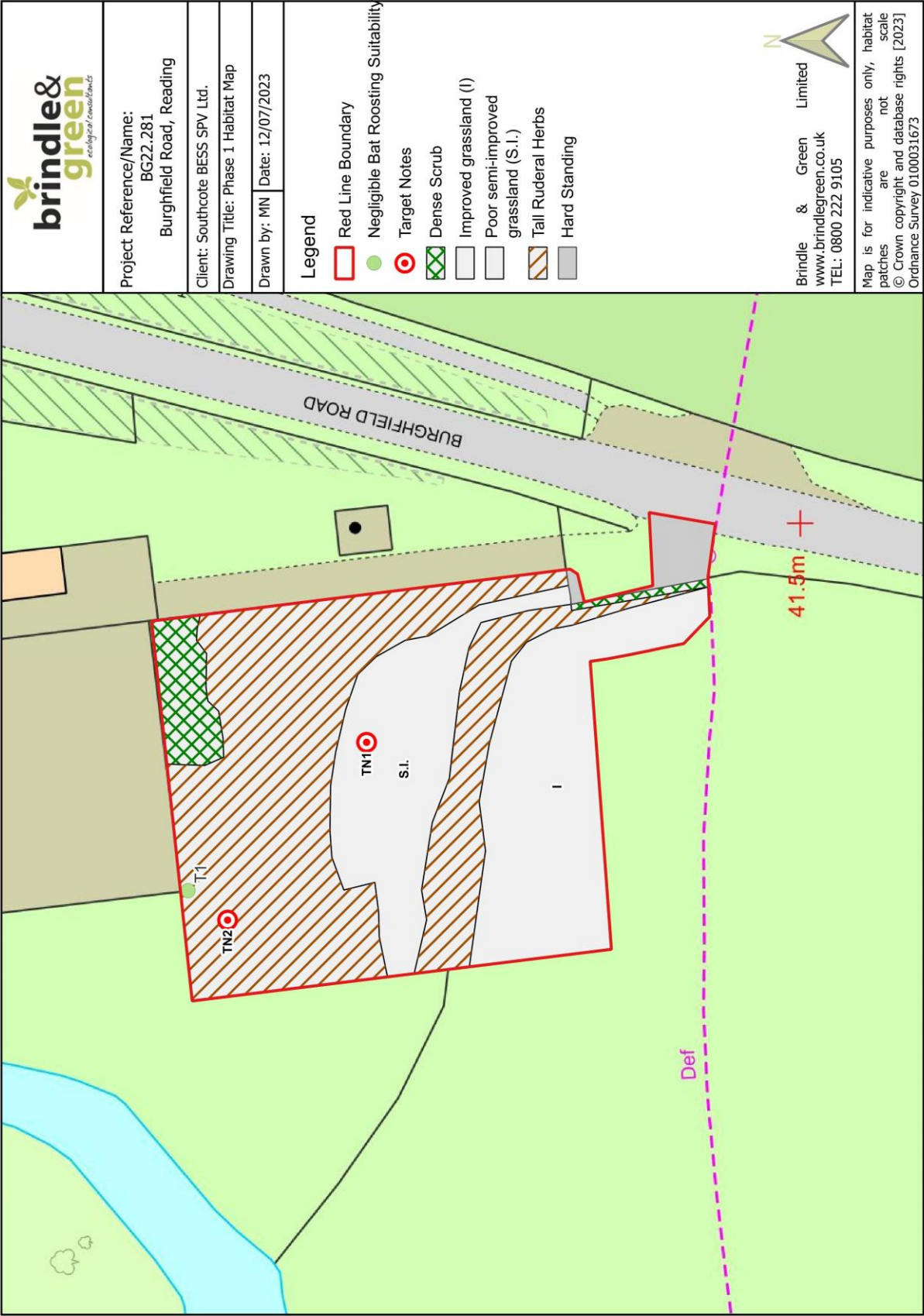
Otter and Water Vole		Timing
Recommendations		
The off-site watercourse (Holy Brook) located less than 30m of the red-line development boundary provides suitable foraging and commuting habitat for otter and water voles. Unless works can be maintained exclusively within the red-line boundary of the development, then a minimum of 10m buffer zone should be incorporated for any off-site storage/movement of materials and/or machinery associated with the development, combined with a CEMP, which will state RAMs to prevent indirect impacts during the construction phase to this ecological receptor.		Design phase. CEMP to be secured as condition of planning.
Enhancement Prescriptions		
Scrub planting within the western boundary of the site would provide a suitable buffer habitat to prevent disturbance for the species, as well as providing re-instatement of pre-existing habitat on the site.		During design phase.

