

Preliminary Ecological Appraisal

January 2025

Project Reference: PR-0380-24

Stand Golf Club (Site B)

Bury

Greater Manchester

M45 7NL

National Grid Reference: SD79190551



Stand Golf Club Site B, Bury, Greater Manchester, M45 7NL
Preliminary Ecological Appraisal

Document Title	Preliminary Ecological Appraisal
Project Reference	PR-0380-24
Issue Number	1.0
Prepared for	Paddock Johnson
Prepared by	Tyrer Ecological Consultants Ltd

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Date of Issue	24/01/2025

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Executive Summary

As part of a proposed planning application with Bury Council concerning two parcels of land within Stand Golf Club, Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in October 2024.

The PEA was commissioned by Paddock Johnson; proposals are understood to involve the creation of a residential development, with associated landscaping and access. While both separate land parcels will fall under the same development and planning application, this specific report will only cover the western parcel, denoted as Site B. A separate report has been produced for the eastern Site A, which should be read in conjunction with this report.

Extensive findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following further surveys and key recommendations.

Key recommendations:

Biodiversity Net Gain

Based on the information gathered during the diurnal assessment Stand Golf Club is **not exempt** from the Biodiversity Gain Planning Condition.

The site (both Site A & Site B combined) is host to the following biodiversity value:

- *Habitat: 22.19*
- *Hedgerow: 2.67*
- *Watercourse: 0.00*

Habitats

The other native hedgerow onsite is designated as a priority habitat on the UK BAP. Construction works pose a risk of impact to this habitat.

It is therefore recommended that this habitat is retained, where possible. Where this is not possible, then it is recommended that any loss is suitably offset. This will be secured via the implementation of a Biodiversity Net Gain plan.

Invasive Non-Native Species

Three INNS, listed under either Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) or Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order (2019) were observed within the red line boundary, Himalayan balsam, variegated yellow archangel and Himalayan cotoneaster.

To prevent further spread of these species from within the site, it is recommended that they are eradicated from the site prior to development. A Method Statement should be collated by a suitably qualified ecologist or invasive species specialist outlining how this species will be removed pre-works, including details regarding site biosecurity protocols.

Bats

During the GLTA, two willow trees located within w1g (2) were assessed as pertaining to a bat roost suitability of 'FAR' in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023)

Whilst this would normally warrant a further survey in the form of an endoscopic investigation via either climbing equipment or a Mobile Elevated Work Platform (MEWP), it is understood that this area of woodland is set to be retained in full during the works. As such, a further survey is not considered necessary. If, however, proposals are altered at any stage that results in impacts to these trees, then a further survey of any roost features should be carried out to determine usage by bats.

Birds

Regarding wider breeding bird species, there is an abundance of viable nesting platforms within the woodland, individual trees and shrubbery, which provide suitable nesting locations within the nesting bird season of March – August, inclusive.

Any vegetation clearance should therefore be carried out outside of the breeding bird season, typically March – September inclusive. For works within the breeding bird season, any areas that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing.

Other terrestrial mammals

Badger and hedgehogs have the potential to be impacted upon by the works.

*A programme of Reasonable Avoidance Measures (RAMs) is recommended to be enacted on the site to prevent impacting these species. See **Section 7.0** for details.*

Herpetofauna

The proposals present a kill / injury / disturbance risk, should GCN be present on site during any construction activity using opportunistic areas for shelter and / or once the area becomes a construction site.

*To this end, it is considered that an Environmental DNA (eDNA) survey should be undertaken at **P1** (subject to its presence) and **P2** to reasonably ascertain presence / absence of GCN within the two nearby ponds.*

*Any eDNA approach would need to be carried out from **mid-April to June 30th** when local planning authorities will accept data as part of a planning application. The information gathered will help provide an initial impact assessment. Following the eDNA survey, depending on the results, a development license may or may not be required; further surveys to reinforce the license may also be required.*

The presence of common amphibians and reptiles is considered possible onsite.

It is recommended that the RAMs outlined for mammals are extended to include common amphibians and reptiles.

Invertebrates

While the site is not considered to be locally distinct for this species group, a large number of invertebrates were observed utilising the site, and it provides a variety of suitable habitats that will likely all be lost to development.

*It is therefore recommended that a bespoke enhancement plan is designed for the site inclusive of invertebrate groups which are likely using the site in its current form. Suitable options have been presented in **Appendix III**.*

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1.0 Introduction & Scope

- 1.1 As part of a proposed planning application with Bury Council concerning two parcels of land within Stand Golf Club, Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in October 2024.
- 1.2 The PEA was commissioned by Paddock Johnson; proposals are understood to involve the creation of a residential development, with associated landscaping and access. See **Figure 1.1** for a site location plan; while both land parcels will fall under the same development and planning application, this specific report will only cover the western parcel, denoted as Site B. A separate report has been produced for the eastern Site B, which should be read in conjunction with this report.



Figure 1.1 – Site Location Plan © Paddock Johnson

- 1.3 As part of the Local Planning Authorities (LPA) planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted, particularly where protected / priority habitats or species are, or may be, present, and where these species have the potential to be impacted by the proposals for which the applicant seeks consent.
- 1.4 The PEA was carried out in accordance with the 'Guidelines for Preliminary Ecological Appraisal, 2nd Edition' (CIEEM, 2017) and all associated 'CIEEM Competencies for Species Survey (CSS)', whilst this report has been presented in accordance with the British Standard 42020:2013 Biodiversity – Code of Practice for Planning and Development.

Aims & Objectives

- 1.5 The appraisal aims to ascertain the baseline nature of the site and, where possible, obtain information on any priority wildlife habitats, or species, that may be present and if so determine

if they will be affected by the proposals. The survey, therefore, includes the following objectives:

- Gather and present baseline ecological information on site/off site (as necessary) within a suitable report,
- Identify, measure and map habitats using UK Habitat Classification – Habitat Definitions Version 2.0 (2023) habitats,
- Identify any likely ecological constraints associated with the proposals for the site (i.e. the presence of protected / priority habitats or species that exist within the confines of the application boundary, or zone of influence (ZOI),
- Identify measures likely to be required in line with the mitigation hierarchy (i.e. impact avoidance > minimisation > mitigation > compensation),
- Identify any additional survey requirements,
- Ascertain the baseline value of the habitats on site, to allow for the completion of a 'Biodiversity Statement',
- Identify general enhancement opportunities for biodiversity in line with national and local planning policy,
- Set out any requirements for post-development monitoring, management, or other commitments, and how they can be secured, where required.

1.6 As a functioning component of this specific ecological appraisal:

- Habitats on site were identified, measured and mapped using the UK Habitat Classification – Habitat Definitions Version 2.0 (2023),
- Buildings and trees were subject to preliminary roost assessment (PRA) for Bats and scored against the bat roost suitability parameters defined in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023),
- One pond in proximity to the site was assessed for its potential to host breeding populations of great crested newt (GCN) (*Triturus cristatus*) using the Habitat Suitability Index (HSI).
- Habitats were assigned and condition assessed in accordance with Biodiversity Net Gain Principles and Rules (DEFRA, July 2024) covered in the most recent User Guide.¹

1.7 This report therefore provides important baseline information as derived from the diurnal appraisal process outlined above and recommends any necessary additional surveys, or work, where applicable, to provide a conclusive ecological impact assessment.

1.8 The Applicant should be aware then that if during the appraisal:

- The application site/area was found to be suitable for any European Protected Species (EPS), otherwise protected, or priority habitats / communities / species, or,
- Signs of use by particular protected species were found, or suspected, or,

¹ See:

https://assets.publishing.service.gov.uk/media/669e45fba3c2a28abb50d426/The_Statutory_Biodiversity_Metric_-_User_Guide_23.07.24_.pdf

- Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion upon which the planning application can proceed;

Then more detailed surveys may be recommended where necessary, to allow the ecologist to arrive at a conclusive impact assessment.

- 1.9 If protected species were subsequently found either during appraisal or during detailed further surveys and / or may be affected by the development proposals, then a European Protected Species Mitigation Licence (EPSML) may be required to proceed with the development.
- 1.10 Where more detailed surveys are recommended by the Ecologist, following ecological appraisal, then LPAs, on the advice of their ecological advisors, may not grant permission until such time that all relevant material information is gathered in accordance with their obligations to the legislature.
- 1.11 Protected / priority species omitted from this report have been discounted due to negating factors including obvious absence / isolation of suitable habitats, and / or distributional aspects negating the necessity to survey for them, and / or the proposed works were not considered to impact the species or encroach on areas where the species may be present.

2.0 Legislation & Policy

2.1 The legislature considered for the purposes of this report includes the following:

- Biodiversity Net Gain: Good practice principles for development (2019),
- BS 42020:2013 Biodiversity – Code of Practice for Planning and Development (2013),
- Conservation of Habitats and Species Regulations (2017) (as amended),
- Countryside Rights of Way (CRoW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- National Planning Policy Framework (2024) (as last revised),
- Protection of Badgers Act (1992),
- The Environment Act (2021), including all six statutory instruments in relation to BNG,
- The Hedgerow Regulations (1997),
- The Invasive Alien Species (Enforcement and Permitting) Order 2019,
- Town and Country Planning Act (1990),
- Wild Mammals Protection Act (1996),
- Wildlife and Countryside Act (1981) (as amended).

2.2 These acts entail relevance to both protected and invasive species. The degree of protection offered to taxa provided within existing UK and EU legislature often varies depending on species / group, for example, some species may purely be protected during one of its life stages (e.g. common species of breeding bird whilst nesting / with eggs / young); some species may receive full protection within the EU, whereas others may be protected solely on a national basis (e.g. grass snake).

2.3 **Table 2.1** contains appropriate legislature to each species / group specifically respective to the site and provides the relevance of said legislation.

Table 2.1 – Relevant legislation

Species Group / Species	Relevant Legislation	Level of Protection
Badger	Protection of Badgers Act (1992), Wildlife and Countryside Act (1981) (as amended)	Illegal to: Wilfully kill, injure or take a badger (or attempt to do so), cruelly ill-eradicate a badger, dig for a badger, Intentionally or recklessly damage or destroy a badger sett or obstruct access to it, cause a dog to enter a badger sett, disturb a badger when it is occupying a sett.
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2017) (as amended) Wildlife and Countryside Act (1981) (as amended)	All British bats and their roosts are afforded full protection from damage/destruction and bats may not be injured/killed/taken at any life stage. Once identified, roosts are protected whether the bat is in occupation or not.

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Species Group / Species	Relevant Legislation	Level of Protection
Birds	CRoW Act (2000) Wildlife and Countryside Act (1981) (as amended)	All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected. Birds listed on Schedule 1 Wildlife & Countryside Act (1981) (as amended) are afforded a greater level of protection.
Great Crested Newt (GCN)	CRoW Act (2000) Conservation of Habitats and Species Regulations (2017) (as amended) Wildlife and Countryside Act (1981) (as amended)	Great Crested Newts (GCN's) are fully protected from disturbance, killing, injuring or possession at any life stage. Confirmed breeding ponds and resting places are afforded the same protection.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended) The Invasive Alien Species (Enforcement and Permitting) Order 2019	Species listed within Schedule 9/Schedule 2 as invasive, including Japanese knotweed (<i>Reynoutria japonica</i>) and Himalayan balsam (<i>Impatiens glandulifera</i>), for example, carry notoriety regarding development. The Acts make it an offence for any person to grow or cause to grow in the wild any plants listed as invasive.
Reptiles	Conservation of Habitats and Species Regulations (2017) (as amended) – SL/SS Wildlife and Countryside Act (1981) (as amended) CRoW Act (2000)	All native reptile species have some degree of protection in the UK, through section 8(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). Sand lizard and smooth snake are species of principal importance however with greater protection..

Relevant Policy

- 2.4 Guidance for Local Authorities: Extract from Office of the Deputy Prime Minister – Circular 06/2005:

“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision”.

- 2.5 Paragraph 193 of the National Policy Planning Framework (as revised in December 2024) states:

“When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”

- 2.6 This national focus on the conservation of the natural environment is echoed in Policy EN6 of the Adopted Bury Unitary Development Plan (2022), which states:

“The Council will retain, protect and enhance the natural environment of the Borough, particularly in relation to areas of ecological, wildlife and geological importance.”

Priority Habitats & Species

- 2.7 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species based on a variety of ecological factors. These are typically referred to as priority habitats and species, and can be identified under a variety of legislation and local policy, notably the UK Biodiversity Action Plan (UKBAP), Section 41 (s.41) of the NERC Act as well as under Local Biodiversity Action Plans (LBAPS).

