

Preliminary Ecological Appraisal

May 2023

Land to the rear of Hope Street
Prescot
Knowsley
L34 6HB

National Grid Ref: SJ46619294



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Preliminary Ecological Appraisal

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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 to the rear of Hope St. in Prescott' (see **Figure 1.1**) (termed as 'the Site' and 'application site' in this report), Tyrer Ecological Consultants Ltd were commissioned to carry out a Preliminary Ecological Appraisal (PEA) in May 2023.

The PEA was commissioned by Revival Architecture; proposals are for demolition of an existing industrial unit with subsequent erection of 6no 3bed terraced dwellings with associated landscaping, car parking and bin storage.

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

Tree loss: A small number of trees may be lost to facilitate the proposals; where tree loss will occur, suitable re-planting of native fruit or seed-bearing species is recommended on Site, adjacent to Site or within ecologically desirable areas at a minimum 2:1 ratio to suitably mitigate tree loss based on the urban location and value of trees in that context.

Bats: Based upon the findings of the survey covered through sections 6.0-7.0 of the report, whilst following best practice guidance, **B1** and **B2** were determined to offer '**Negligible**' bat roost suitability in accordance with the *Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 3rd ed. (2016).

No further surveys are recommended at this time.

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 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.

Bats are a transient group and buildings can deteriorate over time to provide greater roost value based on site-specific factors, therefore these recommendations apply for 18 months; if works are not carried out within 18 months of the issue of this report an updated preliminary roost assessment is recommended at the adjacent stables. If in the event of an updated appraisal that bat(s) are found, or evidence of bat(s), or during works or at any time, then an Ecologist should be on hand to provide suitable guidance.

Nearby treelines and scattered trees should be considered valuable habitats to bats in a local context in that they likely provide valuable foraging/commuting habitat.

Any loss of trees to facilitate development works should be adequately compensated as discussed above.

Breeding birds: In relation to common birds, trees provide viable nesting opportunities for smaller birds though the buildings were considered unsuitable for nesting birds; as breeding birds are protected when breeding / when at the nest, timings implications are applicable to avoid disturbing or harming breeding birds and breaching legislation.

It is recommended that no removal of, or works to damage, any trees that may be used by breeding birds, shall take place during the main bird breeding season (1st March to 31st August inclusive), unless a competent Ecologist has undertaken a careful, detailed check for active birds' nests immediately before any works and provided confirmation that no birds will be

harmed and/or that there are appropriate measures in place to protect nesting bird interest on site. Appropriate measures - 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 is typically species dependant.

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."

Biodiversity net-gain: Enhancement ideas that consider the specific scale and nature of the proposals 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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1.0 Introduction & Scope

- 1.1 As part of a proposed planning application for 'land to the rear of Hope St. in Prescot' (see **Figure 1.1**) (termed as 'the Site' and 'application site' in this report), Tyrer Ecological Consultants Ltd were commissioned to carry out a Preliminary Ecological Appraisal (PEA) in May 2023.
- 1.2 The PEA was commissioned by Revival Architecture; proposals are for demolition of an existing industrial unit with subsequent erection of 6no 3bed terraced dwellings with associated landscaping, car parking and bin storage.



Figure 1.1 – Survey area for land to the rear of Hope St. in Prescot

- 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, that could be affected by the proposals for which the application 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 baseline nature of the application 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 (as necessary) within a suitable report,
 - Identify, measure and map habitats using *UK Habitat Classification – Habitat Definitions Version 1.1* (2020),
 - 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,
 - Aim to achieve no 'net loss',
 - 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 were identified, measured and mapped using the *UK Habitat Classification – Habitat Definitions Version 1.1* (2020);
 - 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, 3rd ed. (2016) and British Standard 8596:2015 *Surveying for bats in trees and woodland*.
- 1.7 This report provides 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 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 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 and guidance considered for the purposes of this report includes the following:

- Biodiversity Net Gain. Good practice principles for development,
- BS 42020:2013 Biodiversity – Code of Practice for Planning and Development,
- Conservation of Habitats and Species Regulations (amendment) (2019) (EU Exit),
- Countryside Rights of Way (CROW) Act (2000),
- Natural Environment and Rural Communities (NERC) Act (2006),
- The Hedgerow Regulations (1997),
- Town and Country Planning Act (1990),
- Wild Mammals Protection Act (1996),
- Wildlife and Countryside Act (WCA) (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 (e.g. bats), 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	Relevant Legislation	Level of Protection
Bats	CRoW Act (2000) Conservation of Habitats and Species Regulations (2019) (EU Exit) 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.
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.
Invasive Plant Species	Wildlife and Countryside Act (1981) (as amended)	Species listed within Schedule 9 as invasive, including Japanese Knotweed (<i>Reynoutria japonica</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 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