7.7 MSPI Hedgehog & Brown Hare

Mammals Species of Principal Importance		Timing
Recommendations		
Resident populations of hedgehog and brown hare may be present within the site. As such, precautionary mitigation measures secured within a CEMP, should seek to minimise the risk to local fauna during construction: - Any temporarily exposed open pipes are to be capped to prevent hedgehogs gaining access. - Undertake works during daylight hours. - The base of the ruderal vegetation should be checked prior to removal. - Search areas of brash and discarded items by hand before removing. - If burning any cleared vegetation, carry out immediately after piling to prevent hedgehogs moving in prior to burning.		During Site clearance and construction.

- Any exposed excavations to be left overnight are to be covered at the end of each working day or include a means of escape for any fallen animals (e.g., a scaffolding plank). - Brown hares disturbed during the works should be allowed to disperse from the working area before works continue to ensure their safety. Clearance of potential hedgehog hibernacula such as log piles, compost heaps and brash piles should be avoided in winter where possible to minimise risk of harm to this Priority species. If clearance is required, it should be done by hand only.	
Enhancement Prescriptions	
Use of native shrubs in soft landscaping proposals will provide benefits on site for native fauna post-development. For hedgehogs, if solid fencing is proposed gaps approximately 20x20cm will be left in any new boundary fencing to enable any hedgehogs present to continue to use the site post-construction.	Post-development

Appendix 1. Phase 1 Habitat Plan



Appendix 2. Phase 1 Target Notes

Target Note Number	Description
TN1	Large trench/ditch by telephone mast
TN2	Pile of scrap metal and tyres

Plant Species List with DAFOR Scale

Scientific nomenclature follows Stace (2010) for vascular plant species and common names follow BSBI List of British & Irish Vascular Plants and Stoneworts.

Please note that this plant species list was generated as part of a Phase 1 Habitat survey and does not constitute a full botanical survey.

Abundance was estimated using the DAFOR scale as follows: D = dominant, A = abundant, F = frequent, O = occasional, R = rare, LF = locally frequent.

Common Name	Scientific Name	Estimated Abundance (DAFOR)
Bindweed	<i>Convolvulus sp.</i>	O
Bristly Ox Tongue	<i>Helminthotheca echioides</i>	O
Bramble	<i>Rubus fruticosus</i>	A
Bryony	<i>Bryonia sp.</i>	O
Cinquefoil	<i>Potentilla reptans</i>	O
Cleavers	<i>Galium aparine</i>	O
Cock's foot	<i>Dactylis glomerata</i>	A
Common Hogweed	<i>Heracleum sphondylium</i>	O
Common Nettle	<i>Urtica dioica</i>	D
Common Sedge	<i>Carex nigra</i>	O
Creeping Thistle	<i>Cirsium vulgare</i>	O
Creeping Buttercup	<i>Ranunculus repens</i>	O
Dog's Mercury	<i>Mercurialis perennis</i>	O
False Oatgrass	<i>Arrhenatherum elatius</i>	D
Ground Ivy	<i>Glechoma hederacea</i>	O
Hawkweed	<i>Hieracium sp.</i>	O
Hogweed	<i>Heracleum phondylium</i>	A
Lesser Burdock	<i>Arctium minus</i>	O
Mugwort	<i>Artemisia vulgaris</i>	O
Nettle	<i>Urtica dioica</i>	D
Perennial rye grass	<i>Lolium perenne</i>	F
Red Fescue	<i>Festuca rubra</i>	A
Ribwort Plantain	<i>Plantago lanceolata</i>	O
Spear thistle	<i>Cirsium vulgare</i>	O
Teasel	<i>Dipsacus fullonum</i>	O
Timothy Grass	<i>Phleum pratense</i>	O
Vetch	<i>Vicia sativa</i>	O
White Dead Nettle	<i>Lamium album</i>	O
Woundwort	<i>Stachys sp.</i>	O
Yarrow	<i>Achillea millefolium</i>	O
Yorkshire fog	<i>Holcus lanatus</i>	D

Appendix 3. General References

- Bell, S. McGillivray, D. (2006) *Environmental Law*. 6th ed. Oxford University Press.
- British Standards Institution (2013) BS 42020: *Biodiversity – Code of practice for planning and development*, British Standards Institution London
- Byron, H (2000) *Biodiversity and Environmental Impact Assessment: A Good Practice Guide for Road Schemes*. The RSPB, WWF-UK, English Nature and the Wildlife Trusts, Sandy.
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- Treweek, J. (1999) *Ecological Impact Assessment*. Blackwell Science.