Biodiversity Net Gain

- 2.8 The National Planning Policy Framework (NPPF), revised in December 2024, legislates net gain in biodiversity through paragraphs 8(c), 187(d), 192(b) and 193(d). An effort should be made, therefore, through the development design to provide ecological enhancement in order to deliver an overall increase in biodiversity, and opportunities to incorporate biodiversity in and around developments should be encouraged.
- 2.9 The Environment Act 2021 ('The Act') came into force in November 2021. Aspects of the Act relating to BNG came into force on 12th February 2024, whereby BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021).
- 2.10 The Act is supported by secondary legislation², consisting of six statutory instruments laid within law, of which the relevant legislation includes:
- The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations 2024
 - The Biodiversity Gain Site Register Regulations 2024
 - The Biodiversity Gain Site Register (Financial Penalties and Fees) Regulations 2024
 - The Biodiversity Gain Requirements (Exemptions) Regulations 2024
 - The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024

² See: <https://www.legislation.gov.uk/primary+secondary?title=The%20Biodiversity%20Gain>

- The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024

3.0 Methodology

- 3.1 As part of the ecological appraisal report, a desk-top and field-based study is conducted. Methods for both components of the appraisal are given below.

Desktop Study

- 3.2 Prior to a site visit, a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations for nature conservation within 2.0 kilometres of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGiC – provided by DEFRA) was accessed to gather such information; this particular interactive mapping service was also used to locate any locally granted European Protected Species Mitigation Licenses (EPSML) and species records to further inform conclusions concerning such species in the context of the study site and its proposed development.
- 3.3 Historic satellite imagery was reviewed using sources such as Google Earth (© 2023/24) to help establish past use of the land and determine the nature of adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.
- 3.4 In addition, the Bury Council ‘Search planning applications’ online function was utilised to help inform the desktop study by analysis of existing publicly accessible ecological survey results that have been carried out locally within the previous five years.
- 3.5 A commercial data request to the Local Environment Records Centre serving the area, in this case Greater Manchester Local Record Centre (GMLRC), has not been sourced at this time, with the combination of online EPSML data, extensive company records and the daytime survey data available to the ecologist considered to contain enough information in relation to the protected species likely to be present on site. **If, however, a data search is considered to be necessary by the Local Authority or advisory body to better inform the appraisal, a proportionate data search should be commissioned with results interpreted into the conclusions and recommendations of a re-issued / updated report.**

1) The Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK (CIEEM, 2020) states data searches in:

“Situations where the data search would be extremely unlikely to provide information needed to inform the assessment, due to the scale and location of the proposed development. The appropriateness of excluding a data search will need to be judged on a case-by-case basis as, in most situations, it will be essential to carry out such a search even if the development is very small or is likely to have a low impact.”

Field survey

- 3.6 A daytime preliminary ecological appraisal (PEA) was conducted on the 23rd October 2024 in cool conditions (10°C), average wind 1/12 (Beaufort scale), average 90% cloud cover, by the following surveyor (see **Table 3.1** overleaf).

Table 3.1 – Site surveyor credentials

Name	Description of most relevant credentials
Mr. H. Mulligan Qualifying CIEEM	• Consultant Ecologist with 2 years training and experience, • MBiolSci in Biological Sciences (Zoology), • Accredited agent on the Natural England Great Crested Newt: CL08 Class 1 licence (2022-10604-CL08-GCN) of Mr. D. Burrows Qualifying CIEEM, • Accredited agent on the Natural England Class 2 bat license of Mrs K Wilding CEnv MIEMA ACIEEM (CLS-14227), • Holder of a FISC Level 3 (2023) (Botanical competency).

Floristic assessment

Habitats

- 3.7 The survey followed the UK Habitat Classification Version 2.0 (UKHabs, 2023) methodology, which was introduced as the successor to the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010) in conjunction with the nationwide roll out of Biodiversity Net Gain. Survey techniques were also carried out with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series “Guidelines for Preliminary Ecological Appraisal, 2nd Edition” (CIEEM, 2017).

Vegetation

- 3.8 During the survey walkover, botanical assemblages were assessed, and the land was inspected for the presence of red-listed (Stroh et al., 2014; Hodgetts, 2011), s.41 and LBAP species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (WCA) (1981) (as amended) and / or Schedule 5 The Conservation of Habitats and Species Regulations (2017) (as amended). Species nomenclature follows Stace, C. (2019) – definitive English names.
- 3.9 In addition to attributing ecological value to red-listed / BAP species, in accordance with existing CIEEM guidance, a geographic frame of reference is also adopted. Plant species and habitats may be recognised for their ecological value on a geographical scale which is adopted on a site-to-site basis (*International – National – Regional – County/Vice-County – Local*). For botanical species list compiled in full, see **Appendix II**.
- 3.10 In combination with assessing the area in relation to flora and habitats of conservation importance, the land was also assessed in relation to the presence of invasive non-native species (INNS) as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) (as amended) and Schedule 2 of The Invasive Alien Species (Enforcement and Permitting) Order 2019 (IASO).

Biodiversity Net Gain

- 3.11 Assessment of baseline Area Habitat / Hedgerow / Watercourse units have been carried out and assessed separately in accordance with the guidance, principles, and rules – where present on site.
- 3.12 Measurement of habitats was carried out using a combination of desktop software – QGIS, Google Earth and MAGiC Maps 2023/24, whilst physical habitat measurements were also taken in the field during ground truthing, where necessary.

Faunal assessment

- 3.13 During the site walkover, direct presence and / or evidence of priority fauna encountered was documented, whilst in tandem the area was assessed for the potential to support the priority species discussed in **Section 6.0**. The walkover also aimed to identify any ephemeral pools or unmapped waterbodies.

Bats

- 3.14 Criteria for preliminary bat roost assessment are based upon the determinants given in the Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) (see **Figures 3.1 – 3.3**).
- 3.15 The site was assessed for bats; a daytime bat walkover (DBW) was undertaken to observe, assess and record any habitats or features suitable for usage by bats, either as commuting, foraging or roosting provision. Wider connectivity to other habitats was also considered during the DBW.
- 3.16 Buildings and other permanent / semi-permanent structures (where present) would be subject to a preliminary roost assessment (PRA), to identify potential areas which may be of value to bats and to determine evidence of use. This typically involves a systematic search of the external aspects of any structure(s), comprising an investigation of features known to be used by bats (for example roofing material, soffits, fascia, lead flashing hanging tiles) using a high-powered torch and close-focus binoculars, where necessary. Where possible, an internal assessment of the structure was also carried out, with the aid of a high-powered torch and endoscope, where necessary, to identify any evidence of bat use of a structure. Field signs of bats typically comprise bat droppings, urine splashing, fur-oil staining, incidental animal presence, dead specimens and / or the presence of prey items, such as moth wings.
- 3.17 Trees (where present) would be subject to a ground level tree assessment (GLTA) using equipment such as close-focus binoculars and a high powered-torch. Potential roost features (PRFs) can include woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed lifted bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached climbing species with stem diameters in excess of 50mm or pre-existing bat / bird boxes. These PRFs can then be determined as PRF-I or PRF-M, dependent on their suitability for individual / low numbers of bats or their capability to host multiple bats.
- 3.18 Factors considered during the preliminary roost assessment include:
- Practical experience of the surveyor,
 - Knowledge of bat species relevant to the site location and geographical range,
 - Nature of the immediate / surrounding habitat in relation to foraging opportunities,
 - Presence / absence of roost potential,
 - Value and types of roost potential, if present (i.e. – maternity, hibernation, transitional).

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Potential suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible ^a	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b 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 and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure 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 ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees 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.
a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute). b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten <i>et al.</i>, 2016 and Jansen <i>et al.</i>, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.		

Figure 3.1 – BCT guidelines extract

Table 4.2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement.	
Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Figure 3.2 – BCT extract on tree roost suitability criteria

Table 6.2. Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats, to be applied using professional judgement.	
Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Figure 3.3 – BCT extract on tree roost categorisation criteria

Birds

- 3.19 The site was inspected for evidence of nesting and suitability for relevant species. Bird species observed and heard were recorded on site, and a search was made for nest material, or areas suitable for nesting – this can take the form of searching structures, woody vegetation, semi-aquatic vegetation such as reeds and / or ground flora. Elevations of any buildings or structures on site were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example (list non-extensive):
- **House martin** (*Delichon urbica*): Birds of Conservation Concern (BoCC) red status,
 - **House sparrow** (*Passer domesticus*): BoCC red status,
 - **Starling** (*Sturnus vulgaris*): BoCC red status,
 - **Swift** (*Apus apus*): BoCC red status.

- 3.20 Additional to the site's capacity to support generally common species for breeding, the area was also subject to an assessment for wider capacity to support species with extra protection under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended) and other priority species.

Other terrestrial mammals

- 3.21 The walkover included an assessment for the presence / suitability of badger (*Meles meles*), which includes signs of activity such as prints, hairs, digging, setts, 'runs' leading to and from a sett and the existence of latrines or 'snuffle' holes where badgers have foraged in the ground.
- 3.22 The site was also assessed for the presence / suitability of European hedgehog (*Erinaceus europaeus*) and other priority mammals.

Herpetofauna

- 3.23 During desktop assessment, a 250 metres radial search was undertaken from a site central grid reference in relation to the presence of ponds, ditches or other water bodies that may support great crested newt (GCN) (*Triturus cristatus*). The information gathered would then be used to aid in establishing if more detailed surveys are required.

NB: *English Nature's (now Natural England) Great Crested Newt Mitigation Guidelines (2001) states ponds within 500m of a proposed development site should be considered for their potential to support GCN, however, in some instances this distance may be reduced to 250m due to the presence of physical barriers and obstructions or based on the likely magnitude of impacts arising from the proposed development.*

- 3.24 Following current best practice considering the partial roll out of District Level Licencing (DLL) across England and based on likely effects, a proportionate assessment of the water bodies range within 250m from site has been applied. Where a development is anticipated to affect GCN the search can be extended up to 500m or more.
- 3.25 The GCN Habitat Suitability Index (HSI) is a quantitative measure of habitat quality evaluating the suitability of habitat for GCN. The HSI outputs a result of between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts, with a result of 1 being optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis but takes into account surrounding terrestrial habitat and local pond density. The tool is particularly useful in survey and mitigation; one benefit is that it can be undertaken in a single field visit (with supporting desk work) and at any time of the year (though some variables are more easily measured in spring and summer).

Its main uses are:

- *In surveys, to assess habitat quality in a repeatable, objective manner. In particular, the HSI allows individual factors that influence newt presence to be easily identified. These factors could help explain a very high or very low count. A high HSI can justify employing additional survey effort or methods if no newts are found initially.*
- *In impact assessments, to allow a measure of how damaging a development could be. HSI might also be used as a screening tool to select no impact or minimal impact options.*
- *In risk assessments, helping to decide whether an offence might be committed, and therefore whether a licence should be applied for. If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of GCN presence. Hence, with due care and in limited circumstances the HSI might be used in the absence of newt surveys to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (e.g. development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha). The developer should be aware that there would still be a risk of committing an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt presence/absence survey would be required to confirm this.*
- *In habitat enhancement, HSI could be used to identify the low-scoring factors in an existing pond that need addressing to improve its quality for newts.*
- *In post-development monitoring, to allow an assessment of habitat condition.*

3.26 GCN HSI Limitations:

The GCN HSI is not a substitute for undertaking newt surveys; it indicates but cannot confirm presence or absence of GCN. A licence application that infers GCN presence solely from HSI data (i.e. no newt survey data presented) will be rejected. Very low HSI scores may be used along with scheme details to infer a minimal chance of committing an offence in low impact situations. This is on a risk assessment basis and developers should be aware of the potential hazards of this approach. Care should be taken when interpreting low HSI scores; for example, a low scoring pond close to an occupied newt pond may still support newts.

3.27 The site and surrounding habitats were also assessed relative to their potential to offer suitability for wider, generalist amphibians, in addition to GCN, for example common toad (*Bufo bufo*) and common frog (*Rana temporaria*).

3.28 The site and its surroundings were assessed for suitability for use by reptiles, with particular attention paid to features that could be used as basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, leaf litter, piles of hardcore) and opportunities for foraging (e.g. rough grassland and scrub). Beebee & Griffiths (2000) state specific habitat preferences of common UK reptiles:

- **Common lizard** (*Zootoca vivipara*) use a variety of habitats from woodland glades to heaths, walls and pastures, as well as brownfield sites,
- **Slow worm** (*Anguis fragilis*) use a variety of habitats, similar to the common lizard, however are more associated with gardens and brownfield sites.

3.29 In assessment of a site for reptiles several important habitat characteristics are considered, outlined in **Table 3.2** below, as derived from the Reptile Habitat Management Handbook (Edgar, 2010).