180. 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 The Knowsley Local Plan Core Strategy (2016) stipulates:

"...the design of development will be expected to support and integrate biodiversity enhancements, flood risk mitigation, energy/resource efficiency and waste recycling requirements, to accord with Policy CS8: Green Infrastructure, Policy CS24: Managing Flood Risk and Policy CS26: Waste Management.

and in section 5.91:

"In some circumstances, adequate mitigation and/or compensation for biodiversity loss may be acceptable but incapable of being provided within the application site. In such cases where appropriate, priority will be given to equivalent off site opportunities for such mitigation or, as a last resort, compensation. Such opportunities shall be prioritised in the following order:

- Firstly sites in the immediate locality of and/or within any Core Biodiversity Area near to the application site,*
- Secondly, sites in a Nature Improvement Area identified within the borough,*
- Lastly, sites in a Nature Improvement Area identified outside the borough.*

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- 2.7 Where more detailed surveys are recommended by the Ecologist following a preliminary assessment, then the Local Planning Authority, upon the advice of their ecological advisors, should not determine an application until such time that all relevant information is gathered, i.e. - until all required survey work has been completed.
- 2.8 The above is in accordance with the obligations placed upon Local Authorities by way of its duties under the Conservation of Habitats & Species Regulations 2019 (EU Exit).

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: Habitats of Principal Importance in England and: Species of Principal Importance in England are considered potentially relevant to the appraisal (non-extensive):

Habitats:

- n/a.

Species:

- Bats: brown long-eared (*Plecotus auritus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and common noctule (*Nyctalus noctula*),
- s.41 bird species that includes house sparrow (*Passer domesticus*), skylark (*Alauda arvensis*), bullfinch (*Pyrrhula pyrrhula*), lesser redpoll (*carduelis cabaret*), grey partridge (*Perdix perdix*), song thrush (*Turdus philomelos*), lapwing (*vanellus vanellus*), dunnoek (*Prunella modularis*), yellowhammer (*Emberiza citrinella*) for e.g.,
- Botanical species that includes: bluebell (*Hyacinthoides non-scripta*), 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, enhance and improve biodiversity where possible, as well as 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;
 - Urban Grasslands (This habitat covers acid/neutral/calcareous unimproved, semi improved and improved grasslands occurring in urban and urban fringe areas),
 - Urban Green Infrastructure (10. Ecological Frameworks).

4.0 Methodology

Desktop study

4.1 A desk study was undertaken to identify existing information on the presence of designated sites, protected and notable species and habitats within proximity as follows:

- Statutory designated sites for nature conservation within 5km; and,
- Non-statutory designated sites for nature conservation within 2km.

4.2 The following key sources were consulted:

- Natural England and Joint Nature Conservation Committee (JNCC) websites;
- Google Earth Pro and Ordnance Survey Maps (OS Maps);
- The Multi Agency Geographic Information for the Countryside (MAGIC) website; and,

4.3 A commercial data request to the Local Environment Records Centre (LERC) serving the area Merseyside Biobank has not been sourced at this time:

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 extension to a residential property, 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 (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.”

4.4 It is considered a data search would be unlikely to provide information needed to inform an impact assessment, due to the small scale and location of the proposed development.

4.5 As exemptions outlined in the guidance can be applied in good practice for the proposals for which the applicant seeks consent, it is considered unnecessary to conduct a commercial data

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request at this time as enough information has been obtained from a standard desktop assessment and from field work, 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

- 4.6 A daytime preliminary ecological appraisal was conducted on the 17th May 2023 in dry, overcast conditions (13°C) with 100% visibility, average wind 1/12 (Beaufort scale), 25% cloud cover, by the following qualified surveyor (**Table 4.1**).