Williams, C. (2010) *Biodiversity for Low and Zero Carbon Buildings, A Technical Guide for New Build*. Riba Publishing.

Appendix 4. Legislation, Policy and Guidance

Articles of British wildlife and countryside legislation, policy guidance and both Local and National Biodiversity Action Plans (BAPs) are referred to. The articles of legislation are:

- The Wildlife and Countryside Act 1981 (as amended).
- The Conservation of Habitats and Species Regulations 2017 (as amended).
- Department for Communities and Local Government. National Planning Policy Framework. (2021).
- EC Council Directive on the Conservation of Wild Birds 79/409/EEC.
- The Protection of Badgers Act 1992.
- The Natural Environment and Rural Communities Act 2006 (Including National and Local Biodiversity Action Plan (LBAP / HPI)).
- Hedgerow Regulations 1997.
- The Environment Act 2021.

Appendix 5. Legislation, Guidance and Methodology for Preliminary Ecological Appraisals.

Legislation, Guidance and Methodology

Breeding Birds

All nesting birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage, or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition, for species listed on Schedule 1 of the Wildlife and Countryside Act 1981 it is an offence to intentionally or recklessly cause disturbance at, on or near an 'active' nest.

The bird breeding season is typically accepted to start in February/March and continue through until September/October, however breeding birds can be found all year round depending on the given species and climatic conditions.

A site's habitat composition, locality, association to designated sites as well as current usage and management are all considered in the decision as to whether further bird related surveys are required. In addition, surveys may be recommended based on incidental bird records collected during a Preliminary Ecological Appraisal, species identified within an ecological data search or target species listed within a local biodiversity action plan.

Bird surveys are carried out in accordance with:

Gilbert G, Gibbons DW, Evans J. (1998) *Bird Monitoring Methods*. RSPB.

Bats

Roosting Bats

All bats in the United Kingdom and their habitats are fully protected under the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species Regulations 2017 (as amended). It is an offence to damage or destroy any bat roost, intentionally or recklessly obstruct a bat roost, deliberately, intentionally, or recklessly disturb a bat or intentionally kill, injure, or take any bat.

Areas of concern; can be encountered in many types of structure and care should therefore be taken when undertaking maintenance or demolition of suitable structures and trees.

Site assessments of buildings, commuting and foraging habitat and trees are undertaken in accordance with: Collins, J (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, (3rd edition), Bat Conservation Trust, London. (Table 1 & 2 Below).

Preliminary Ecological Surveys look for evidence of bat presence such as feeding remains, bat droppings, roosting individuals and staining around potential access points. The suitability of site features are also assessed because absence of bat evidence, is not confirmation of a negative result.

Within trees, features searched for include; natural holes, woodpecker holes, cracks/splits in major limbs, loose bark, hollows, and dense cover of ivy over the tree. If evidence is found, or a building supports features conducive to supporting roosting bats then further presence / absence bat surveys and/or roost characterisation surveys will be recommended.

Foraging and Commuting bats

Habitat features on site are assessed for their suitability to support foraging and commuting bat populations. This assessment is independent from the suitability of the site to support roosting bats and provides information on the likelihood of bat foraging activity within the local environment, and the dependence of individuals on these features for commuting to alternative roosting sites, foraging and migration.

Table 1: Guideline for assessing the suitability of a structure to support roosting habitat (Buildings and Trees), amended from Collins, J (2016)

Category	Description of roosting habitat	Number of additional presence / absence surveys required
Negligible Suitability	Suitable cavities may exist, but these are less than ideal.	None
Low Suitability	A structure with one or more potential roost sites that could be used by individual bats opportunistically. The feature and surrounding habitat do not provide enough shelter, conditions* space for larger roost types such as a maternity or hibernation roost. A tree of sufficient size and age to support roosting bats, but with no features observed from the ground, or the features only have a limited potential to support roosting bats.	One survey between May and August Trees – No further surveys required
Moderate Suitability	A structure or tree considered to have one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions* and surrounding habitat but are unlikely to support a roost of high conservation status (With regard to roost type only – assessments are made irrespective of species conservation status, which is established after presence is confirmed).	Two surveys between May and September (with at least one survey undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to ideally be undertaken at least two weeks apart.
High Suitability	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.	Three surveys between May and September (with at least two surveys undertaken between May and August) One Dusk emergence and One Dawn re-entry survey to be undertaken. The third survey can be either Dusk or Dawn, undertaken at least two weeks apart.
Confirmed	This category is where positive evidence of bats has been recorded. For example, bats are found; bat droppings may be present at a suitable location for roosting bats; existing bat records may be associated with the structure.	