Table 3.2 – Important habitat characteristics for reptiles

1. Location (in respect of species range)	7. Connectivity to good quality habitat
2. Vegetation structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Invertebrates

3.30 The site was assessed for the presence of features that should be considered of high value to invertebrates. Several important features were considered, based on the assemblage descriptions provided within the Research Report “Surveying terrestrial and freshwater invertebrates for conservation evaluation” (NERR005, 2007), including but not limited to:

- Wood decay,
- Early successional mosaic habitat,
- Shaded ground layer,
- Still and flowing water.

Quality Assurance (QA)

- 3.31 The results, conclusions and recommendations of this report are based on a number of factors i.e.
- Skills and experience of the surveyor,
 - Knowledge of flora and fauna relevant to the site location and geographical range,
 - Nature of the immediate and surrounding habitat in relation to shelter, foraging and commuting opportunities.
- 3.32 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, Director of Tyrer Ecological Consultants Ltd, and her assessment concurs with the findings and recommendations of the surveyor Mr. H. Mulligan.

4.0 Limitations

- 4.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on site. Species listed within **Appendix III** are recorded from a combination of the seasonal timing that the survey took place and botanical identification skills of the surveyors. Many plant species are only evident at certain times of the year; consequently, it is possible that some plant species may have gone undetected.
- 4.2 The optimal time of the year to carry out a preliminary ecological appraisal / UK Habitats survey is April to October; the survey was therefore carried out within an optimal period.
- 4.3 The survey took place at a time when bats are outside of their active season and birds are outside of their breeding season; as such, there is less chance of encountering direct evidence of these groups. However, suitability for these groups can be readily identified at any time of the year, and thus survey timing is not considered to be a significant constraint in this instance.
- 4.4 No access was possible to one of the two standing waterbodies within 250m of the site, given its presence within private land (**P1**). However, data pertaining to this pond is available on MAGiC Maps and within ecological documentation readily available online; this data has been utilised to help inform the impact assessment, while a precautionary approach has also been taken with this in mind. As such, this is not considered to be a significant constraint.
- 4.5 In considering all potential survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report.

5.0 Desk Study Results

- 5.1 The site is located to the east of Ringley Road on the western edge of Whitefield, a suburb of Bury, approximately 8.5km north-west of Manchester city centre. The majority of the site is comprised of rough, unmanaged grassland, alongside woodland forming part of the golf course, while the south-east of the site features a formerly developed area, now neglected. The site has a total area of 2.32 ha (see **Figure 5.1** below for location of the site within the surrounding landscape).



Figure 5.1 – Location of red line boundary within surrounding landscape, with coloured dots indicating Tyrer data records © Google Earth Pro 2024

- 5.2 The immediate environment surrounding the site is largely comprised of open, semi-natural habitats; to the north and east is positioned the golf course, which forms a large area of actively managed grassland, woodland blocks and sand bunkers, while to the west beyond Ringley Road lies a network of open arable grassland, divided by tree lines and hedgerows, minor lanes, farm developments and waterbodies. In contrast to this, the village of Stand lies to the south-east, bringing more residential infrastructure, with semi-detached housing and associated gardens.

Relevant Planning History

- 5.3 A search of the Bury Council planning portal revealed that a single previous planning application has been undertaken within the golf course in the past 10 years, a 2022 application concerning the installation of telecommunications equipment alongside associated landscaping (Ref: **68646**), though no ecological documentation has been provided / is readily available as part of this application. A number of applications have been undertaken on nearby properties along Ringley Road in recent years that have included ecological documentation; most notably, a PEA was undertaken by Collington Winter Environmental as part of an application in relation to the nearby Hurstwood, south of Ringley Road (Ref.: **70114**). Where relevant, findings from this PEA have been referenced within this section.

Designated Sites

- 5.4 Five statutory designated sites for nature conservation are present within a 2.0km search radius of the site (see **Table 5.1** below for information and **Figure 5.2** for a visual aid).

Table 5.1 – Statutory Designated Sites within 2.0 kilometres of site and reasons for designation

Site name	Designation type	Interest features
Chapelfield (0.5 kilometres north)	Local Nature Reserve (LNR)	Natural England Citation states: “Birds, Waterfowl, Dragonflies and other aquatic fauna”
Clifton Country Park (2.0 kilometres south-west)	LNR	Natural England Citation states: “Habitats include: woodland 70%, open water 10% and semi-natural grassland 20%. Here you can explore acres of open woodland and meadows, enjoy lakeside walks, bring a picnic, go fishing or discover the hidden remnants of the city's industrial past.”
Mere Clough (1.6km south-east)	LNR	Natural England Citation states: “Large woodland, important for bird life.”
Philip's Park (1.2km south-east)	LNR	Natural England Citation states: “Semi-natural woodland with wildflowers characteristic of ancient woodlands. Some open glades have remnant heathland. Species rich meadows with willow scrub. There are 4 mill lodges, 2 mill ponds and some seasonal ponds. The woodland is dominated by oak, sycamore, birch, hawthorn and holly with willow and alder in the valley bottom. The species rich meadows include cuckoo flower, common spotted orchid, black knapweed, tufted vetch, and bird's foot trefoil. Butterflies such as orange tip and meadow brown are abundant.”
Springwater Park (0.3km north)	LNR	Natural England Citation states: “River Irwell flows along the Northern Boundary, Ponds with invertebrate life, Meadow butterflies, Woodland birds, Bats”

- 5.5 The site is also positioned within the Impact Risk Zone (IRZ) for a number of Sites of Special Scientific Interest (SSSI), including Ashclough at a distance of approximately 2.7km to the west. Based on the IRZ – Threshold Checker³ available on MAGiC Maps 2024, the proposals do not present a likely risk of having a harmful effect on the surrounding terrestrial SSIs and the Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites that they underpin.

³ See:

[https://irz.geodata.org.uk/IRZ/step2.html?irzcode=3111221502000¬es=&location=351359,399223%20\(IRZ%20polygon%20centre\)](https://irz.geodata.org.uk/IRZ/step2.html?irzcode=3111221502000¬es=&location=351359,399223%20(IRZ%20polygon%20centre))

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- 5.6 Where no impact to SSSI's is predicted, NE issue the following advice within their standing guidance on SSSI impact zones (NE, 2019):

"It is important to note that the SSSI IRZs only indicate Natural England's assessment of likely risk to the notified features of SSSIs. Where they indicate such a risk is unlikely, this does not mean that there are no potential impacts on biodiversity or the wider natural environment."

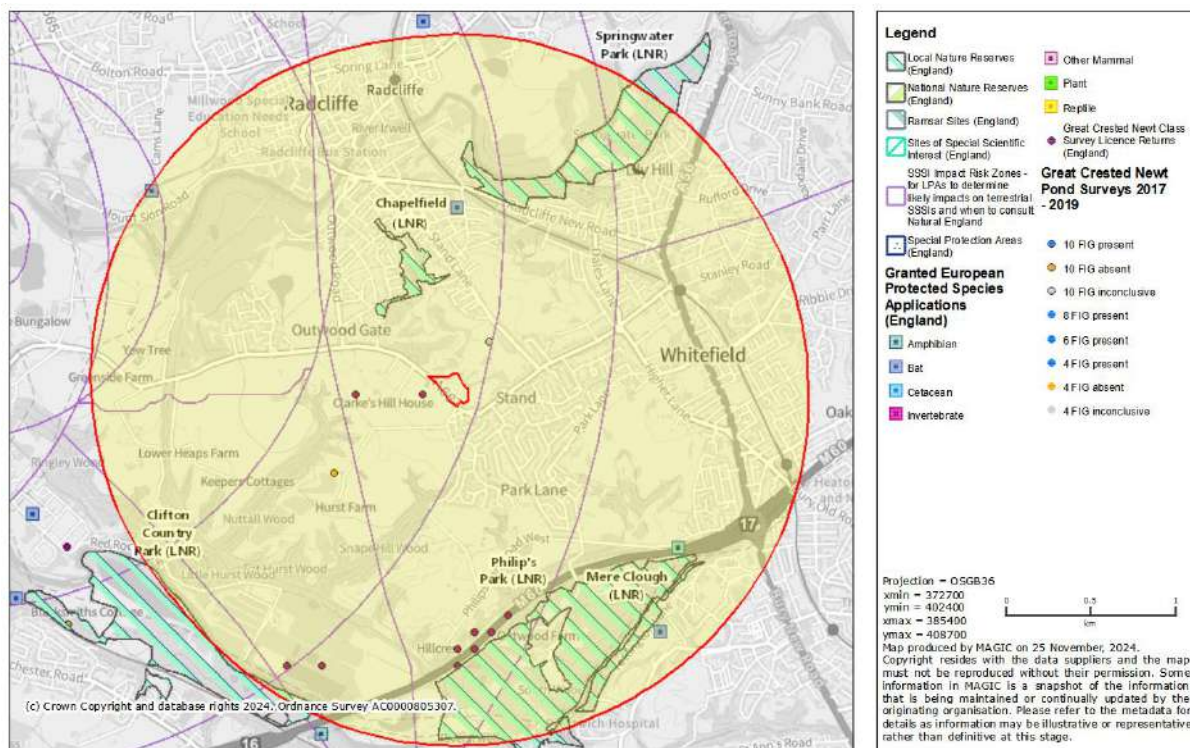


Figure 5.2 – Designated site / EPSML data for area within 2.0km of application site © MAGiC Maps 2024

- 5.7 Six Sites of Biological Importance (SBI) are also present within a 2.0km buffer of the site. See **Table 5.2** for more information.

Table 5.2 – SBI within 2.0 kilometres of application site and reasons for designation

Site name	Distance from site	Selection Criteria
Manchester, Bolton & Bury Canal	1.9km north-west	Ponds (FW2); Canal (FW3)
Philips Park & North Wood	0.6km south	Ancient Woodland (Wd1); Grassland (Gr2); Ponds and Lodges (Fw2)
Reservoirs at Chapelfield	0.5km north	Lodge (Fw2)
Rhodes Farm Sewage Works	1.5km south	Birds (Br6 & WB1); Amphibians (Am1); Mammals (Mm2)
Ringley Woods (East)	0.4km south	Ancient Woodland (Wd1); Grassland (Gr2)
Sailor's Brow & Springwater Park	1.1km north	Ponds (Fw2), Habitat Mosaics (FM); Aquatic Inverts (AI1)

Biodiversity Net Gain

- 5.8 The Greater Manchester Local Nature Recovery Strategy Pilot (Draft) provides information pertaining to the application of strategic significance to areas and habitats within Greater Manchester. Based upon this, the site does not appear to fall within any areas designated for nature recovery.
- 5.9 The Bury Metropolitan Borough Council Policy Map⁴ was accessed and used to assess the strategic significance of the site in terms of the local nature recovery strategy (LNRS). The map revealed that the application site falls within the green belt.
- 5.10 The Greater Manchester Biodiversity Action Plan (GMBAP) was also accessed to assist with determining the strategic significance of on-site habitats.

Habitats

- 5.11 An online search of MAGiC Maps identified the following priority habitats within a 2.0km search radius (see **Table 5.3** below).

Table 5.3 – Priority habitats located within 2.0km buffer

Habitat Type	Designation	Distance to site
Ancient & semi-natural woodland	Ancient Woodland	0.4km south
Deciduous woodland	Priority Habitat Inventory	0.1km north
Good quality semi-improved grassland	Priority Habitat Inventory	1.2km west
Lowland dry acid grassland	Priority Habitat Inventory	0.7km north-west
Lowland fens	Priority Habitat Inventory	0.7km south-west
Open mosaic habitat	National Land Use Database	0.2km west

Vegetation

- 5.12 The site is positioned within a 'low' zone of the summarised botanical value map 2022⁵ on MAGiC Maps 2024, indicating that the wider area is of low botanical value due to a low coverage of species indicative of priority habitats, and no indicators for rare, scarce and threatened species, though it is noted that there was poor survey coverage within the area.

Bats

- 5.13 An online search of MAGiC Maps revealed that three European Protected Species Mitigation Licences (EPSML) for bats have been granted within a 2.0km radius of the site boundary, see **Table 5.4** below for further details.

Table 5.4 – Bat EPSML data records from MAGiC Maps

Licence Number	Distance from site	Context (where relevant)
EPSM2009-1596	1.0m north	Common pipistrelle; destruction of breeding site and resting place

⁴ See: <https://maps.bury.gov.uk/ExternalWebMap/Map.aspx?MapName=PolicyMap>

⁵ Further information available <https://www.data.gov.uk/dataset/86b755f2-b28f-48c9-b5b6-648d6bab6c40/summarised-botanical-value-map>

2015-16549-EPS-MIT	1.8km south-east	Common pipistrelle; destruction of resting place
2018-37079-EPS-MIT	2.0km north-west	Common pipistrelle; destruction of resting place

- 5.14 Tyrer Ecological Consultants Ltd have previous and ongoing projects involving bats within the 2.0-kilometre area surrounding the site – as such, the following biological data (see **Table 5.5** overleaf) is readily available to the Ecologist from the company database – all data has been previously submitted to the local ecological records centre (LERC) serving the area, which, in this case, is GMLRC.

