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Tyrer Ecological Consultants Ltd, Roselands, 3 Cross Green, Formby, L37 4BH

# Preliminary Ecological Appraisal

March 2023

**Land Adjacent to Sandstone Close**  
Rainhill,  
St Helens,  
L35 6DF

**National Grid Ref: SJ49399044**



**Land Adjacent to Sandstone Close, Rainhill, St Helens, L35 6DF  
Preliminary Ecological Appraisal**

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|               |                                   |
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*This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; it is not intended that this report should be submitted with a planning application for development of the site, unless supported by the results of further surveys and a detailed assessment of the effects of the proposed development.*

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## Executive Summary

As part of a proposed planning application for land adjacent to Sandstone Close, Rainhill, Tyrer Ecological Consultants Ltd carried out a Preliminary Ecological Appraisal (PEA) in February 2023. The PEA was commissioned by MSA Architects; proposals entail the construction of residential properties.

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

### Recommended following PEA:

- **Breeding Birds:** In relation to common birds, vegetation adjacent to the site that may intrude into the site boundary, offers small birds nesting opportunities, particularly during the breeding season.

*Given that all birds are protected when at the nest, it is therefore recommended that any vegetation works are carried out outside of the breeding bird season (March – August inclusive). For works undertaken within the breeding bird season, any areas that can support nesting birds such as areas of vegetation, should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing. Where/if active nests are 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.*

- **Terrestrial Mammals:** The site provides suitable habitat for Hedgehog. *Recommendations to mitigate risk to this species have been suggested in Section 8.16.*
- **Enhancement for Biodiversity:** The site offers potential for a number of protected species groups, therefore a programme of biodiversity enhancement is recommended to be implemented into the proposed development. General measures can be found below, in accordance with the principles of 'Biodiversity Net Gain: Good practice principles for development' (CIEEM et. al., 2019).

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- 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 additional survey requirements,
- Identify enhancement opportunities for biodiversity in line with national and local planning policy following 'Biodiversity Net Gain: Good practice principles for development' (CIEEM et. al., 2019),
- 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 1.1 (2020);
- Trees, where present and understood to be impacted, 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, 3<sup>rd</sup> ed. (2016).
- The site was assessed for evidence of nesting and suitability for relevant bird species.

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,
- Seasonal constraints significantly limit the gathering of ecological information to arrive at an accurate conclusion on 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 Local Planning Authorities (LPA's) 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:

- Conservation of Habitats and Species Regulations (amendment) (2019) (EU Exit),
- Wildlife and Countryside Act (1981) (as amended),
- Countryside Rights of Way (CRoW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- Protection of Badgers Act (1992),
- The Hedgerow Regulations (1997),
- Town and Country Planning Act (1990),
- Wild Mammals Protection Act (1996)

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),<br>Wildlife and Countryside Act (1981) (as amended)  | <u>Illegal to:</u><br>Wilfully kill, injure or take a badger (or attempt to do so).<br>Cruelly ill-eradicate a badger.<br>Dig for a badger.<br>Intentionally or recklessly damage or destroy a badger sett or obstruct access to it.<br>Cause a dog to enter a badger sett.<br>Disturb a badger when it is occupying a sett. |
| Bats                  | CRoW Act (2000)<br>Conservation of Habitats and Species Regulations (2019) (EU Exit)<br>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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|                        |  |   |
|------------------------|--|---|
| Birds (Breeding)       | CRoW Act (2000)<br>Wildlife and Countryside Act (1981)<br>(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.   |
| Invasive Plant Species | Wildlife and Countryside Act (1981)<br>(as amended)                    | Species listed within Schedule 9 as invasive, including Japanese Knotweed ( <i>Reynoutria japonica</i> ) and Himalayan Balsam ( <i>Impatiens glandulifera</i> ), for example, carry notoriety regarding development. The Act makes it an offence for any person to grow or cause to grow in the wild any plants listed as invasive. |

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 Policy CQL 3: Biodiversity and Geological Conservation, of the St Helens Local Plan Core Strategy, echoes the national focus on preserving biodiversity, stating:

*The Council will protect and manage species and habitats, as well as enhancing and creating habitats and linkages between them by:*

- 1. Identifying the location of sites of importance for biodiversity and geological conservation differentiating between SSSIs, Local Nature Reserves, Ancient Woodlands, Local Wildlife and Geological Sites through the Allocations DPD and AAPs and bringing sites into active conservation management.*
- 2. Ensuring the creation, extension and better management of Biodiversity Action Plan priority habitats, including the further designation of Local Nature Reserves; St. Helens Local Development Framework 131 St. Helens Local Plan Core Strategy.*
- 3. Requiring developers, where appropriate, to incorporate habitat features, which will contribute to the Borough's ecological and geological resource.*
- 4. Requiring that, where harm to protected species or habitats is unavoidable, that developers ensure suitable mitigation measures are implemented to enhance or recreate the features, either on or off-site and bring sites into positive conservation management.*
- 5. Reducing habitat and species fragmentation by developing a functioning ecological framework for the Borough.*



6. Requiring all development proposals to be based on ecological assessments, where appropriate, including where sites are derelict, vacant or previously developed land. Surveys must be undertaken at appropriate times of year for the relevant habitats, species, flora and fauna.