(* in this context conditions refers to the level of disturbance, light, height above ground, temperature, and humidity etc)

Table 2: Potential suitability of foraging and commuting habitat within an application boundary. Features should be assessed following this guide and professional judgement. Adapted from Collins J (2016)

Category	Description of commuting and foraging habitat	Survey effort to establish the value of commuting and foraging habitat**
Negligible Suitability	Negligible habitat features on site likely to be used by commuting or foraging bats.	None
Low Suitability	Habitat which could be used by low numbers of commuting bats such as an isolated gappy hedgerow, or an unvegetated stream unconnected to suitable habitat in the wider environment.	Transect /spot count/ timed search survey: One survey visit per active season AND Static automated surveys: One location per transect, over a five-night period, per season.

	Suitable, yet isolated habitat that could be used by foraging bats such as individual trees, or a patch of scrub.	
Moderate Suitability	Continuous habitat connected to the wider landscape that could be used by commuting bats, notably tree lines, hedgerows or linked back gardens. Habitat that is connected to the wider landscape which could be used by bats for foraging such as trees, open water, scrub, or grassland.	Transect /spot count/ timed search survey One survey visit per month At least one survey should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period. AND Static automated surveys: Two locations per transect, over a five-night period, per month (April to October)
High Suitability	Continuous, High-quality habitat that is well connected to the wider landscape which is considered to be highly conducive to commuting bats including river valleys, stream, hedgerows, and woodland edge High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourses, and grazed parkland. Site is close to and connected to known roosts.	Transect /spot count/ timed search survey Up to two survey visits per month (April to October) At least one survey should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period. AND Static automated surveys: Three locations per transect, over a five-night period, per month (April to October)

(** This is only a guide for survey effort required the complexity of the site and the proposed disturbance / loss of features will determine the extent of works required on a site-by-site basis).

Badgers (*Meles meles*)

Badgers are protected under the Protection of Badgers Act 1992. It is illegal to wilfully kill, injure, disturb, or take any badger, or attempt to do so and it is an offence to intentionally or recklessly damage, destroy, or obstruct access to any part of a badger sett.

Site assessments are undertaken in accordance with:
Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*.

During the PEA, the site and the 30-metre zone of Influence considered for this species are searched for evidence of badger activity. The surveyor will identify evidence of activity, or habitat suitability for this protected species. Even if no evidence of badger activity is found, if local conditions suggest that the habitat may be suitable for badger, further surveys will be recommended.

Amphibians

The great crested newt and natterjack toad are fully protected under Schedule 5 of the wildlife and countryside Act 1981. The legislation protects these amphibians and their place of shelter or protection which may extend 500m from the breeding pond.

Great Crested Newt (*Triturus cristatus*)

The great crested newt, is fully protected under the Conservation of Habitat Regulations 2017 (as amended), making it an offence to intentionally or recklessly kill, injure, disturb, or take great crested newts, intentionally or recklessly damage destroy or obstruct access to any place used by the animal for shelter or protection.

The legislation protects these amphibians and their place of shelter or protection which may extend 500m from the breeding pond. Sites should be considered suitable to support great crested newts if distribution and historical records suggest newts may be present, there is a pond within 500m of the development or the development site includes suitable terrestrial habitat refuges.

Great crested newt site assessments are undertaken in accordance with:

English Nature. (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough. and Langton T, Beckett C and Foster J (2001) *Great Crested Newt Conservation Handbook*. Froglife, Halesworth.

Prior to a site visit, a desk study pond search is undertaken. When searching for ponds, Brindle & Green apply a total of 4 sources to establish their location. The following online sources are used:

OS MAPPING VIA PRO MAP, GOOGLE EARTH PRO, GOOGLE MAPS and MAGIC MAPS

Each identified pond (Access permitting) is subjected to a Habitat Suitability Index (HSI) assessment providing a score for each pond. This survey should be undertaken during the summer period to be fully accurate, however assumptions can be made out of season to guide survey recommendations.

Reptiles

Two species of reptile, the sand lizard and smooth snake, and their habitats are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981. All other native British reptiles are protected against intentional killing and injury.