Table 5.5 – Records of bats held by Tyrer Ecological Consultants located within 2.0km of the site

Year	Distance from Site	Context (where relevant)
2015	1.8km south-east	Common pipistrelle activity.
	1.8km south-east	Pipistrellus sp. day roost.

- 5.15 The habitats in the immediate environment offer strong suitability for bats, with numerous woodland blocks, tree lines, and scattered garden trees offering strong connectivity to wider semi-natural habitats, while opportunities for roosting may also exist in the development. The species considered most likely to exist within proximity is the common pipistrelle, typically linked with roosting in occupied dwellings, alongside the brown long-eared bat, a species associated with foraging in deciduous woodland.

Birds

- 5.16 Given the presence of open agricultural land and rough grassland in proximity to the site, a variety of bird species are considered likely to exist in proximity to the site, including raptors such as barn owl (*Tyto alba*) and ground nesting species such as curlew (*Numenius arquata*) and lapwing (*Vanellus vanellus*), alongside more common garden and woodland species. The mosaic of farmland and woodland interspersed with native hedgerows and tree lines likely supports a moderate diversity of bird species.
- 5.17 The aforementioned linear and area features suitable for bats would also afford connective habitat for bird species in the wider landscape.

Other Terrestrial Mammals

- 5.18 Woodland likely to support badger is present in the extending environment, particularly beyond Ringley Road, with connectivity to the woodland onsite and no major barriers to dispersal for this species. In addition, the habitats in proximity to the site are highly likely to support hedgehog, a species highly adapted to urbanisation, with grasslands and garden habitats with strong connectivity to the site.

Herpetofauna

- 5.19 There is a single EPSML pertaining to GCN within a 2.0km radius of the site; see **Table 5.6** below for further information and **Figure 5.2** previous for visual aid.

Table 5.6 – GCN EPSML data records from MAGiC Maps

Licence Number	Distance from site	Context (where relevant)
2020-46281-EPS-MIT	1.8km south-east	Damage of resting place

- 5.20 In addition to the above, ten present GCN class survey license returns are present within 2.0km of the site; while eight of these records are located beyond extensive development and at a minimum of 1.2km from the site, the other two records are located 0.5km and <0.1km to the west within the farmland beyond Ringley Road, both dating from 2016. In addition, one 'Inconclusive' GCN Pond Survey 2017 – 2019 is present <0.3km to the north-east, dating from 2018.
- 5.21 Based on the desktop assessment and ground truthing during the survey, there are two standing waterbodies within 250m of the application site, located approximately 20m to the west (**P1**) and 250m to the north-east (**P2**) respectively (see **Figure 5.3**).

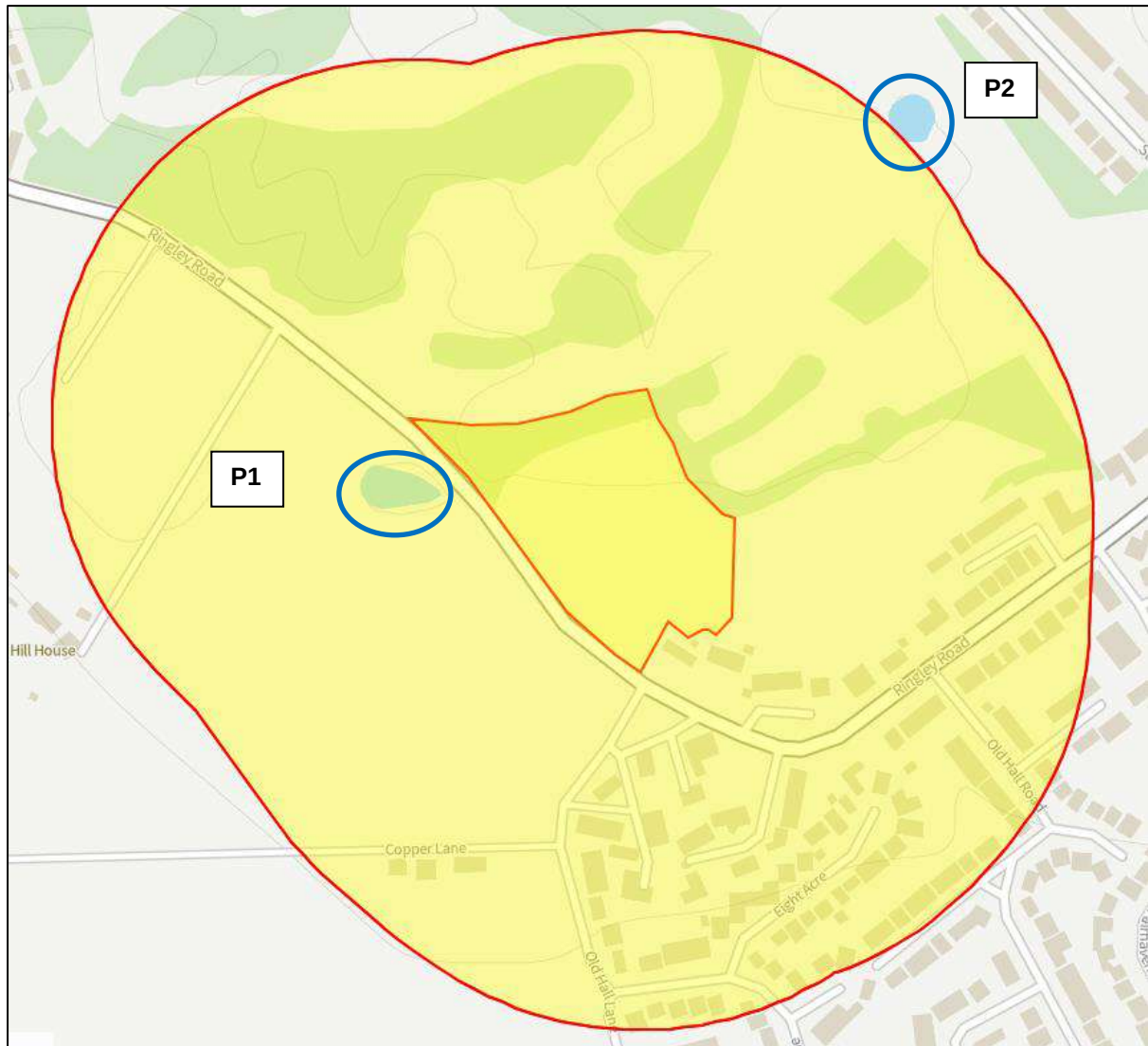


Figure 5.3 – Standing waterbodies within 250m of the application site © MAGiC Maps 2024

- 5.22 Based upon the information available on MAGiC Maps, **P1** was subject to the 2016 present GCN class survey license return mentioned previously, while **P2** was host to the inconclusive GCN pond survey 2017 – 2019. As such, GCN were confirmed to be present in 2016 just 20m to the west of the site, while in 2018 they could not be ruled out 250m to the north-east.
- 5.23 However, despite the 2016 record, Collington Winter's PEA mentioned previously, undertaken in December 2023, found that P1 was dry and no longer holding water, something that also appears to be the case based upon satellite imagery. Given that the pond was dry in December, it is considered unlikely that it would hold water during the peak months for GCN.

Therefore, the 2016 present record for P1 may no longer be relevant, with the pond now holding no suitability. However, this information cannot be conclusively relied upon.

- 5.24 The immediate surroundings are considered to offer moderate suitability for GCN; large areas of woodland offer potentially suitable terrestrial habitat, and a pond known to support GCN is present directly beyond Ringley Road, though the highly managed nature of the grassland within the golf course is unlikely to offer any cover for this species.
- 5.25 Based on the habitats described above, opportunities for more generalist amphibians are present in the immediacy, given that these species are less specialised than GCN and would find suitability within the woodland parcels and waterbodies.
- 5.26 The extending environment also offers suitability for reptiles, with the mosaic of grassland, woodland and sand bunkers offering a mosaic of habitats within the golf course, though the highly managed nature of the course could reduce the likelihood of presence.

Invertebrates

- 5.27 While the woodland onsite and in the immediacy may support a diverse assemblage of invertebrates, it is considered unlikely to host nationally significant populations, given the abundance of woodland within the extending environment.

6.0 Field Survey Results

6.1 Habitat Survey & BNG Baseline Summary

6.1.1 See **Table 6.1.1** (below) for baseline information and habitat descriptions; refer to **Appendix I** for any supporting imagery; additional scientific names are given in **Appendix III**. Refer to **Appendix V** – UK Habitats Map for the location of described habitats & Target Notes (TN). **Appendix II** features full Condition Assessment Sheets. This section should be read in conjunction with the BNG Baseline Summary of Site A within the separate PEA report, as both sites have been combined within the BNG baseline assessment, given their combined planning application.

Table 6.1.1 – UK Habitat types within the survey area

Area habitat	Sec. Codes	Description
f2f Other wetlands Metric: Other neutral grassland Habitat Ref.: 1	-	Towards the south-east of the site lies a small, inundated area of wetland, holding water on the day of the survey, dominated by tall stands of reed canary-grass (<i>Phalaris arundinacea</i>), with tufted hair-grass (<i>Deschampsia cespitosa</i>), soft-rush (<i>Juncus effusus</i>) and hard rush (<i>Juncus inflexus</i>) the only other species noted within this parcel. Given that 'Other wetlands' does not exist within the BNG Metric, this habitat has been entered as the 'Medium' distinctiveness 'Other neutral grassland'; while evidently a wetland parcel, it is considered that none of the wetland habitat types within the Metric align with the distinctiveness and value of this parcel, all being 'High' or 'Very high' distinctiveness habitats, which would oversell the value of this parcel and inflate the number of units generated. Condition: Poor Habitat Area: 0.0317 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
g3c Other neutral grassland (1) Habitat Ref.: 2	12 Scattered bracken 14 Scattered rushes 16 Tall forbs 128 Tall or tussocky sward 502 Seasonally wet 509	The majority of the site is comprised of tall, unmanaged swards of neutral grassland, which were relatively marshy on the day of the survey. Species density is around 8 species per m², and includes varied graminoids, such as tufted hair-grass, Yorkshire-fog (<i>Holcus lanatus</i>), false oat-grass (<i>Arrhenatherum elatius</i>) and common couch (<i>Elymus repens</i>), alongside scattered areas of both soft-rush and hard rush, with forbs such as common knapweed (<i>Centaurea nigra</i>), creeping thistle (<i>Cirsium arvense</i>), meadow buttercup (<i>Ranunculus acris</i>), and meadow vetchling (<i>Lathyrus pratensis</i>), alongside indicators of enrichment such as stands of common nettle (<i>Urtica dioica</i>) and willowherbs (<i>Epilobium</i> sp.). Scattered areas of bramble (<i>Rubus fruticosus</i> agg.) scrub are present throughout, alongside stands of bracken (<i>Pteridium aquilinum</i>). Given the low cover of species indicative of acidic grasslands, such as bracken, common bent (<i>Agrostis capillaris</i>) and sheep's fescue (<i>Festuca ovina</i>), it is considered likely that these areas have acidic influence but have become more neutral and enriched over time. Himalayan balsam INNS (<i>Impatiens glandulifera</i>) is also encroaching in several areas throughout this grassland.