7. Ensuring that any development affecting nationally and locally important sites and protected species will only be acceptable if there is clear evidence that the development outweighs the nature conservation interest.

### 3.0 Priority Habitats & Species

#### National Context

- 3.1 In the United Kingdom, legal protection and otherwise legislative recognition is afforded to particular habitats and species. Certain habitats and species are considered to hold nature conservation importance and are thus protected, due to factors such as their ecological functionality, connectivity, rarity, their vulnerability, environmental importance, or declining population/status. They are referred to as priority habitats and priority species.
- 3.2 The UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under Section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act).
- 3.3 The following Section 41: Species of Principal Importance in England are considered potentially relevant to the appraisal:

#### Species:

- **Bats:** Brown Long-eared (*Plecotus auritus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Noctule (*Nyctalus noctula*),
- **s.41 Bird species** that include but not limited to: Bullfinch (*Pyrrhula pyrrhula*), House Sparrow (*Passer domesticus*), Linnet (*Carduelis cannabina*), Song Thrush (*Turdus philomelos*), Starling (*Sturnus vulgaris*), Tree Sparrow (*Passer montanus*), Willow Tit (*Poecile montanus*) for e.g.,
- **Land mammals** that include: Hedgehog (*Erinaceus europaeus*) for e.g.,
- **Herpetofauna** that includes: Great Crested Newt (GCN) (*Triturus cristatus*), Slow-worm (*Anguis fragilis*), Common Toad (*Bufo bufo*), Common Lizard (*Zootoca vivipara*),
- **Botanical species** that includes Purple ramping-fumitory (*Fumaria purpurea*), Bluebell (*Hyacinthoides non-scripta*), Cornflower (*Centaurea cyanus*) for e.g.

#### Regional Context

- 3.4 Local Biodiversity Action Plans (LBAP's) are a way of encouraging people to work together to deliver a program of continuing action for biodiversity at a local level. LBAPs also embrace the idea of 'local distinctiveness'; habitats and species which are not considered UK conservation priorities can be catered for by LBAPs if they are of particular local significance.
- 3.5 LBAP's set out practical steps that aim to:
- Help protect biodiversity;
  - Enhance and improve biodiversity where possible, and,
  - Promote biodiversity at a local level.

3.6 The North Merseyside Biodiversity Action Plan (NMBAP) lists key local habitats/species considered to be rare or declining in the area; some may be of national concern while others are significant at local level. The following local plans are considered of potential relevance to the survey.

- Bats;
- Bluebell;
- Common Toad;
- Dragonflies;
- Great Crested Newt;
- Song Thrush;

#### **4.0 Methodology**

4.1 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

4.2 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) designations 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.

4.3 Historic satellite imagery was reviewed using sources such as Google Earth (© 2022/2023) 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.

4.4 In addition, the St Helens Council Planning Portal ‘Search for planning applications’ 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.

4.5 A commercial data request to the Local Environment Records Centre serving the area, in this case Merseyside BioBank, has not been sourced at this time, with the combination of online EPSML data, extensive company biological 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 / or use the site. The guidance below highlights when a commercial data search is most useful – in this case the given exemptions are considered applicable (i.e. - low impact, extension to a residential property).

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

*“It is generally expected that a desk study, including a data search, will be a key part of the ecological surveys or reports produced to inform a planning application. Freely available web-based sources of data and contextual information should always be used; in some cases, it may be acceptable to not undertake a data search with the LERC or other relevant NSS or local interest groups, for example:*

*ii) 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. It can be very difficult to demonstrate that a data search would not have provided relevant information without obtaining and reviewing those data.*

*iii) In some cases for Preliminary Roost Assessments of buildings in low impact / small-scale scenarios, such as an **small residential development**, loft conversions (full or partial), installation of Velux/dormer windows, single modern agricultural or similar building conversion or demolition; however, it should not be assumed that data searches are never required for such scenarios and this must be judged on a case by case basis and justified accordingly.*

2) The Guidelines for Preliminary Ecological Appraisal, 2<sup>nd</sup> Edition (CIEEM, 2017) also states:

*“Very occasionally it might be possible to carry out a robust PEA without obtaining LERC/NBDC/CEDaR data; this will usually only apply to **low impact or small-scale projects** (e.g. by virtue of size, extent, duration of works, magnitude and locality), and should be determined on a case-by-case basis.”*

4.6 As exemptions outlined in the guidance above can be applied in good practice for the proposals for which the applicant seeks consent, it is considered unnecessary to conduct a commercial data request at this time as enough information has been obtained; with respect to sensitive species it was determined, through the Site inspection and review of the development proposals both during the construction phase and operational phase, that the recommendations listed within this report would not be affected by confirmation of either species presence. However, if a data search is considered to be necessary by the Local Authority, or environmental 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.

#### Field Survey

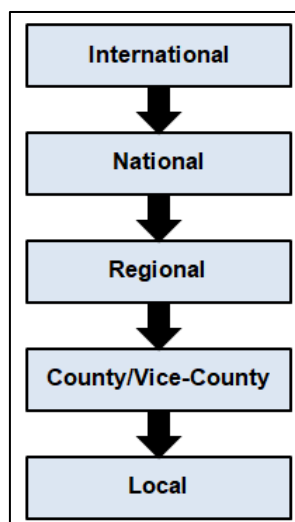
4.7 A daytime preliminary ecological appraisal was conducted on the 21<sup>st</sup> February 2023 in bright, clear conditions (11°C), average wind 2/12 (Beaufort scale), average 30% cloud cover, by the following surveyor (see **Table 4.1**).