British reptiles are found in exposed, undisturbed areas, such as areas without cultivation with differing areas of grassland sward length. Suitable areas include abandoned sand quarries, fallow farmland land, heathland, post-industrial land, railway corridors etc. If these types of suitable features are found then further reptile surveys are recommended.

Edgar P, Foster J and Baker J (2010) *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth.

Gent T and Gibson S (2003) *Herpetofauna Workers Manual*. JNCC, Peterborough.

Otter (*Lutra lutra*)

Otters are fully protected as a European Protected Species (EPS) under the Habitat Regulations 2017 (as amended) and are also listed under Schedule 5 and 6 of the Wildlife & Countryside Act 1981 (as amended). Their legal protections make it an offence to, recklessly or intentionally, capture, kill disturb or injure otters, to damage or destroy a breeding or resting place (holt), to obstruct access to a place of rest or shelter and to possess, sell, control or transport live or dead otters or parts thereof.

Habitat assessments for otters were informed by:

Chanin P (2003b) *Monitoring the Otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10

Otters have been recorded utilising almost every type of waterbody and watercourse in the UK including rivers, streams, canals, lakes, and ponds and although most populations in England and Wales are usually restricted to freshwater, coastal populations are present in Scotland. They will also use small streams and ditches (including dry ditches) as regular commuting routes and are found in a range of situations from rural to heavily urban sites.

Surveys are recommended where the proposals have the potential to result in a breach of protective legislation listed above. Surveys can be undertaken at any time of year (however optimal timing in spring when water levels fall, and prints can be readily observed in soft mud). Surveys focus on searching for evidence of otter presence including spraints, prints, feeding remains and otter slides. They also include searching for resting places such as holts, couches, and natal dens.

Water Vole (*Arvicola amphibius*)

The water vole receives full protection Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Legal protection makes it an offence to intentionally kill, injure or take (capture) a water vole. It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place.

Water vole site assessments were undertaken in accordance with:

Strachan R. Moorhouse T, and Gelling M (2011) *Water Vole Conservation Handbook*. (3rd Edition) Wildlife Conservation Research Unit.

Water voles are usually found along water bodies that have still or slow flowing deep water with an abundance of bankside herbaceous vegetation. Such areas include dykes, rivers, streams, and drains, but they can also be found on isolated large ponds.

If these types of suitable features are found during a PEA, then water vole surveys are recommended.

Invasive non-native weeds

Plant species such as Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) are examples of invasive non-native weeds classified under Part II of Schedule 9 of the Wildlife and Countryside Act 1981. Any person who causes these species to grow or spread in the wild by dumping or other means is guilty of an offence. The plant and the soil these species are found growing in are classified as waste material and should be treated as such.

A simple walk over survey of the site to determine if these species are present was carried out during the PEA. A full list of Schedule 9 species can be found at Plantlife.org

Botanical Value

There are 60 plant species listed under Schedule 8 of the Wildlife and Countryside Act 1981 where it is an offence to intentionally pick or uproot or destroy any of these plant species.

During the PEA, a phase one habitat survey was undertaken following JNCC guidance. Further assessments are made to determine whether habitats comprise those identified as Habitats of principle Importance under S42 of NERC Act 2006.

Surveys can be undertaken year-round, however, if species or site conditions suggest higher botanical interest a full botanical survey will be recommended.

Ecological Enhancement

In March 2021 the Department for Communities and Local Government published the National Planning Policy Framework. This sets out planning policies on protection of biodiversity through the planning system. The document states - *opportunities to incorporate biodiversity in and around developments should be encouraged*.

For new buildings guidance such as in the following will be used:

Williams, C. (2010) *Biodiversity for Low and Zero Carbon Buildings, A Technical Guide for New Build*. Riba Publishing.