Table 4.1 - Surveyor credentials

Name	Description of most relevant credentials
Mr. M. Pritchard ACIEEM (Senior Ecologist)	• Six years professional Ecological consultant experience & extensive training in cross habitat/species ecology; • Relevant Degree: FdSc (Countryside, Conservation & Recreational Management); • Licenced in Bats: (2020-5039-CLS-CLS) (Class 1) and accredited agent on the (Class 2) Natural England bat licence of Mrs. K. Wilding (CLS-14227); • Licenced for Great Crested Newt: CL08 (Great Crested Newt Survey Level 1) - 2018-34062-CLS-CLS (England); • Licensed for Sand Lizard & Natterjack Toad (2022-62891-SCI-SCI); • FISC Level - 3 (2019) (Botanical); • Trained in use of the MoRPH River assessment; • Trained in UK Habs / BNG condition assessment.

Floristic assessment

- 4.7 The survey followed the UK Habitat Classification Version 1.1 (Butcher, et.al., 2020) method 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, 2nd Edition*” (CIEEM, 2017).
- 4.8 During a 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.
- 4.9 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**).

- 4.10 The Site 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). For botanical species list compiled, see **Appendix II**.

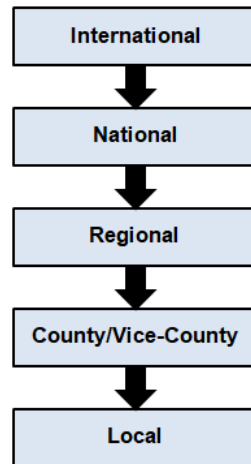


Figure 4.1 – Geographic Frame of Reference entailing degrees of conservation importance

Faunal assessment

- 4.11 During a 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

- 4.12 Buildings were inspected for potential places that may be of value to bats and to determine evidence of use. This typically involves a search for potential roost features (PRF) both internally (investigation of loft spaces/upper floors/inside elevations) as well as externally, comprising an investigation of features (roof material, building components) using a high-powered torch. Field signs of bats typically comprise bat droppings, incidental animal presence, dead specimens and/or prey items. The surrounding habitat was also considered in terms of general suitability.
- 4.13 Trees were 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, 3rd ed. (2016): (see **Figure 4.2**).
- 4.15 Factors typically considered during the preliminary roost assessment include:
- Knowledge of bat species relevant to the site location and geographical range,

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- Nature of the immediate / surrounding habitat in relation to foraging opportunities,
- Presence and conditions of loft spaces, upper floors, roof linings,
- Presence / absence of roost potential,
- Value and types of roost potential, if present (i.e. - maternity, hibernation, transition).

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 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 ^a 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 ^b). 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. ^c	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. 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 ^a 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. 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 ^a 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. 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 For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

^b 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.

^c 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

Birds

- 4.16 The Site was inspected for evidence of nesting and suitability for relevant avian species including for breeding, passage and overwintering use. Bird species observed and heard were recorded, 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.
- 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 (WCA) (1981) (as amended).

Other terrestrial mammals

- 4.18 The walkover included a search for field signs 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 suitability of European hedgehog.

Herpetofauna

- 4.20 The terrestrial value of the Site was assessed in relation to amphibian shelter, hibernation, foraging and commuting habitat value and suitability.
- 4.21 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) for breeding. 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.*

- 4.22 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.
- 4.23 The Site and its surroundings were assessed for suitability for use by reptiles known to the county; during the survey particular attention was 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 use a variety of habitats from woodland glades to heaths, walls and pastures, as well as brownfield sites.
 - slow-worms use similar habitats to common lizards, and are often found in rank grassland, gardens and derelict land;
- 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

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

- 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:
- Rich flora community,
 - 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 surveyor and author Mr. Pritchard.

5.0 Limitations

- 5.1 This report does not contain a comprehensive list entailing the totality of botanical taxa on Site. Though the list in **Appendix II** represents the Site and helps distinguish habitats, a PEA is not a concentrated effort to gather full botanical information. Many plant species are only evident at certain times of the year, in addition the presence of annuals/biannual species may not be present in March; consequently, it is possible some plant species may have gone undetected, and a precautionary approach has been considered in the conclusions and recommendations.
- 5.2 No access issues arose, and the surveyor was able to carry out a robust assessment of all areas proposed to be directly affected by development.
- 5.3 In considering the limitations given, no significant constraints were experienced that might adversely influence the results, conclusions, and recommendations of this report which have been provided in accordance with best practice guidance.

6.0 Desk Study Results

- 6.1 The site is located in a sub-urban setting in Prescott, Knowsley, approximately 4.80 kilometres south-west of St. Helens town centre (see **Figure 6.1**).