**Table 4.1 – Site Surveyor credentials**

| Name   | Description of most relevant credentials   |
|--|--|
| <p><b>Mr. D. Burrows</b><br/>                     Qualifying CIEEM<br/>                     (Consultant Ecologist)</p> | <ul style="list-style-type: none"> <li>• Consultant Ecologist with 3 years of training and experience</li> <li>• Relevant Degree: BSc (hons) Wildlife Conservation; MSc Conservation and Biodiversity</li> <li>• Licensed for Great Crested Newt: CL08 (Great Crested Newt Survey Level 1) – 2022-10604-CL08-GCN.</li> <li>• Accredited agent on the Natural England Bat Class 2 Bat Licence of Mrs. K. Wilding</li> </ul> |

### **Floristic assessment**

- 4.8 The survey followed the UK Habitat Classification Version 1.1 (Butcher, et.al., 2020) being introduced as part of the roll out of Biodiversity Net-gain with reference to the Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology standards (JNCC, 2010) and reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Technical Guidance Series “*Guidelines for Preliminary Ecological Appraisal, 2<sup>nd</sup> Edition*” (CIEEM, 2017).
- 4.9 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 (amendment) (EU exit) Regulations (2019). Species nomenclature follows Stace, C. (2019) – definitive English names.
- 4.10 Additional 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 (see **Figure 4.1**). For botanical species list compiled in full, see **Appendix II**.
- 4.11 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).



**Figure 4.1** – Geographic Frame of Reference entailing degrees of conservation importance

### **Faunal assessment**

- 4.12 During site walkover, the identification and/or evidence of priority fauna encountered was documented, whilst in tandem the area was assessed for the potential to support the priority species in section 3.0. The walkover also aimed to identify any ephemeral pools or unmapped waterbodies.

Bats

- 4.13 The site was assessed for bats; trees (where present) would be inspected for places that may be of value to bats and to determine if evidence of use was present; this typically involves a search for potential roost features along with an investigation of those features using a high-powered torch or close focus binoculars. Potential roost features 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 ivy with stem diameters in excess of 50mm or bat/bird boxes.
- 4.14 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, 3<sup>rd</sup> ed. (2016): (see **Figure 4.2**).

**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.**

| Suitability | Description<br>Roosting habitats  | Commuting and foraging habitats  |
|-------------|---|--|
| Negligible  | Negligible habitat features on site likely to be used by roosting bats.   | Negligible habitat features on site likely to be used by commuting or foraging bats.   |
| Low         | A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions <sup>a</sup> and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation <sup>b</sup> ).<br><br>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. <sup>c</sup> | Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.<br><br>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 or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions <sup>a</sup> and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).   | Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.<br><br>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 or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions <sup>a</sup> and surrounding habitat.  | Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.<br><br>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.<br><br>Site is close to and connected to known roosts. |

<sup>a</sup> For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.  
<sup>b</sup> 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 *et al.*, 2015). 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 large buildings in highly urbanised environments.  
<sup>c</sup> This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

**Figure 4.2 – Bat Conservation Trust (BCT) guidelines extract**

- 4.15 Factors considered during the preliminary roost assessment include:
- 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, transition).



### Breeding Birds

4.16 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 the ground. These might include the following species for example:

- 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.

4.17 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

4.18 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.

4.19 The site was also assessed for the presence / suitability of Hedgehogs (*Erinaceus europaeus*) and other priority mammals.

### Great Crested Newt (GCN)

4.20 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 Newts (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.*

4.21 Following current best practice considering the national 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.

4.22 Based on the desk study, using Google Earth Pro 2022/23, MAGiC Maps 2022/23 as well as Ordnance Survey (OS) map data, no ponds were identified within the site boundary or within a 250-metre radius of the Site.

### Reptiles

4.23 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 Lizards (*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 similar habitats to Common Lizards, and are often found in rank grassland, gardens and derelict land under refugia,

4.24 In assessment of a site for reptiles several important habitat characteristics are considered, outlined in **Table 4.2** below, as derived from the *Reptile Habitat Management Handbook* (Edgar, 2010).

**Table 4.2 – Important habitat characteristics for reptiles**

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

#### Invertebrates

4.25 The application 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.

4.26 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.

4.27 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 surveyors Mr. D. Burrows.

## 5.0 Limitations

- 5.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on site. Species listed within **Appendix II** are recorded from a combination of the seasonal timing that the survey took place and botanical identification skills of the surveyor. Many plant species are only evident at certain times of the year; consequently, it is possible that some plant species may have gone undetected.
- 5.2 The optimal time of the year to carry out a preliminary ecological appraisal / UK Habitats survey is April to October; therefore, the survey was undertaken outside of the optimal period for habitat identification. Nonetheless, habitats were able to be accurately determined and timing is not a constraint in relation to the habitat appraisal. Additionally, evidence of bats and potential suitability of trees for bats are visible all year round and timing did not impact the assessment the buildings suitability to bats on site.
- 5.3 The survey was undertaken outside of the breeding bird season which is March – September (inclusive), therefore there is a decreased probability of encountering field signs. Nesting features can be identified year-round and in the case of trees, may be more evident when trees are out of foliage.
- 5.4 In considering all possible survey constraints, no significant limitations were experienced that might adversely influence the results, conclusions, and recommendations of this report.