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	Acidic substrate	Condition: Moderate Habitat Area: 1.0873 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
g3c Other neutral grassland (2) Habitat Ref.: 3	12 Scattered bracken 15 Rushes dominant 16 Tall forbs 128 Tall or tussocky sward 502 Seasonally wet 509 Acidic substrate	To the north of the site is a smaller area of neutral grassland bordering the above, similar in character but with a much increased coverage of rushes, being dominated by soft-rush. Species composition is otherwise largely similar, with scattered areas of bramble scrub and bracken, though appears to be less enriched than the wider neutral grassland, and thus has an increased coverage of forbs less typical of enrichment such as red clover (<i>Trifolium pratense</i>), creeping cinquefoil (<i>Vicia hirsuta</i>) and hairy tare (<i>Vicia hirsute</i>). In addition, Himalayan balsam INNS is also encroaching into this habitat.
		Condition: Moderate Habitat Area: 0.3128 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
g4 Modified grassland Habitat Ref.: 5	16 Tall forbs 518 Neglected	The south-east of the site features a small area of modified grassland, appearing from satellite imagery to have previously acted as part of the driving range for the golf course, which has now become overgrown and neglected. Species density is approximately 5 per m², and includes forbs typical of enrichment such as creeping buttercup (<i>Ranunculus repens</i>), ribwort plantain (<i>Plantago lanceolata</i>) and common ragwort (<i>Jacobaea vulgaris</i>), with tall stands of common nettle, and graminoids such as cock's-foot (<i>Dactylis glomerata</i>) and Yorkshire-fog.
		Condition: Poor Habitat Area: 0.0625 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
h3d Bramble scrub Habitat Ref.: 7	-	Various areas throughout the site are dominated entirely by overgrown bramble scrub, particularly along the western site boundary, with other species largely absent.
		Condition: N/A Habitat Area: 0.3119 ha Strategic Significance: Area / compensation not in local strategy / no local strategy

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h3h Mixed scrub Habitat Ref.: 8	-	A small area to the east of the site is comprised of scrub dominated almost entirely by tall stands of overgrown dogwood (<i>Cornus sanguinea</i>), though Himalayan balsam INNS is prevalent to the north of this parcel. Condition: Poor Habitat Area: 0.0361 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
u1f Sparsely vegetated urban land Metric: <i>Ruderal/ Ephemeral</i> Habitat Ref.: 13	81 Ruderal or ephemeral 82 Vacant land 518 Neglected 532 Scattered grass	An area to the south of the site, previously host to a building and sealed hardstanding for the driving range, has now become overgrown by ruderal vegetation; species composition is dominated by various mosses such as springy turf-moss (<i>Rhytidiadelphus squarrosus</i>), stands of grasses such as Yorkshire-fog and false oat-grass and perennial rye-grass (<i>Lolium perenne</i>), while the edges are being encroached by bramble and dogwood. Condition: Moderate Habitat Area: 0.0988 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
w1g Other woodland; broadleaved (1) Habitat Ref.: 15	29 Plantation	The north-western corner of the site features an area of deciduous plantation woodland, forming part of the wider golf course, with a variety of species present such as sycamore (<i>Acer pseudoplatanus</i>), pedunculate oak (<i>Quercus robur</i>), willow (<i>Salix sp.</i>), silver birch (<i>Betula pendula</i>) and wild cherry (<i>Prunus avium</i>). Understorey is limited to graminoids and forbs given its active management as part of the golf course. Condition: Moderate Habitat Area: 0.3175 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
w1g Other woodland; broadleaved (2) Habitat Ref.: 16	29 Plantation	To the south-east of the site is a small stand of distinct woodland; this appears to be slightly older than the above woodland, and is comprised predominantly of willow and pedunculate oak, over an understorey dominated by bramble, common nettle and bracken. Two of the willow trees within this section are covered densely in common ivy (<i>Hedera helix</i>) (Target Note 4); see Section 6.3 for further information regarding these trees. In addition, variegated yellow archangel INNS (<i>Lamium galeobdolon</i>) is located within this parcel.

		Condition: Poor Habitat Area: 0.0576 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
Individual trees Habitat Ref.: 19	-	Ten individual trees are present onsite that don't form part of the wider woodland blocks, with each being condition assessed as 'Moderate'; these include eight small-sized (DBH between 7.5cm and 30cm) pedunculate oaks within the neutral grassland parcels (T1 – T8), alongside a large (DBH between 60cm and 90cm) sycamore (T9) and a medium (DBH between 30cm and 60cm) laburnum (<i>Laburnum anagyroides</i>) (T10) located within the u1f parcel. Condition: Moderate Habitat Area: 0.0855 ha Strategic Significance: Area / compensation not in local strategy / no local strategy
Linear habitat	Sec. Codes	Description
h2a6 Other native hedgerow Hedge Ref.: 2	11 Hedgerow with trees 116 Flailed hedgerow	A short stretch of closely flailed hawthorn (<i>Crataegus monogyna</i>) hedgerow is present along the western boundary of the site along Ringley Road, interspersed with sycamore trees. Himalayan cotoneaster INNS (<i>Cotoneaster simonsii</i>) was also observed at the base of this hedgerow. Condition: Moderate Habitat Length: 0.2404 km Strategic Significance: Formally identified in local strategy
w1g Other woodland - broadleaved Hedge Ref.: 4	33 Line of trees	A line of mixed deciduous trees runs from the southern tip of the site at Ringley Road along the south-eastern boundary, featuring species such as sycamore and willow. Condition: Moderate Habitat Length: 0.0555 km Strategic Significance: Area / compensation not in local strategy / no local strategy
Target Notes:	1	Location of Himalayan balsam INNS
	2	Location of variegated yellow archangel INNS
	3	Location of Himalayan cotoneaster INNS
	4	Location of trees with PRFs

6.1.2 The native hedgerow is categorised as a priority habitat on the UK BAP, given that it is comprised of over 80% native species.

6.2 Vegetation

Notable species

- 6.2.1 No species of conservation importance were located anywhere within the site during the appraisal.

Invasive non-native species (INNS)

- 6.2.2 Three INNS, listed under either Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) or Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order (2019) were observed within the red line boundary, Himalayan balsam, variegated yellow archangel, and Himalayan cotoneaster. See **Appendix V** for approximate locations of the species.

6.3 Bats

- 6.3.1 No buildings are present within Site B, and thus no PRAs were undertaken in relation to any built structures.
- 6.3.2 During the GLTA of the various individual trees onsite, two willow trees located within the south-eastern patch of woodland (w1g (2); **Ref.: 15, Target Note 4**) were noted to be densely covered in common ivy and featured numerous dead branches in the canopy. Given the age and character of these trees, it is considered possible that this cover of ivy could potentially be concealing suitable PRFs that could be utilised by bats. As such, further inspection is necessary to determine the potential of these trees to support roosting bats.
- 6.3.3 It is understood that this area of woodland is to be retained post-development. However, should these trees be proposed for felling, further inspection of the trees will be necessary, to conclusively ascertain the bat roost suitability of the trees and/or presence of any PRFs. As such, these two willows have been categorised as '**FAR**' in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023).
- 6.3.4 During the GLTA of all of the other trees onsite, both within the woodland parcels and individual trees, no obvious PRFs were identified by the surveyor, with the trees lacking any features that would offer any crevice or roosting potential. As such, all of the other trees onsite are categorised as pertaining to a bat roost suitability of '**None**'.
- 6.3.5 From a habitat suitability assessment in relation to bat activity, the habitats onsite are likely of high value for bats, with the numerous individual trees and woodland blocks offering foraging potential and acting as part of a commuting corridor to wider woodland blocks in the extending habitats. The presence of bats within the site boundary on a foraging and commuting basis is considered likely.

6.4 Birds

- 6.4.1 In relation to WCA Schedule 1 specially protected bird species such as barn owl (*Tyto alba*), the site provides no suitable nesting platforms, direct evidence, or evidence of historic nesting. However, the habitats onsite are considered to offer foraging suitability for this species, given the presence of rank grassland and wider arable land to the west. However, given the lack of evidence onsite, impacts to specially protected bird species can likely be ruled out.
- 6.4.2 In relation to more common bird species, the woodland, scrub and individual trees onsite offer an abundance of suitable nesting platforms, are likely to support a variety of breeding passerine birds during the nesting bird season of March – August inclusive. This could include urbanised species such as swallow or house martin, or common garden bird species such as robin (*Erithacus rubecula*), wren (*Troglodytes troglodytes*) and blackbird (*Turdus merula*).

6.5 Other Terrestrial Mammals

Badger & hedgehog

- 6.5.1 No field signs of badger, such as latrines, pathways, hairs, footprints, or feeding signs, for example snuffle holes and scratched trees / logs, were located within the application site boundary. However, given the presence of woodland onsite and in proximity to the site with strong connectivity, with no barriers to dispersal, the presence of badger onsite is considered to be possible.
- 6.5.2 Whilst no direct evidence of hedgehog was identified, the site habitats provide potentially suitable refuge with the taller vegetation providing suitably protected areas for rest, whilst the shrubbery and woodland may provide a suitable foraging habitat. Their occasional presence within the site is therefore considered possible.

6.6 Herpetofauna

Great crested newt (GCN)

- 6.6.1 Important elements to consider when assessing likely impacts against GCN includes:
- The scale, nature and magnitude of proposals,
 - Site proximity to a potential breeding pond and to any additional ponds,
 - Habitat linkage / barriers between potential breeding ponds and the site,
 - Nature and extent of available terrestrial habitat around the pond,
 - Area of site habitat loss,
 - Nature of habitat to be lost and potential value to GCN,
 - Most up to date Government guidance considering EPS.
- 6.6.2 As derived from the desktop assessment, while there is a single EPSML and ten present GCN class survey license returns present within 2.0km of the site, the EPSML and eight of the license returns are beyond 1.2km from the site and extensive development. However, the other two records, dating from 2016, are located 0.5km to the west and 20m to the west respectively. In addition, one 'Inconclusive' GCN Pond Survey from 2018 is present 250m to the north-east.
- 6.6.3 Based upon the desktop assessment, two ponds are located within 250m of the site, **P1** (the site of the 'present' 2016 GCN record), and **P2** within the wider golf course (the site of the 'Inconclusive' GCN Pond Survey). As stated previously, no access was possible to P1 due to its presence within private ownership; however, based on satellite imagery and recent survey work undertaken regarding this pond, it is considered likely that **P1** is now dry and thus likely to be unsuitable for GCN in their aquatic phase. As such, the only accessible (and potentially, the only present) pond within 250m of the site was **P2**.
- 6.6.4 The GCN HSI was therefore applied for **P2**. See **Table 6.6.1** for waterbody description and **Tables 6.6.2 – 6.6.3** for detailed HSI results in line with current guidance. **Figure 6.6.1** showcases relative pond occupancy proportions.

Table 6.6.1 – Waterbody description within 250m radial buffer, with included HSI score

P2
P2 has an estimated area of 500m ² , likely never dries, is approximately 50% shaded 1m from shore, has no evidence of waterfowl, could potentially hold fish, and is surrounded by moderate quality terrestrial habitat with an estimated macrophyte cover of 60%. No assessment was made on water quality.
Based on the above, the HSI value of the pond has been calculated as pertaining to 0.86 – Excellent .
See Table 6.6.2 below for further information on the individual category scorings.

Table 6.6.2 – HSI quantitative assessment of the ponds

Pond Reference	P2
SI1 – Location	1.0
SI2 – Pond area	1.0
SI3 – Pond drying	0.9
SI4 – Water quality	-
SI4 – Shade	1.0
SI6 – Fowl	1.0
SI7 – Fish	0.67
SI8 – Ponds	0.7
SI9 – Terr'l habitat	0.67
SI10 – Macrophytes	0.9
HSI	0.86

Table 6.6.3 – HSI scoring chart (a suitability scoring method for GCN developed by Mr. L. Brady)

Great Crested Newt (GCN) HSI Scoring					
HSI Score	<0.50	0.50 - 0.59	0.60 - 0.69	0.70 - 0.79	>0.80
Pond Suitability	Poor	Below Average	Average	Good	Excellent

NB: The HSI for great crested newts is a measure of habitat suitability. It is not a substitute for newt surveys. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so. There is a positive correlation between HSI scores and the numbers of great crested newts observed in ponds. So, in general, high HSI scores are likely to be associated with greater numbers of great crested newts. However, the relationship is not sufficiently strong to allow predictions to be made about the numbers of newts in any particular pond.