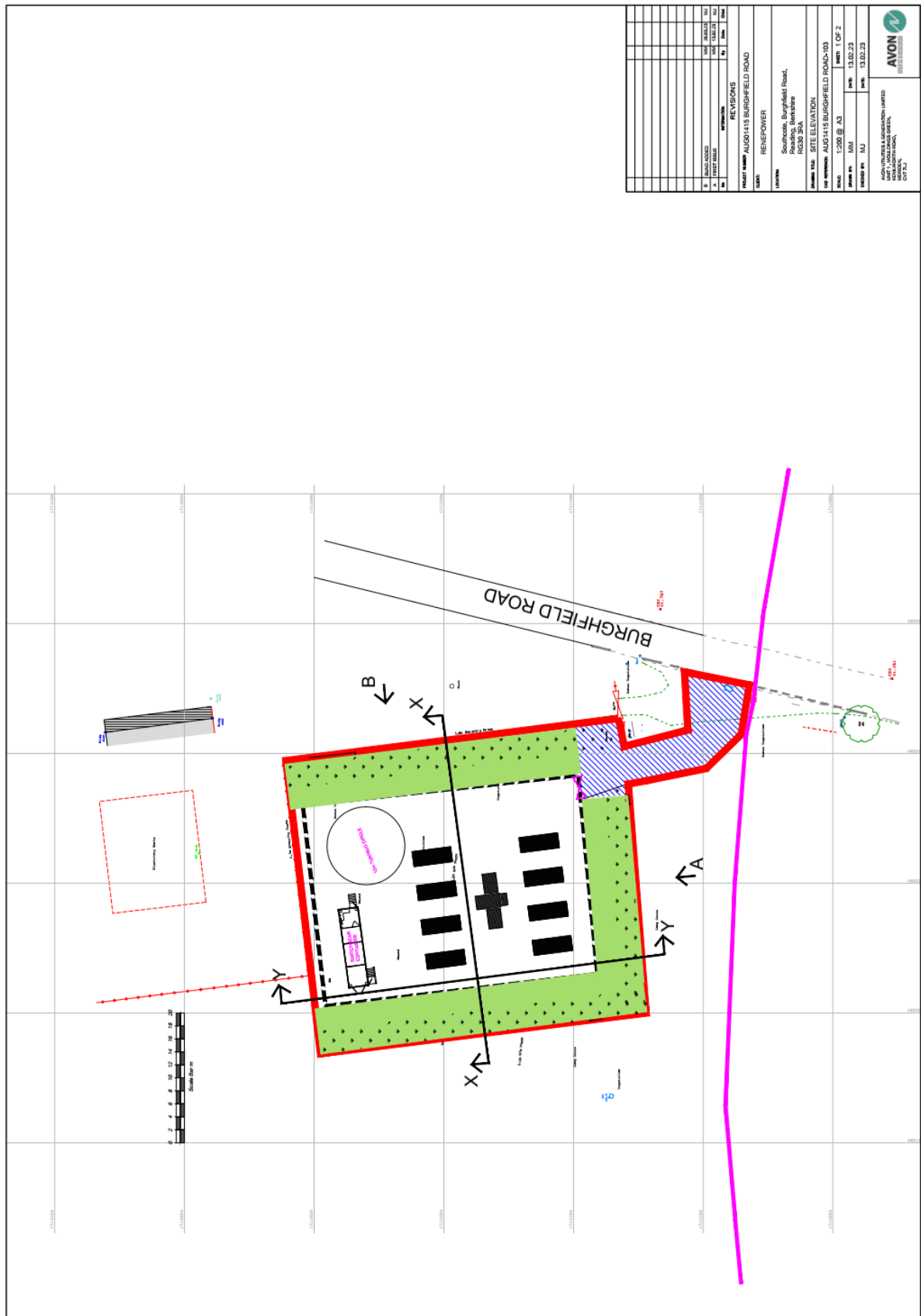
Designated Sites

Designated areas are Sites of Special Scientific Interest (SSSI) while others have been designated as having European protection status. Local authorities can also designate areas for nature conservation and in doing so may impose local authority byelaws to support local nature conservation objectives.