## 6.0 Desk Study Results

- 6.1 The application site is located in Rainhill, St Helens approximately 5.1 kilometres southwest from St Helens town centre; see **Figure 6.1** for indicative location in the landscape. The Site is comprised entirely of grassland; from aerial imagery it is evident that the Site was formerly heavily vegetated, consisting of woody scrub species, with conversion to grassland taking place in the past 10 years.



**Figure 6.1** – Location of the application site (red boundary) within the landscape (Source: Google Earth Pro 2022/23)

- 6.2 The immediate habitat (500 metre radius) is a combination of rural and sub-urban environs, characterised by residential properties to the north with associated infrastructure including Sandstone Close directly adjacent to the east and Mill Lane <30 metres to the south of the Site. Ornamental landscaping, including trees and hedgerows, are present, associated with the residential properties whilst the area also has a range of commercial and educational facilities including pubs, schools, restaurants and sports clubs with associated green infrastructure. Agricultural land, with associated linear features (hedgerows etc.) is present to the south of the Site. Semi-natural habitat local to the Site include pockets of priority deciduous woodland (the closest lying 0.33 kilometres southwest) and pockets of dense scrub lie directly adjacent to the south of the Site.
- 6.3 The extending environs (up to 2.0 kilometres) comprise an expanse of arable land to the south and north-west interspersed by priority deciduous woodland; non-priority good quality semi-improved grassland is also present within the extended landscape. Blundell's Hill Golf club lies 0.67 kilometres southwest of the Site and comprises managed grassland, woodland and has a number of waterbodies; this site is a designated Local Wildlife Site (LWS) with such qualifying features as regionally important habitats and plant species<sup>1</sup>. The M62 lies 0.83 kilometres south of the Site. Urban infrastructure extends into the north, with additional residential dwellings and associated infrastructure connected by a matrix of roads.

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<sup>1</sup> Blundell's Hill Golf Club LWS: <https://mbblerc-webdl.s3.eu-west-1.amazonaws.com/dl/localsites/SH115.pdf>

6.4 Collectively, the immediate and extending areas of natural and semi-natural habitat provide a wide assortment of shelter, foraging and commuting opportunities to a variety of protected species groups. These taxa include bats, of which common pipistrelle (*Pipistrellus pipistrellus*) are associated with roosting in buildings set in sub-urban environments, and brown long-eared bats (*Plecotus auratus*) being associated with woodland and more semi-natural environs. Several bird species are also known to be present within the wider landscape such as house sparrow (*Passer domesticus*) which are recognised as adapted to urbanisation, and farmland species such as yellowhammer (*Emberiza citrinella*) & barn owl (*Tyto alba*). Furthermore, it is likely that the surrounding habitats support small mammals adapted to urbanized settings such as hedgehogs. The extending habitat affords limited suitability for GCN (and amphibians in general) due to the presence of urban development and agricultural land, with areas of suitable terrestrial habitat restricted to scattered woodlands.

**NB:** *Where quality habitat is present close to buildings then the percentage use of those buildings, by bats, increases given that roost opportunities are available and vice versa.*

6.5 No statutory sites were identified within 2.0 kilometres of the Site; the closest statutory Site was identified as Thatto Heath Meadows Local Nature Reserve (LNR) which lies 3.4 kilometres north of the application site.

6.6 No ponds are present on the application site or within 250 metres of the Site.

#### Notable species information

6.7 An online search of MAGiC maps revealed that the following European Protected Species Mitigation Licences (EPSMLs) have been granted within a 2.0 kilometres radius of the application site (see **Table 6.2** and **Figure 6.2**).

**Table 6.2 – EPSML data records from MAGiC Maps**

| Case Reference     | Distance from Site  | Context (where relevant)   |
|--------------------|---------------------|--|
| 2018-38385-EPS-MIT | 1.7 kilometres east | Destruction of common pipistrelle ( <i>Pipistrellus pipistrellus</i> ) resting place |