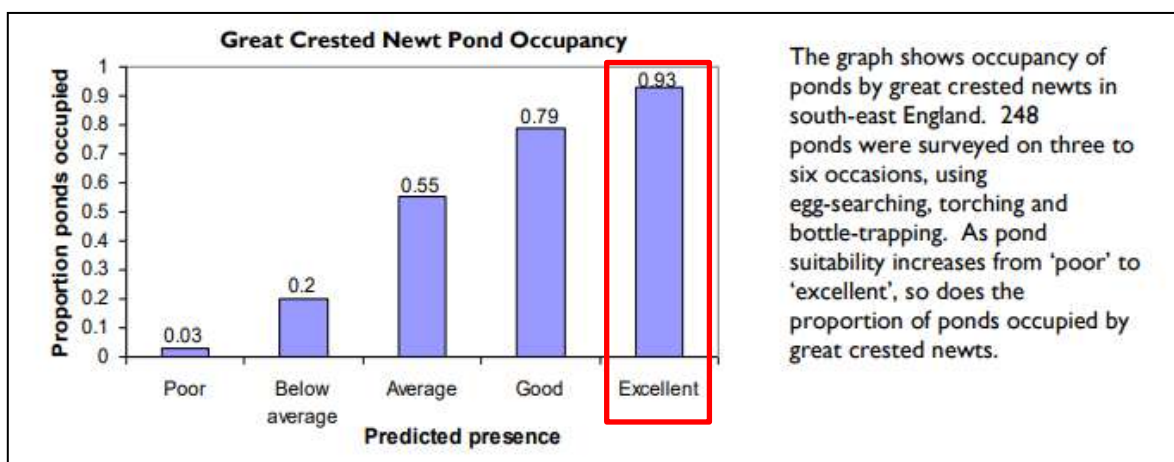


Figure 6.6.1 – GCN pond occupancy © ARC UK

- 6.6.5 Considering the above, the likelihood of **P2** supporting a population of GCN is high, and thus GCN could feasibly be present within 250m of the site. In addition, should the 2016 record for GCN in **P1** not be ignored, and the pond still hold water and support a population of GCN, GCN could also feasibly be present 20m to the west, with each of these ponds having strong connectivity to the site. In addition, any newts which may have used **P1** previous would now need alternative breeding space, should it now be dry.
- 6.6.6 However, there is a general absence of a functioning pond network in proximity to each of these ponds; they are over 400m from each other, and each has no other ponds within 250m. As such, they are both relatively isolated, with the majority of the habitat (with the exception of the site) being covered by a highly managed and disturbed golf course, thus reducing the likelihood of functional connectivity between the two.
- 6.6.6 In a terrestrial contextual assessment, the site provides relatively high value habitat for GCN, with the woodland parcels, scrub, and inundated areas of grassland offering suitable terrestrial habitat, the scrub and woodland brash throughout offering feasible hibernacula, and the hedgerow and tree line acting as potential commuting corridors.
- 6.6.7 In summary, considering the habitat onsite, the 'Excellent' suitability of **P2**, and the lack of access to **P1** (which previously hosted GCN in 2016), it is considered that GCN could feasibly be in close proximity to the site and thus could commute through the site. However, it is acknowledged that **P1** may no longer exist, and has poor connectivity to **P2**, which in turn is largely isolated from any further ponds. As such, whether **P1** still holds water, and subsequently whether it still hosts GCN, is important to ascertain and to produce an accurate impact assessment; further survey effort is thus required.

Wider amphibians

- 6.6.8 In addition to the above, the habitats onsite are considered highly suitable for common amphibians, with the inundated areas of grassland and woodland potentially offering suitability, while these species are far more robust and less sensitive than GCN. The presence of common amphibians onsite is thus considered to be likely.

Reptiles

- 6.6.9 The site also offers some suitability to reptiles, in the form of ecotones between woodland, grassland, bare ground, and scattered areas of brash, while the likely presence of amphibians as outlined above could act as a potential prey resource for species such as grass snake. In addition, there are no barriers to dispersal that would limit this group's access to the site, and thus their presence onsite is considered possible.

6.7 Invertebrates

- 6.7.1 During the survey, a large number of invertebrates were noted to be present within the grasslands onsite, given the wide range of habitat features throughout. While unlikely to be a significant population, it is acknowledged that the proposals would lead to a reduction in favourable habitat in the immediacy for this group.

7.0 Conclusions & Recommendations

Designated sites

- 7.1 The site is positioned within the Impact Risk Zone (IRZ) for a number of Sites of Special Scientific Interest (SSSI), including Ashclough at a distance of approximately 2.7km to the west.
- 7.2 Based on the IRZ – Threshold Checker available on MAGiC Maps 2024, the proposals do not present a likely risk of having a harmful effect on the surrounding terrestrial SSSIs and the Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites that they underpin.
- 7.3 In addition, the site lies within 0.6km of three SBIs, Philips Park & North Wood, Reservoirs at Chapelfield, and Ringley Woods (East), collectively cited for their ancient woodland, grassland, ponds and lodges.
- 7.4 Notwithstanding the above, the SBIs are unlikely to be affected by the proposals; the site is largely separated from the SBIs by the golf course and large areas of agricultural land, with no functional connectivity. As such, it is considered highly unlikely that the proposed development would have any impact upon the selection criteria for the SBIs.

Habitats

- 7.5 The other native hedgerow onsite is designated as a priority habitat on the UK BAP. Construction works pose a risk of impact to this habitat. It is therefore recommended that these habitats are retained, where possible.
- 7.6 Where this is not possible, then it is recommended that any loss is suitably offset. This will be secured via the implementation of a Biodiversity Net Gain plan.

Vegetation

- 7.7 No priority vegetative species were identified on the site by the surveyors during the diurnal appraisal to warrant any specific intervention measures.
- 7.8 Three INNS, listed under either Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) or Schedule 2 of the IASO (2019) were observed within the site; Himalayan balsam, variegated yellow archangel and Himalayan cotoneaster.
- 7.9 Whilst it is not illegal to host any species designated as such within a site, it is an offence, under current legislature, to knowingly permit the spread of an INNS beyond the confines of your site, either via allowing it to grow unchecked or through the irresponsible removal and dumping of waste / plant matter.
- 7.10 To prevent further spread of these species from within the site, it is recommended that they are eradicated from the site prior to development. A Method Statement should be collated by a suitably qualified ecologist or invasive species specialist outlining how these species will be removed pre-works, including details regarding site biosecurity protocols.
- 7.11 Any landscaping or planting carried out during the works should consider local soil types and habitats, and as such should prioritise native species which will better tolerate the soil type present on site and provision for faunal species present in the immediacy.

Bats

- 7.12 During the GLTA, two willow trees located within w1g (2) were assessed as pertaining to a bat roost suitability of 'FAR' in accordance with Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th ed. (2023) (see **Figure 7.1**).

Table 4.2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement.	
Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

Figure 7.1 – BCT extract on tree roost suitability criteria

- 7.13 Whilst this would normally warrant a further survey in the form of an endoscopic investigation via either climbing equipment or a Mobile Elevated Work Platform (MEWP), it is understood that this area of woodland is set to be retained in full during the works. As such, a further survey is not considered necessary. If, however, proposals are altered at any stage that results in impacts to these trees, then a further survey of any roost features should be carried out to determine usage by bats.
- 7.14 Installation of overly harsh artificial lighting as part of any development that exceeds current levels may have a negative impact upon foraging / commuting bats in the landscape, subject to their presence, particularly if increased light spillage occurs in areas that are currently free from illumination, including any retained woodland and woodland within the wider golf course. A bat-sensitive lighting plan is therefore recommended in order to avoid potential impacts to bats. Several options to consider have been listed overleaf (see **Table 7.1**), though the reader is referred to the Bat Conservation Trust's 'Bats and Artificial Lighting at Night' guidelines (August 2023) for further information.

Table 7.1 – Extract from *Bats and Artificial Lighting at Night*, BCT

Appropriate luminaire specifications: Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

Birds

- 7.15 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as barn owl, and no further surveys or recommendations are necessary in relation to specially protected birds, with no viability of nesting within the site boundary.
- 7.16 Regarding wider breeding bird species, there is an abundance of viable nesting platforms within the woodland, individual trees and shrubbery, which provide suitable nesting locations within the nesting bird season of March – August, inclusive.

NB: *All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected from destruction, damage and disturbance under the Wildlife & Countryside Act 1981 (as amended). It is a punishable offence to interfere in any way with an active nest.*

- 7.17 Any vegetation clearance should therefore be carried out outside of the breeding bird season, typically March – September inclusive. For works within the breeding bird season, any areas that can support nesting birds should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing.

Point 3.24 of the British Standards Publication 42020:2013 defines a professional ecologist as: *“a person who has, through relevant education, training or experience, gained recognised qualifications and expertise in the field of ecology and environmental management.”*

- 7.18 Where / if active nests are / have been located by the Ecologist, then any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, this can be aided, for example, via implementation of appropriate buffer zone(s) around the nest site (typically 5 – 10 metres) in which no disturbance is permitted until the nest is no longer in use. This would have to be coordinated through the expert judgement of the professional ecologist and species pending.

Other terrestrial mammals

Badger & hedgehog

- 7.19 Based upon the desktop assessment, the presence of badger onsite on an occasional basis is considered possible, while the presence of hedgehog is considered likely.
- 7.20 It is therefore recommended that Reasonable Avoidance Measures (RAMs) are enacted at the site to avoid any impacts these species. RAMs to minimise construction impacts and prevent harm or injury to badgers, hedgehog and hare should include, as a minimum:
- All working hours should be limited to daylight (dawn – sunset, or dawn – 6pm in winter) to avoid disturbing any badger, hedgehog or hare in vicinity of the development area.
 - A pre-commencement check of the site, any stored materials and the immediate vicinity of development footprint will be carried out prior to any works each morning in order to check for the presence of badger or hedgehog.
 - Materials that may cause entrapment such as plastic / metal fencing, as well as those which could be potentially harmful to terrestrial mammals such as chemicals, should not be left around the site following the cessation of daytime work.
 - No bulky equipment / general construction aggregates should be left around the development area, instead leave them on bare ground away from the risk zone.
 - Stock piling of spoil material MUST be left un-compacted and not allowed to grass over, as if grassed over and compacted, terrestrial mammals may be encouraged to excavate new areas for refuge.
 - Fires must not be used as a means of the disposing of waste materials.
 - Any trenches or excavations must either be covered at the end of each working day, or a low angle (no more than 45°) sloping board of approximately 300mm width should be provisioned within any uncovered excavations to provide a means of escape for any terrestrial mammals.
 - Any temporarily exposed open pipe system MUST be capped in such a way as to prevent badgers gaining access, as may happen when contractors are off site.
 - In the event an underground void / potential sett entrance is exposed during the works, work must cease immediately; and an Ecologist must be contacted to determine if the opening forms part of a previously undiscovered tunnel network of a badger sett. If this cannot be ruled out, works will cease, and Natural England consulted for further advice.

Herpetofauna

- 7.21 Regarding great crested newt (GCN), the results of both the desktop and field study suggest that the presence of this species within the immediate surroundings of the site is likely, though this is dependent on whether **P1** and **P2** support GCN. If this is the case, their occasional

usage of the site would be likely on a commuting capacity, given the favourable terrestrial suitability onsite.

- 7.22 As such, the proposals could present a kill / injury / disturbance risk, should GCN be present on site during any construction activity using opportunistic areas for shelter and / or once the area becomes a construction site. This would constitute an offence under the legislation protecting this species. The habitats onsite offer moderate value terrestrial habitat, while the site occupies a location between ponds that may potentially support GCN metapopulations, and these metapopulations could be impacted on significantly by the works subject to their presence.
- 7.23 To this end, it is considered that an Environmental DNA (eDNA) survey should be undertaken at **P1** (subject to its presence) and **P2** to reasonably ascertain presence / absence of GCN within the two nearby ponds. The results could scope in a wider assessment and allow a more robust impact assessment and suite of subsequent recommendations to be arrived at. Third-party access would need to be arranged for **Pond 1**, given that this lies outside of the applicant's ownership.
- 7.24 Any eDNA approach would need to be carried out from **mid-April to June 30th** when local planning authorities will accept data as part of a planning application. The information gathered will help provide an initial impact assessment. Following the eDNA survey, depending on the results, a development license may or may not be required; further surveys to reinforce the license may also be required.
- 7.25 Where GCN would be impacted, a development license (options include District Level License, Traditional development mitigation license, low impact class license) informed by survey data and a mitigation strategy may be required to legally proceed with the works. In some cases, a licence may not be necessary where risks can be avoided, minimised, or mitigated for through RAMs, if the consultant Ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence being committed.

Wider herpetofauna

- 7.26 Given the habitats onsite and in proximity to the site, the presence of generalist amphibians is considered possible; to prevent impacting upon local populations of common frog and common toad it is recommended that such species are included within the RAMs outlined previous for mammals.
- 7.27 Should any frogs or toads be encountered within the works area, they should be handled with wet gloves to prevent impact / injury and moved to an area of like for like habitat outside of the works area away from potential harm. Should the survey results recommended for GCN (see previous) provide evidence of likely absence, the RAMs can further be extended for this protected species to provide appropriate safeguarding.
- 7.28 The habitats onsite are considered to offer some suitability for reptiles, and thus they cannot be conclusively ruled out from the site. As such, to minimise potential impacts to this taxon, it is recommended that the RAMs outlined previously should be extended to include reptiles.

Invertebrates

- 7.29 While the site is not considered to be locally distinct for this species group, a large number of invertebrates were observed utilising the site, and it provides a variety of suitable habitats that will likely all be lost to development. It is therefore recommended that a bespoke enhancement plan is designed for the site inclusive of invertebrate groups which are likely using the site in its current form. Suitable options have been presented in **Appendix III**.