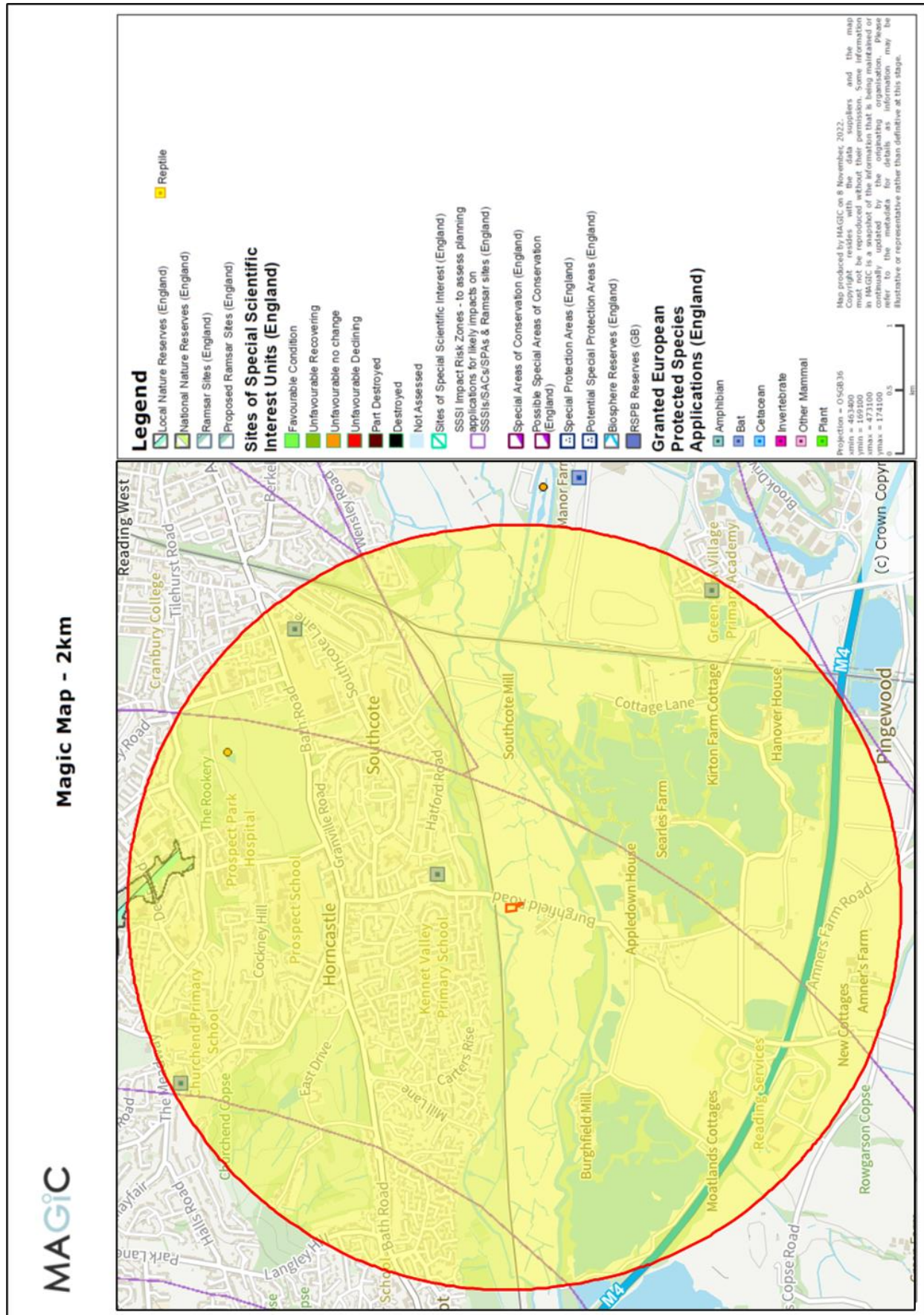
European designated status includes Special Protection Areas (SPAs) that preserve areas for birds and Special Areas of Conservation (SACs) which provides protection for habitats and the species which these habitats supports.

Information of Designated Protected Areas is received through Ecological Data Searches and Magic Map searches.

Appendix 6. Proposed Plans



Appendix 7. Magic Data



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Site Check Report Report generated on Fri Dec 09 2022

You selected the location: Centroid Grid Ref: SU68227124

The following features have been found in your search area:

Granted European Protected Species Applications (England)

Case reference of granted application	EPSM2010-2590
Species group to which licence relates	Bat
Species on the licence	S-PIP
Site county of licence	Berkshire
Licence Start Date	28/10/2011
Licence End Date	31/08/2014
Does licence impact on a breeding site	Y
Does licence allow damage of breeding site	
Does licence allow damage of a resting place	
Does licence allow destruction of breeding site	Y
Does licence allow destruction of a resting place	Y
Does licence impact on a hibernation site	Unknown
NERC agreement reference	Unknown

Case reference of granted application	2015-15548-EPS-MIT
Species group to which licence relates	Bat
Species on the licence	C-PIP;S-PIP
Site county of licence	Berkshire
Licence Start Date	02/11/2015
Licence End Date	30/10/2020
Does licence impact on a breeding site	N
Does licence allow damage of breeding site	N
Does licence allow damage of a resting place	N
Does licence allow destruction of breeding site	N
Does licence allow destruction of a resting place	Y
Does licence impact on a hibernation site	Unknown
NERC agreement reference	Unknown

Case reference of granted application	EPSM2011-3499
Species group to which licence relates	Bat
Species on the licence	C-PIP;S-PIP;BLE
Site county of licence	Berkshire
Licence Start Date	14/10/2011
Licence End Date	01/09/2013
Does licence impact on a breeding site	N
Does licence allow damage of breeding site	
Does licence allow damage of a resting place	
Does licence allow destruction of breeding site	N
Does licence allow destruction of a resting place	Y
Does licence impact on a hibernation site	Unknown
NERC agreement reference	Unknown