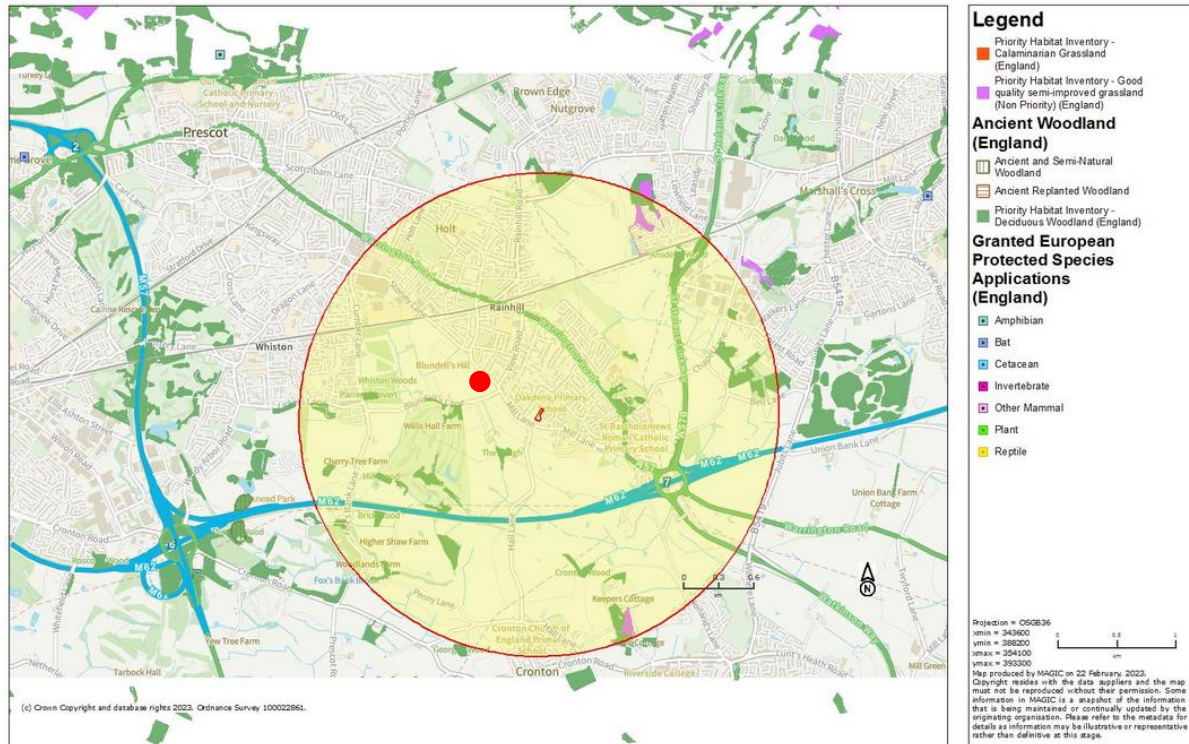
6.8 Tyrer Ecological Consultants Ltd have previous and ongoing projects involving protected species within the surrounding area– as such, the following biological data (see **Table 6.3**) is readily available to the Ecologist from the company database – all data has been previously submitted to the LERC serving the area, which, in this case, is Merseyside Biobank.

**Table 6.3 – LERC submitted biological data records collected by Tyrer Ecological Consultants Ltd**

| Year | Distance from Site        | Context (where relevant)  |
|------|---------------------------|---|
| 2021 | 1.8 kilometres west       | Sporadic commuting and foraging of soprano pipistrelle during a dusk emergence survey |
| 2020 | 0.84 kilometres northwest | Foraging of a common pipistrelle during a dusk emergence survey                       |

6.9 A search of the St Helens Planning Portal revealed no relevant planning applications pertinent to the ecology of this site.

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**Figure 6.2 – EPMSL and designated site data for the area within 2.0 kilometres of the application site, with granted EPSMLs denoted by the red dot (Source: MAGiC Maps 2023)**



## 7.0 Field Survey Results

### 7.1 Habitat Survey

- 7.1.1 See **Table 7.1** (below) for baseline information and habitat descriptions; refer to **Appendix I** for any supporting imagery; scientific names are given in **Appendix II**. Refer to **Appendix IV – UK Habitats Map** for the location of described habitats & Target Notes (TN).

**Table 7.1 – UK Habitat types within the survey area**

| Area Habitats   | Description  |
|---|--|
| <b>g4</b> – Modified grassland                        | The majority of the site consists of modified grassland, bordering a residential neighbourhood. The modified grassland (0.27ha) consisted of predominantly red fescue ( <i>Festuca rubra</i> ), Yorkshire fog ( <i>Holcus lanatus</i> ) and springy turf moss ( <i>Rhytidiadelphus squarrosus</i> ) with less common species restricted to the grassland edge including common chickweed ( <i>Stellaria media</i> ), yarrow ( <i>Achillea millefolium</i> ), creeping buttercup ( <i>Ranunculus repens</i> ), bristly oxtongue ( <i>Helminthotheca echioides</i> ), ground ivy ( <i>Glechoma hederacea</i> ), lesser periwinkle ( <i>Vinca minor</i> ) and stinging nettle ( <i>Urtica dioica</i> ). The short grassland sward indicated minimal management takes place consisting of primarily mowing (refer to <b>Appendix IV</b> ). |
|   | <b>Secondary Habitat Code(s):</b> 64 – mown  |
| <b>Linear Habitats</b>                                | <b>Description</b>   |
| <b>h2b</b> – Other hedgerows                          | A small section (12 meters) of a wider hedgerow acts as part of the north-eastern boundary comprising evergreen spindle ( <i>Euonymus japonicus</i> ).   |
|   | <b>Secondary Habitat Code(s):</b> N/A  |
| <b>u1e 69</b> – Built linear features (Fence)         | A wooden fence acts as the western and southern site boundary.   |
|   | <b>Secondary Habitat Code(s):</b> N/A  |
| <b>u1e 67</b> – Built linear feature (dry stone wall) | A defunct dry-stone wall acts as a partial boundary to the east of the Site ( <b>Plate 3 &amp; 4</b> ).  |
|   | <b>Secondary Habitat Code(s):</b> N/A  |
| <b>w1g6</b> – Line of trees                           | A short section of linear trees, comprised of conifers, separates the dry-stone wall to the east of the Site ( <b>Plate 4</b> ).   |
|   | <b>Secondary Habitat Code(s):</b> N/A  |
| <b>Target Notes</b>                                   | <b>Description</b>   |
| <b>Target Note 1</b>                                  | A number of hedgehog droppings were noted within the modified grassland ( <b>Plate 8</b> ).  |

### 7.2 Vegetation

#### Notable species

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

Invasive Non-Native Species (INNS)

7.2.2 No INNS, listed as such under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981), were located within the red line boundary of the site during the appraisal.