8.0 Biodiversity Statement

- 8.1 As stated previously, while this report focuses only on Site B within the golf club, both sites have been combined within the BNG baseline assessment, given their combined planning application. As such, this Biodiversity Statement includes the combined baseline information for both Site A and Site B. For more information regarding the habitats present within Site A, please read the BNG Summary of Site A within the separate PEA report.
- 8.2 Based on the information gathered during the diurnal assessment Stand Golf Club is **not exempt** from the Biodiversity Gain Planning Condition.
- 8.3 The site (both Site A & Site B combined) is host to the following biodiversity value:
- Habitat: **22.19**
 - Hedgerow: **2.67**
 - Watercourse: **0.00**
- 8.4 Habitat degradation **has not** taken place since the relevant date.
- 8.5 This Section should be read in conjunction with the hard copy of the Statutory Biodiversity Metric tool – see external Appendix.

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Appendix I: Site Photographs



Plate 1 – *Character of g3c (1) onsite – note f2f wetland to rear*



Plate 2 – *g3c (2) to north of site, with dominant rushes*



Plate 3 – *Small pedunculate oaks within g3c*



Plate 4 – *Dense bramble scrub along western site boundary*



Plate 5 – *Character of w1g (1) to rear*



Plate 6 – *Character of inundated f2f area*



Plate 7 – *Remnant stands of Himalayan balsam INNS*



Plate 8 – *Character of w1g (2)*



Plate 9 – *Further view of w1g (2), note tree with dense cover of ivy*



Plate 10 – *INNS variegated yellow archangel within w1g (2)*



Plate 11 – *Character of u1f area, with mixture of grassy, mossy and bare areas*



Plate 12 – *Further example of u1f, with bramble scrub, tree line and w1g (2) to rear*



Plate 13 – *View of g4 area, with overgrown nature due to neglect*



Plate 14 – *Dogwood scrub encroaching on adjacent grassland*



Plate 15 – T9 at south of site



Plate 16 – T10 at south of site



Plate 17 – *View of former driving range, bordered by h3h to north and u1f to west*



Plate 18 – *Character of hedgerow along Ringley Road*



Plate 19 – *Himalayan cotoneaster at base of hedgerow*



Plate 20 – *View of line of trees bordering u1f*

Appendix II: Condition Assessment Sheets

Condition Assessment Score – Grassland (Medium, High and V. High) (Habitat refs.: 1 – 3)

Condition Assessment Criteria		f2f Ref.: 1	g3c (1) Ref.: 2	g3c (2) Ref.: 3
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	N	Y	Y
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	Y	Y
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	N	Y	Y
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Y	N	N
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Y	N	N
Additional Criterion – must be assessed for all non-acid grassland types				
F	There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	N	N	N
Total Score		3	4	4
Condition Assessment Result		Condition Assessment Score		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.		Good		
Passes 3 – 5 criteria, including essential criterion A.		Moderate	-	Y
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.		Poor	Y	

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Condition Assessment Score – Grassland (Low) (Habitat ref.: 5)

Condition Assessment Criteria		g4 Ref.:5
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs. Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	N
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Y
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	N
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).	Y
Total Score		4
Condition Assessment Result		Condition Assessment Score
Passes 6 or 7 criteria including passing essential criterion A		Good
Passes 4 or 5 criteria including passing essential criterion A		Moderate
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)		Poor

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Condition Assessment Score – Scrub (Habitat ref.: 8)

Condition Assessment Criteria		h3h Ref.: 8
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	N
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Y
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 5% of ground cover.	N
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Y
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N
Total Score		2
Condition Assessment Result		Condition Assessment Score
Passes 5 criteria		Good
Passes 3 or 4 criteria		Moderate
Passes 2 or fewer criteria		Poor

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Condition Assessment Score – Ruderal/ephemeral (Habitat Ref.: 13)

Condition Assessment Criteria		u1f Ref 6
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Y
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Y
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area. Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	N
Total Score		2
Condition Assessment Result		Condition Assessment Score
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.		Good
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.		Moderate
• Passes 0 or 1 of 3 core criteria.		Poor

Condition Assessment Score – Woodland (**Habitat refs.: 15 & 16**)

Condition Assessment Criteria					w1g (1) Ref.: 15	w1g (2) Ref.: 16
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)		
A	Age distribution of trees	Three age classes present	Two age classes present	One age class present	2	3
B	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	3	3
C	Invasive plant species	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	1	2
D	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	2	2
E	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	2	2
F	Open space within woodland	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	3	2
G	Woodland regeneration	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	1	2
H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high-risk pest or disease present	2	2
I	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1	1
J	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	1	2
K	Veteran trees	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	3	1

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Condition Assessment Criteria					w1g (1) Ref.: 15	w1g (2) Ref.: 16
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)		
L	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	2	2
M	Woodland disturbance	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	2	2
					25	26
Condition Assessment Result			Condition Assessment Score			
Total score >32 (33 to 39)			Good			
Total score 26 to 32			Moderate			
Total score <26 (13 to 25)			Poor			

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*Condition Assessment Score – Individual Trees (**Habitat ref.: 19**)*

Condition Assessment Criteria		T1 – T8	T9	T10
A	The tree is a native species (or at least 70% within the block are native species).	Y	N	N
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y	Y
C	The tree is mature (or more than 50% within the block are mature).	Y	Y	Y
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	N	N	N
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	Y	Y
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	N	N
Total Score		4	3	3
Condition Assessment Result		Condition Assessment Score		
Passes 5 or 6 criteria		Good		
Passes 3 or 4 criteria		Moderate		
Passes 2 or fewer criteria		Poor		

Condition Assessment Score – Hedgerow (**Hedge ref.: 2**)

Functional Group		Criteria	Description	Ref.: 2 h2a6 11
A1	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	Y
A2	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	Y
B1	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y
C1	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Y

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Functional Group		Criteria	Description	Ref.: 2 h2a6 11
C2	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	N
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ³) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .	N
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	N
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	Y
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	N
Condition Assessment Result			Condition Assessment Score	
No more than 2 failures in total; AND No more than 1 failure in any functional group.			Good	
No more than 5 failures in total; AND			Moderate	

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Functional Group	Criteria	Description	Ref.: 2
			h2a6 11
	Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).		
	Fails a total of more than 5 attributes; OR Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	Poor	

Condition Assessment Score – Line of trees (Hedge ref.: 4)

Condition Assessment Criteria		Ref. 4
		w1g 33
A	At least 70% of trees are native species.	Y
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Y
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Y
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice ² .	N
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	N
Number of criteria passed		3
Condition Assessment Result (out of 5 criteria)		Score Achieved Y/N
Passes 5 criteria		Good
Passes 3 or 4 criteria		Moderate
Passes 2 or fewer criteria		Poor

Appendix III: Botanical Species List

Species nomenclature follows Stace, C (2019) – definitive English names; scientific names for given flora are presented below.

Any invasive non-native species are denoted by the acronym (INNS).

Taxon	Common Name	Scientific Name
Anthophyta	Bramble	<i>Rubus fruticosus</i> agg.
	Cock's-foot	<i>Dactylis glomerata</i>
	Colt's-foot	<i>Tussilago farfara</i>
	Common bent	<i>Agrostis capillaris</i>
	Common couch	<i>Elymus repens</i>
	Common foxglove	<i>Digitalis purpurea</i>
	Common knapweed	<i>Centaurea nigra</i>
	Common nettle	<i>Urtica dioica</i>
	Common ragwort	<i>Jacobaea vulgaris</i>
	Creeping buttercup	<i>Ranunculus repens</i>
	Creeping cinquefoil	<i>Potentilla reptans</i>
	Creeping thistle	<i>Cirsium arvense</i>
	Dogwood	<i>Cornus sanguinea</i>
	False oat-grass	<i>Arrhenatherum elatius</i>
	Hairy tare	<i>Vicia hirsuta</i>
	Hard rush	<i>Juncus inflexus</i>
	Herb-Robert	<i>Geranium robertianum</i>
	Himalayan balsam INNS	<i>Impatiens glandulifera</i>
	Himalayan cotoneaster	<i>Cotoneaster simonsii</i>
	Hogweed	<i>Heracleum sphondylium</i>
	Jointed rush	<i>Juncus articulatus</i>
	Laburnum	<i>Laburnum anagyroides</i>
	Meadow buttercup	<i>Ranunculus acris</i>
	Meadow vetchling	<i>Lathyrus pratensis</i>
	Pedunculate oak	<i>Quercus robur</i>
	Perennial rye-grass	<i>Lolium perenne</i>
	Red clover	<i>Trifolium pratense</i>
	Reed canary grass	<i>Phalaris arundinacea</i>
	Ribwort plantain	<i>Plantago lanceolata</i>
	Rose spirea	<i>Spiraea douglasii</i>
	Sheep's fescue	<i>Festuca ovina</i>
	Silver birch	<i>Betula pendula</i>
	Soft brome	<i>Bromus hordeaceus</i>
	Soft-rush	<i>Juncus effusus</i>
	Spear thistle	<i>Cirsium vulgare</i>
	Timothy	<i>Phleum pratense</i>
	Tufted hair-grass	<i>Deschampsia cespitosa</i>
	Variegated yellow archangel INNS	<i>Lamium galeobdolon</i>
	Wild cherry	<i>Prunus avium</i>

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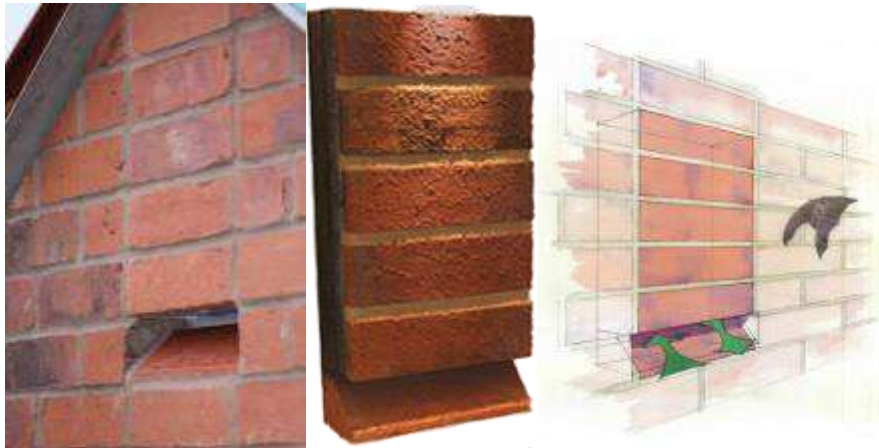
	Willow sp.	<i>Salix sp.</i>
	Willowherb sp.	<i>Epilobium sp.</i>
	Yorkshire-fog	<i>Holcus lanatus</i>
Bryophyta	Springy turf moss	<i>Rhytidiadelphus squarrosus</i>
Polypodiopsida	Bracken	<i>Pteridium aquilinum</i>

Appendix IV: Biodiversity Enhancement: General Recommendations

Bats

Integrated bat box

The Habitat Bat Box is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.

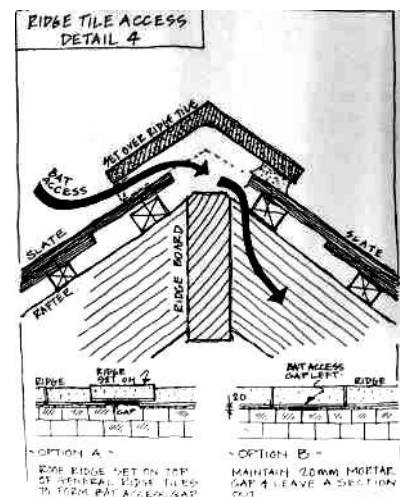
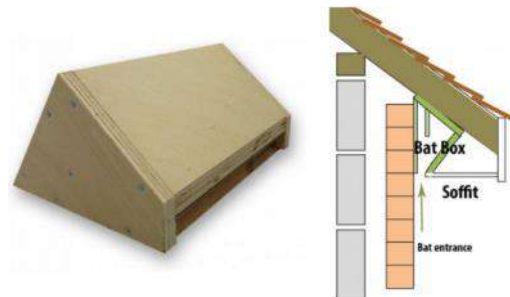


Ridge access

Where appropriated, ridge tile access should be made with the incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles. Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping and killing bats.

Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Externally fitted boxes

A large number of externally fitted box models for bats exist for buildings and trees. Suitable models for both buildings and trees may include the Eco Kent Bat Box.



Breeding Birds – House Sparrow

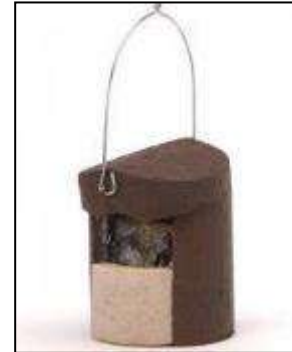
The sparrow terrace has been designed to help redress the balance of falling house sparrow numbers. The current UK population is now half of what it previously was in 1980 and this is widely attributed to habitat destruction and lack of suitable nesting spaces. House sparrows are social birds and like to nest in company, therefore, this terrace provides ideal nesting opportunities for three families. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of buildings.