Case reference of granted application	2020-49490-EPS-MIT
Species group to which licence relates	Bat
Species on the licence	S-PIP
Site county of licence	Berkshire
Licence Start Date	01/11/2020
Licence End Date	30/11/2025
Does licence impact on a breeding site	N
Does licence allow damage of breeding site	N
Does licence allow damage of a resting place	N
Does licence allow destruction of breeding site	N
Does licence allow destruction of a resting place	Y
Does licence impact on a hibernation site	Unknown
NERC agreement reference	Unknown

Case reference of granted application	EPSM2010-2341
Species group to which licence relates	Bat
Species on the licence	C-PIP;BLE
Site county of licence	Berkshire
Licence Start Date	04/10/2010
Licence End Date	31/08/2012
Does licence impact on a breeding site	Y
Does licence allow damage of breeding site	
Does licence allow damage of a resting place	
Does licence allow destruction of breeding site	Y
Does licence allow destruction of a resting place	Y
Does licence impact on a hibernation site	Unknown
NERC agreement reference	Unknown

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Great Crested Newt Pond Surveys 2017 - 2019

Day of Survey	6
Month of Survey	6
Year of Survey	2018
Grid Reference	NA
4 Fig Grid Ref	SU6972
10 Fig Grid Ref	SU6904372752
100km Grid Square	SU
Easting	469043
Northing	172752
Location Score	A (optimal)
Location Suitability Index	1
Surface Area Score	400
Surface Area Suitability Index	0.83
Permanence Score	never
Permanence Suitability Index	0.9
Water Quality Score	poor
Water Quality Suitability Index	0.33
Shade Score	0
Shade Suitability Index	1
Waterfowl Score	major
Waterfowl Suitability Index	0.01
Fish Score	minor
Fish Suitability Index	0.33
Pond Density Score	1
Pond Density Suitability Index	0.4
Terrestrial Habitat Score	moderate
Terrestrial Habitat Suitability Index	0.67
Macrophyte Cover Score	0
Macrophyte Cover Suitability Index	0.3
Habitat Suitability Index Score	0.38
Habitat Suitability Index Score Category	poor
Result of great crested newt egg survey	NA
Result of great crested newt visual survey	NA
Pond pH	NA
Pond Temperature (°C)	NA
GCN occurrence	absent
Spatial resolution	N
Detection of Degradation	No
Nitrites mg/L	NA
Nitrates mg/L	NA
Phosphates mg/L	NA
Ammonia mg/L	NA
eDNA PCR Score	0
Detection of Inhibition	No

Local Nature Reserves (England)

Reference	1009372
Name	LOUSEHILL COPSE
Hectares	13.03
Hyperlink	https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009372

Great Crested Newt Class Survey Licence Returns (England)

No Features found

Local Nature Reserves (England) - points

No Features found

National Nature Reserves (England) - points

No Features found

National Nature Reserves (England)

No Features found

Ramsar Sites (England) - points

No Features found

Ramsar Sites (England)

No Features found

Proposed Ramsar Sites (England) - points

No Features found

Proposed Ramsar Sites (England)

No Features found

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Sites of Special Scientific Interest Units (England) - points

No Features found

Sites of Special Scientific Interest Units (England)

No Features found

Sites of Special Scientific Interest (England) - points

No Features found

Sites of Special Scientific Interest (England)

No Features found

Special Areas of Conservation (England) - points

No Features found

Special Areas of Conservation (England)

No Features found

Possible Special Areas of Conservation (England) - points

No Features found

Possible Special Areas of Conservation (England)

No Features found

Special Protection Areas (England) - points

No Features found

Special Protection Areas (England)

No Features found

Potential Special Protection Areas (England) - points

No Features found

Potential Special Protection Areas (England)

No Features found

Biosphere Reserves (England) - points

No Features found

Biosphere Reserves (England)

No Features found

RSPB Reserves (GB) - points

No Features found

RSPB Reserves (GB)

No Features found

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Site Check Report Report generated on Fri Dec 09 2022
You selected the location: Centroid Grid Ref: SU68227124
The following features have been found in your search area:

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF 2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT THE CATEGORIES BELOW? NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Composting

Discharges

Water Supply

Notes 1

Notes 2

GUIDANCE - How to use the Impact Risk Zones

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)