**7.3 Bats**

7.3.1 No buildings are present within the application site boundary.

7.3.2 No trees were present within the Site boundary; however, a number of trees lie directly adjacent to the Site outside of the red line boundary with branches extending into the Site. These trees were assessed for PRFs (from the north face) and although minor features were found, including broken branches and rot holes, none were found to be extensive and were considered unsuitable for roosting bats (**Plate 5 & 6**).

**7.4 Breeding Birds**

7.4.1 In relation to WCA Schedule 1 specially protected bird species, such as barn owl, no evidence was found to suggest any form of site use or historic nesting, and the immediate setting offers no real feeding value to this species. An owl box was noted as mounted on a tree approximately 10 metres north of the Site; in addition, the large area of open grassland to the South present opportunities for foraging barn owl, however, the proximity to the M62 may pose collision risks, limiting the habitats use by barn owl.

7.4.2 In relation to more common breeding birds, vegetation on the boundary and directly adjacent of the Site, in the form of trees and hedgerows, provide a plethora of viable nesting opportunities. No evidence of breeding birds was identified within the application site boundary however, this could be attributed to the survey being undertaken outside of the breeding bird season.

7.4.3 The following bird species were observed during the survey (see **Table 7.2**):

**Table 7.2 – Bird species encountered during the survey**

| <b>Species</b>   | <b>Scientific Name</b>       | <b>Status (BoCC)</b> |
|--|------------------------------|----------------------|
| Goldcrest  | <i>Regulus regulus</i>       | Green                |
| Collared dove  | <i>Streptopelia decaocto</i> | Green                |
| Magpie   | <i>Pica pica</i>             | Green                |
| Woodpigeon   | <i>Columba palumbus</i>      | Amber                |
| S.41 – a bird listed on section 41 of the Natural Environment Rural Communities Act 2006 (NERC Act)<br>LBAP – a local biodiversity action plan listed species<br>Q – qualifying species of nearby SSSI site(s)<br>BoCC - a Bird of conservation concern, Amber or Red, Red being the highest conservation priority |                              |                      |

## 7.5 Other Terrestrial Mammals

### Badger & Hedgehog

- 7.5.1 The Site is considered to offer low suitability for badgers due to the enclosed and homogenous nature of the habitats; the habitats surrounding the Site, including scrub directly adjacent to the South, offer viable foraging and commuting habitat for badgers if present within the landscape. No field signs were located to suggest the presence of badger on site; these include setts, latrines, pathways, hairs, footprints, or feeding signs such as snuffle holes and/or scratched logs/deadwood.
- 7.5.2 In respect of hedgehogs, the application site provides good quality foraging habitat in the form of open grassland with the surrounding habitat offering viable shelter opportunities; evidence of hedgehog was found during the Site visit, specifically a number of droppings. Gaps under the fence provide suitable access to the Site.

## 7.6 Herpetofauna

### Great Crested Newt (GCN)

- 7.6.1 In order to assess risk to GCN, a number of factors need to be considered. These include:
- 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 (50-100m) around the pond(s),
  - Area of site habitat loss and permanence of that loss,
  - Nature of habitat to be lost and its potential value to GCN as refuge/overwintering habitat.
- 7.6.2 From the site visit (informed by the desk study data), it is apparent that no waterbodies within the Site boundary. No other standing waterbodies are present within 250-metre radial buffer of the Site.
- 7.6.3 The Site offers limited terrestrial value for great crested newts due to in part the limited vegetative structure afforded by a homogenous habitat.

### Wider herpetofauna

- 7.6.4 Given the surrounding habitats, which include open amenity and agricultural grassland with interspersed treelines, the application site could be used by generalist, more robust common amphibians including common frog (*Rana temporaria*) and common toad (*Bufo bufo*), for foraging, subject to their presence in the landscape.
- 7.6.5 In respect to reptiles, whilst a defunct dry-stone wall is present within the Site which may provide hibernation, shelter and breeding opportunities, the homogenous habitat and high level of disturbance, due to the surrounding residential properties, reduce favourability for reptiles and the presence of this species within the site boundary is considered unlikely.

## 7.7 Invertebrates

- 7.7.1 An assessment of the habitats on the site found some features suitable to support pollinators i.e., flowering plants, trees and shrubs hedgerows. Additionally, the site likely supports invertebrates typical of garden environments. However, the habitat features identified are abundant throughout to the wider environment and are addition understood to not be impacted by the proposals.

## 8.0 Conclusions & Recommendations

### Habitats & Vegetation

- 8.1 No habitats or species of conservation importance were identified within the application site boundary. As a means of improving biodiversity value / enhancing the site any new landscaping should aim to incorporate majority use of native species as opposed to non-native exotic species which offer significantly fewer benefits to our native fauna. Suitable species for native landscaping have been provided in **Appendix III**.
- 8.2 No invasive, non-native species listed under Schedule 9 of the WCA were identified within the application site boundary.