Breeding Birds – Other

This traditional design has proved to be highly effective in attracting robins, as well as other small species such as black redstart, spotted flycatcher and wren. It is designed to be installed on the walls of houses, barns, garden sheds or other buildings and should be hung so that the entrance is to one side (at an angle of 90° to the wall). The front panel can be easily removed for cleaning.

This type of box should not be made conspicuous on a tree or bush because small predators can enter through the unprotected opening. By hanging on a wall, predators won't be able to reach the box. Alternatively hide the box in ivy, Honeysuckle or other climbing plants.



Hedgehog Home

Exterior quality 12mm resin bonded ply. The box remains untreated on the inside. Best situated in a quiet corner of the garden, and covered with leaves and other garden debris. Removable lid for cleaning purposes and reinforced corners, manufactured with surface sunk nails to resist rusting.

Nest box size: Height 22cm x Width 38cms x Length 47cm



Environmentally positive: Direct action to help hedgehog survival rates, encouraging biodiversity; FSC timber; Zero carbon footprint in use.

Amphibians – Hibernacula

Hibernacula are underground chambers that amphibians and reptiles use throughout the winter to protect themselves from the cold. Creating a hibernaculum will provide a safe space for amphibians and reptiles to hibernate over winter, as well as a spot for solitary bees to soak up the sun and for birds to relax. These habitats can be integrated into a wide variety newly created or enhanced habitats and attract herps to new areas.

You will need:

- A spade
- Logs and branches
- Rocks and bricks
- 2-3 drainpipe cut-offs or cement pipes (if using plastic drainpipes, roughen the insides with sandpaper, so that they are not too slippery for animals to climb)
- Turf or meadow flower seeds (optional)

Stand Golf Club Site B, Bury, Greater Manchester, M45 7NL

Preliminary Ecological Appraisal

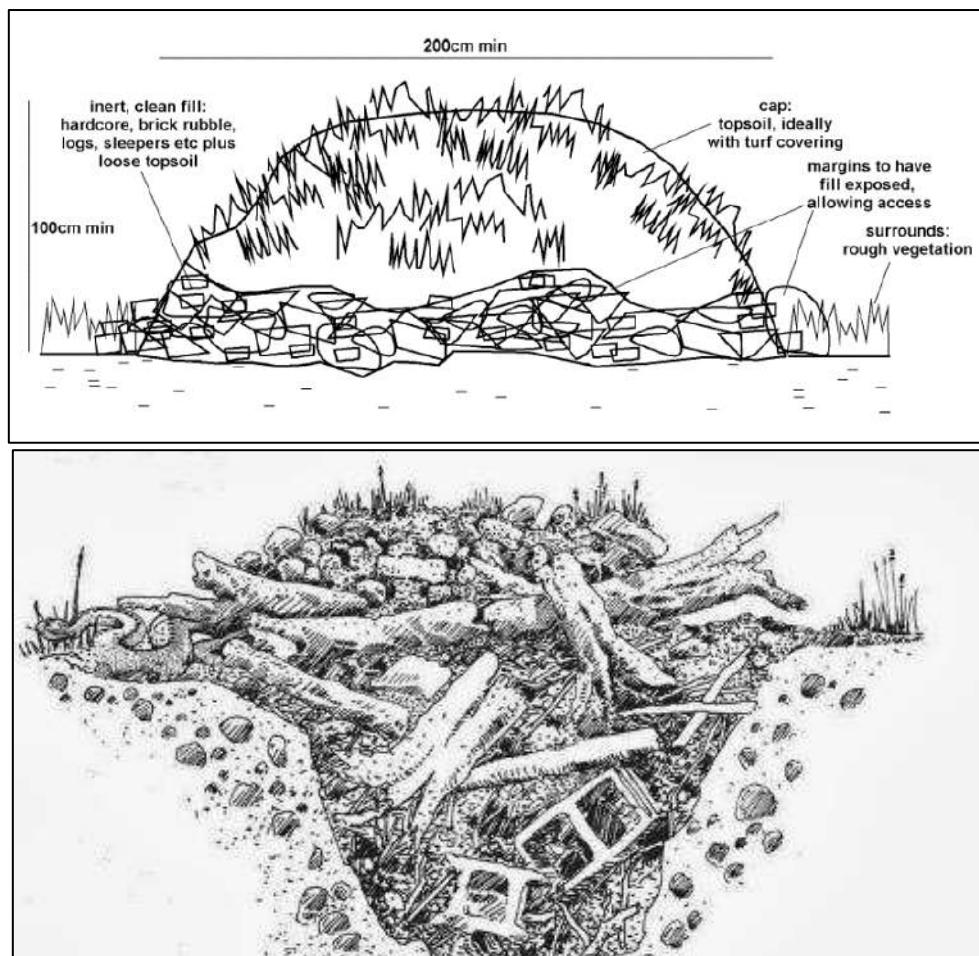
How to make your hibernaculum yourself:

- In a sunny spot, dig a hole about 50cm deep and 1.5 metres across.
- Fill with logs, branches, bricks and rocks, leaving plenty of gaps in between.
- Insert entrance tubes (drainpipes) at ground level into the hole.
- Cover the pile with soil (to about 50cm high).
- Plant meadow seeds or long grasses over the mound to create a feast for summer pollinators.

To construct a hibernaculum to Natural England standard:

- In desired areas, remove the turf from the footprint of the hibernaculum and set aside.
- On well-drained soil excavate to a depth of approximately 500 mm and set aside spoil (this is unnecessary on poorly drained soils).
- Fill the footprint or pit with core material. Materials likely to retain moisture are preferable, such as cut timber, brash and grubbed up tree roots. Other material such as inert hardcore, bricks, rocks, and building rubble may also be used. Materials that will decompose should not be placed beneath heavy components such as bricks or rocks, to reduce the risk of collapse.
- Pack the larger spaces within the core materials with wood chippings, loose topsoil or spoil.
- Cover the hibernaculum with the turves removed from the footprint.
- Take care not to create structures that might attract rodents, such as piles of rubble with many entrance holes. There has been no rigorous investigation of the optimum size of hibernacula, but larger hibernacula are probably more useful than small constructions because they contain a variety of different microhabitats and are more likely to maintain stable conditions.
- A suggested minimum size is 4.0 m long by 2.0 m wide by 1.0 m deep. 2.0 x 2.0 x 1.0 metres (length x width x height) as a minimum.

Illustrative aid for hibernaculum:



Invertebrates – Insect Hotels

Insect hotels provide a habitat for a variety of insects. Designs can be small or large enough to create a focal point in a wildlife garden and sturdy enough to last for years. Ensure hotels are made from untreated wood, which is important as insects need natural materials to thrive, and split into sections that each contain a different nesting material. There should be pine cones for ladybirds, wood slits for butterflies and moths, bamboo canes for solitary bees, and loose pieces of wood for beetles. Placement: Size against walls or fences and fix to prevent toppling. The feet keep the main body off the damp ground. You could push bricks against them to keep the bug hotel upright, which would also encourage woodlice and even frogs that enjoy cool stone conditions.



Invertebrates – Bee bricks

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive.

Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used. Available in a choice of four colours: white grey, dark grey, yellow and red.



Specification

- * Material: Concrete
- * Dimensions: W 215mm x D 105mm x H 65mm
- * Weight: 2.9kg
- * Colours: White grey, yellow, dark grey and red

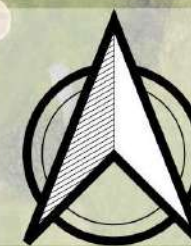
Native Planting and/or Landscaping

The below species have been assessed against the local soil and habitat types and are deemed suitable for the site. All plant material should comply with the minimum requirements in BS 3936-1: 1992 Specification for trees and shrubs and BS 3936-4: 2007 Specification for forest trees and BS 8545: 2014 Trees from Nursery to Independence in the Landscape. Any plant material, which in the opinion of the appointed Landscape Architect, does not meet the requirements of the Specification, or is unsuitable, or defective in any other way, will be rejected. The minimum specified sizes in the plant schedule will be strictly enforced. The contractor should replace all plants rejected at own cost. New hedgerows should be primarily comprised of blackthorn, hawthorn, hazel, and holly, whilst climbers/creepers such as hops and honeysuckle can be planted at the base of boundary features such as fences and walls, and new tree planting should include species such as pedunculate oak, wild cherry, and alder buckthorn.

Stand Golf Club Site B, Bury, Greater Manchester, M45 7NL
Preliminary Ecological Appraisal

	Common Name	Scientific Name	Planting Preference
Ferns	Male Fern	<i>Dryopteris filix-mas</i>	Semi-shade or shaded
	Soft Shield-fern	<i>Polystichum setiferum</i>	Semi-shade or shaded
	Maidenhair Fern	<i>Adiantum capillus-veneris</i>	Suitable for rockeries / walled gardens
	Royal Fern	<i>Osmunda regalis</i>	Full sun in moist-damp areas
Herbaceous plants	Bloody Crane's-bill	<i>Geranium sanguineum</i>	Dry soils - suitable for rockeries
	Columbine	<i>Aquilegia vulgaris</i>	Semi-shade or open areas
	English Bluebell	<i>Hyacinthoides non-scripta</i>	Moist soils in semi-shade or open areas
	Giant Bellflower	<i>Campanula latifolia</i>	Semi-shade or open areas
	Greater Knapweed	<i>Centaurea scabiosa</i>	Dry-moist soils. Suitable for borders
	Greater Woodrush	<i>Luzula sylvatica</i>	Moist soils in semi-shade or open areas
	Meadow Crane's-bill	<i>Geranium pratense</i>	Humid-moist soils. Suitable for borders
	Musk Mallow	<i>Malva moschata</i>	Dry-moist soils. Suitable for borders and rockeries
	Sea Campion	<i>Silene uniflora</i>	Dry soils - suitable for rockeries
	Stinking Hellebore	<i>Helleborus foetidus</i>	Semi-shade or open areas
Climbers	Honeysuckle	<i>Lonicera periclymenum</i>	Dry-moist soils
	Hops	<i>Humulus lupulus</i>	Dry-moist soils
	Ivy	<i>Hedera helix</i>	Dry-moist soils
	Sweet-briar	<i>Rosa rubiginosa</i>	Dry-moist soils
Woody Shrubs	Dogwood	<i>Cornus sanguinea</i>	-
	Guelder Rose	<i>Viburnum opulus</i>	-
	Hawthorn	<i>Crataegus monogyna</i>	-
	Hazel	<i>Corylus avellana</i>	-
	Holly	<i>Ilex aquifolium</i>	-
Trees	Alder Buckthorn	<i>Frangula alnus</i>	-
	Osier	<i>Salix viminalis</i>	-
	Pedunculate Oak	<i>Quercus robur</i>	-
	Purple Willow	<i>Salix purpurea</i>	-
	Rowan	<i>Sorbus aucuparia</i>	-
	Silver Birch	<i>Betula pendula</i>	-
	Wild Cherry	<i>Prunus avium</i>	-
	Wych Elm	<i>Ulmus glabra</i>	-

Stand Golf Club - Site B



Secondary Codes:

11 - Hedgerow with trees
 12 - Scattered bracken
 14 - Scattered rushes
 15 - Rushes dominant
 16 - Tall forbs
 29 - Plantation
 33 - Line of trees
 81 - Ruderal or ephemeral
 82 - Vacant or derelict land
 116 - Flailed hedgerow
 128 - Tall or tussocky sward
 502 - Seasonally wet
 509 - Acidic substrate
 518 - Neglected
 532 - Scattered grass



UK Habitats Key

- Target notes
- f2f - Other wetlands
 - g3c - Other neutral grassland
 - 1 - 12, 14, 16, 128, 502, 509
 - 2 - 12, 15, 16, 128, 502, 509
 - g4 - Modified grassland - 16, 518
 - h3d - Bramble scrub
 - h3h - Mixed scrub
 - u1f - Sparsely vegetated urban land
 - 81, 82, 518, 532
 - w1g - Other woodland - broadleaved - 29
 - Scattered tree - deciduous, small
 - Scattered tree - deciduous, medium
 - Scattered tree - deciduous, large
 - h2a6 - Other native hedgerow - 11, 116
 - w1g - Other woodland - broadleaved - 33
 - Red line boundary

Target notes:

1. Location of Himalayan balsam
2. Location of variegated yellow archangel INNS
3. Location of Himalayan cotoneaster INNS
4. Location of trees with PRFs

Contains imagery courtesy of Bing Maps

0 25 50 m

Survey Date: 23/10/2024
 Drawn: Mr. H. Mulligan
 Date Drawn: 15/11/2024
 Checked & Approved: Mrs. K. Wilding
 Size: A3
 Scale: 1:1300
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