### Bats

- 8.3 Whilst no buildings are present within the site boundary, adjacent and surrounding trees may be utilised, and the site may provide a limited foraging opportunity for light (& non-light) sensitive bats such as *Pipistrellus sp.* However, the loss of the site is unlikely to impact foraging availability within the wider landscape for these species.
- 8.4 No further surveys are recommended in respect of trees.
- 8.5 All trees present in the immediacy should be considered highly valuable to bats in a local context in that they likely provide valuable foraging/commuting habitat; whilst no tree loss is anticipated, any loss of individual trees should be adequately compensated for with native species planting at least 2:1 ratio.
- 8.6 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 of that are currently free from illumination. A bat-sensitive lighting plan is therefore recommended in order to avoid potential impacts to bats that may use the surrounding treelines. Several options to consider have been listed below, though the reader is referred to the Bat Conservation Lighting Guidelines for further information.

Appropriate luminaire specifications: Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires.

All luminaires should lack UV elements when manufactured. Metal halide, 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. Lighting should be directed to where it is needed, and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur: There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels: The light should be as low as guidelines permit. If lighting is not needed in any particular area, do not light. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site.

Please refer to the 'Landscape and urban design for bats and biodiversity' (*Gunnell et al.*, 2012, Bat Conservation Trust) Guidance Note 8 'Bats and Artificial Lighting' 2018, Bat Conservation Trust for further information.

### Breeding Birds

- 8.7 No impacts are likely to occur to any WCA Schedule 1 listed species specially protected bird species such as barn owl and no further surveys or recommendations are necessary in relation to specially protected birds.
- 8.8 In relation to common birds, the dry-stone wall and vegetation adjacent to the Site boundary offer small birds a plethora of nesting opportunities, particularly during the breeding season.
- 8.9 At present, it is understood that no vegetative features are to be impacted by the proposed development; however, it is possible minor work involving trimming and branch removal will take place.
- 8.10 As all birds (with only minor exceptions) are protected when at the nest, it is therefore recommended that any vegetation work (and work to the dry-stone wall) be carried out outside of the breeding bird season (March – August inclusive). For works undertaken within the breeding season any areas that can support nesting birds such as the adjacent vegetation, should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing.
- 8.11 Where/if active nests are 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.

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.*"

**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.*

### Other Terrestrial Mammals

- 8.12 Whilst no evidence of badger, or other specially protected mammal was identified anywhere within the Site boundary, the occasional presence of such species for foraging and commuting purposes is considered possible due to the presence of adjacent scrub. It is therefore recommended that Reasonable Avoidance Measures are developed by a suitably qualified ecologist to ensure badgers are considered during the construction of the development; inclusion of measures described in Section 8.14 should be implemented in line with this RAMS.
- 8.13 Based on the results of the appraisal hedgehogs have been found to utilise the site due to the presence of hedgehog droppings, therefore the proposals have the potential to injure or kill individuals of this species. To minimise risks of impacts to hedgehogs, a precautionary approach is recommended to be adopted; a pre-commencement check should be carried out



prior to any clearance or construction by an ecologist. In the event that any hedgehogs are encountered, if they cannot be left in-situ they should be carefully captured and relocated to an area of like-for-like habitat off site / adjacent to site with sufficient shelter. Resting or hibernating animals should be given a fair period of time to awake and move on of their own accord particularly if discovered in the colder months. The presence of refuge (hedgerows) justifies the recommendation of enhancements for hedgehogs; refer to Appendix III.

8.14 In addition, if and when future development transpires then as a minimum reasonable precautionary measure where excavations / trenches will be made:

- limit working hours to the daylight,
- carry out morning checks for the presence of mammals and other small animals,
- provision of low angle sloping boards of approximately 300 mm wide should be placed within any excavations at the end of each working day, to facilitate a means of escape for mammals such as hedgehogs,
- excavations should be backfilled at the end of the working day, if possible,
- Do not leave any bulky equipment / general construction aggregates around the development area; instead leave them on bare ground away from the risk zone.

### **Herpetofauna**

8.15 Given the absence of available waterbodies within the site boundary as well as 250-metre radial buffer, poor connective features within a homogenous landscape affording poor value terrestrial habitat (outside of the dry-stone walls), it is considered that the likelihood of GCN utilising the site is negligible, and no further surveys or recommendations are required in relation to this species.

### Wider Herpetofauna

8.16 There is a reasonable likelihood of more robust amphibians such as common frog and common toad being occasionally present on site. Due to general declines in most British amphibian species in recent years, it is therefore recommended, as a precautionary measure, that an appropriate Method Statement is created by a suitably qualified Ecologist/Ecological Clerk of Works (ECoW), detailing a list of Reasonable Avoidance Measures (RAMs) to prevent risk to these species.

8.17 If in the event that any frogs or toads are encountered during any stage of site operations, and they are at risk of harm, site personnel are advised to use wet gloves and to carefully handle the animal, removing from the work site to be placed in nearby like-for-like habitat.

8.18 If any newts are encountered at any time during the works, or at any other stage of the work programme, works would be required to immediately cease and the Ecologist/ECoW made aware as to provide further guidance in this situation if an ecologist/ECoW is not already present on site.

### Reptiles

8.19 The Site is unlikely to support reptiles, with exception to the minor opportunities the defunct dry-stone wall offers. Given the residential nature of the immediate surroundings and poor connectivity to viable habitat within the extended environment, it is considered that the likelihood of reptiles utilising the site is negligible and no further surveys or recommendations are required in relation to this taxa.

Invertebrates

- 8.20 Purely as a recommendation to enhance the value of the site for invertebrates, general enhancements for invertebrates are provided in **Appendix II**.

**Biodiversity Enhancement**

- 8.21 General recommended ideas to enhance the site in accordance with the principles of '*Biodiversity Net Gain: Good practice principles for development*' (CIEEM *et. al.*, 2019), are presented in **Appendix III**.

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### Appendix I: Site Photographs



**Plate 1** – General character of the survey area; an open grassland with fence, dry-stone wall and line of tree boundary



**Plate 2** – Different perspective of the site; facing north





**Plate 3** – An image showing the dry-stone wall on the western boundary



**Plate 4** – Additional area of dry-stone wall with conifer treeline





**Plate 5** – A mature beech tree on the directly outside the southern boundary with overhanging branches



**Plate 6** – Line of beech trees outside the southern site boundary





**Plate 7** – An owl box located outside the site boundary to the north



**Plate 8** – Hedgehog dropping



**Appendix II: Botanical Species List**

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

| <b>Taxon</b>                     | <b>Common Name</b>     | <b>Scientific Name</b>             | <b>DAFOR</b> |
|----------------------------------|------------------------|------------------------------------|--------------|
| Bryophyte<br>(moss)              | Springy turf moss      | <i>Rhytidiadelphus squarrosus</i>  | A            |
|                                  | Pointed spear moss     | <i>Calliergonella cuspidata</i>    | F            |
| Anthophyta<br>(Flowering plants) | Atlantic ivy           | <i>Hedera hibernica</i>            | R            |
|                                  | Bristly oxtongue       | <i>Helminthotheca echioides</i>    | R            |
|                                  | Cocks foot             | <i>Dactylis glomerata</i>          | R            |
|                                  | Common chickweed       | <i>Stellaria media</i>             | O            |
|                                  | Common daisy           | <i>Bellis perennis</i>             | F            |
|                                  | Common yarrow          | <i>Achillea millefolium</i>        | O            |
|                                  | Creeping buttercup     | <i>Ranunculus repens</i>           | O            |
|                                  | Dove's foot cranesbill | <i>Geranium molle</i>              | R            |
|                                  | Greater willowherb     | <i>Epilobium hirsutum</i>          | R            |
|                                  | Ground ivy             | <i>Glechoma hederacea</i>          | R            |
|                                  | Hybrid bluebell        | <i>Hyacinthoides x massartiana</i> | R            |
|                                  | Lesser periwinkle      | <i>Vinca minor</i>                 | R            |
|                                  | Red fescue             | <i>Festuca rubra</i>               | D            |
|                                  | Ribwort plantain       | <i>Plantago lanceolata</i>         | R            |
|                                  | Spear thistle          | <i>Cirsium vulgare</i>             | R            |
|                                  | Stinging nettle        | <i>Urtica dioica</i>               | R            |
|                                  | White clover           | <i>Trifolium repens</i>            | R            |
| Yorkshire fog                    | <i>Holcus lanatus</i>  | A                                  |              |

### Appendix III: Biodiversity Enhancement: General Recommendations

#### **Bats – Integrated bat boxes**

The Enclosed Bat Box 'C' from Ibstock is designed for the pipistrelle bat. It is ideal for new builds as it can be integrated directly into the brickwork to produce a discrete but attractive home for bats.

The box has an attractive bat motive on the front and is both durable and fully frost resistant. The inside of the box is designed to create several roosting zones which are ideal for crevice dwelling bats. The bottom entrance means that no maintenance is required as droppings will simply fall out the bottom.



#### **Breeding Bids – 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 common ivy, honeysuckle or other climbing plants.



#### **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
- \* Origin: Cornwall, UK
- \* 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 - recommended species








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 (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), and holly (*Ilex aquifolium*), whilst climbers/creepers such as hops (*Humulus lupulus*) and honeysuckle (*Lonicera periclymenum*) 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 (*Quercus robur*), wild cherry (*Prunus avium*), and alder buckthorn (*Frangula alnus*).

|                   | 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>                        |
| 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>              | -   |





### UK Habitats Map

-  Site Boundary
-  g4 - Modified grassland  
64 - Mown
-  w1g6 - line of trees
-  u1e - built linear feature  
69 - Fence
-  u1e - built linear feature  
67 - Dry-stone wall
-  h2b - other hedgerows
-  Target Note(s)  
1 - Hedgehog evidence

### Land adjacent to Sandstone Close

Survey Date: 21/02/2023  
Drawn: DB  
Date Drawn: 23/02/2023  
Size: A3  
Scale: 1:250:00

Tyrer Ecological Consultants Ltd  
Roselands  
3 Cross Green  
Formby  
L37 4BH

Tel: 01704 875781  
Email: [enquiries@tyrer-ecologicalconsultants.co.uk](mailto:enquiries@tyrer-ecologicalconsultants.co.uk)  
[www.tyrer-ecologicalconsultants.co.uk](http://www.tyrer-ecologicalconsultants.co.uk)