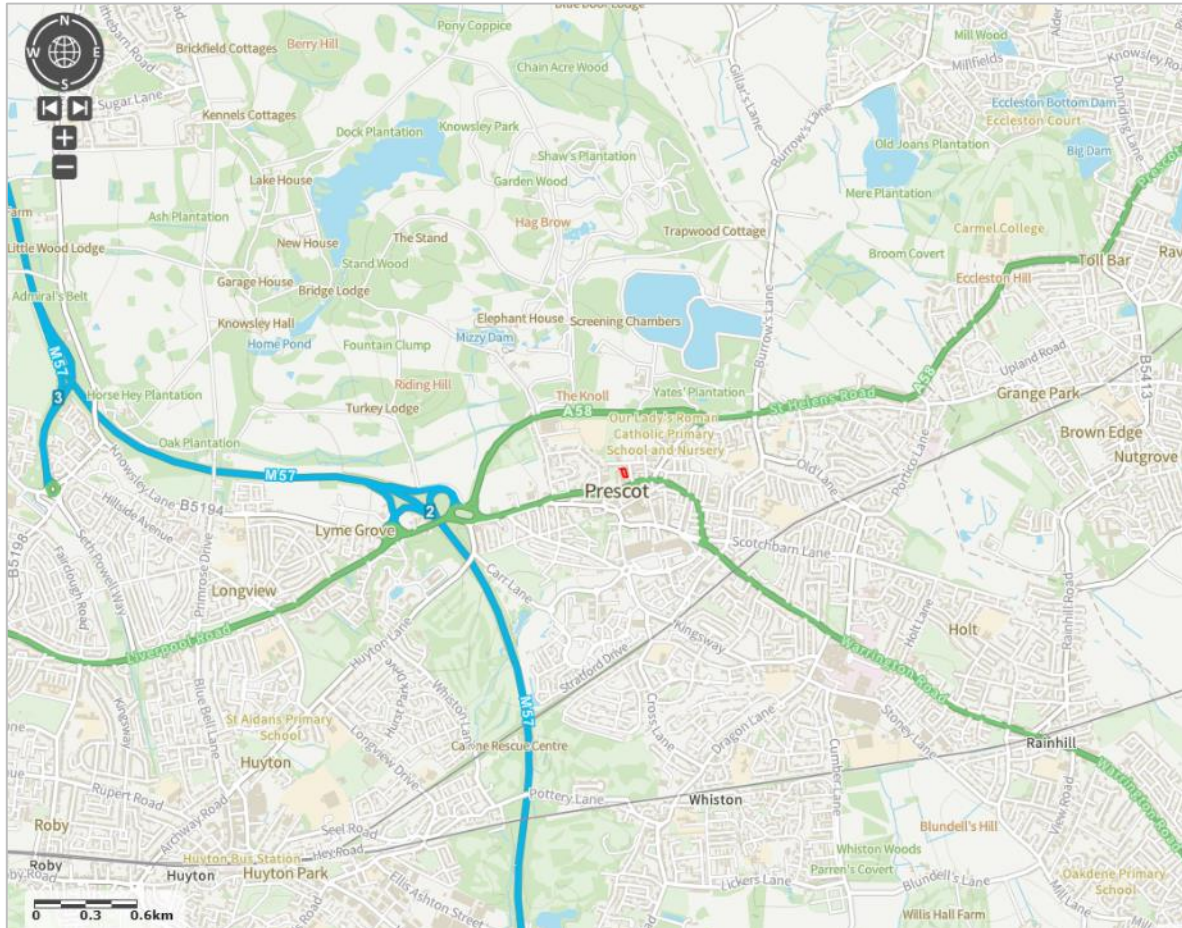


Figure 6.1 – Location of the Site within the context of the wider setting (OS Maps 2023: OSGB36 - 1:25,000)

- 6.2 The site comprises a large industrial unit centrally used as a car garage along with single-storey annexed offices to its front, southern aspect. Part of the survey area comprises hardstanding for car parking. A public access track with strips of grassland and a small number of scattered trees lies adjacent to the west boundary of the industrial unit, which was included in the survey.
- 6.3 Immediately surrounding the site are residential properties separated by an alley to the east and a care home with grounds is present to the west; an MOT/servicing centre is present to the south preceding the busy High Street; the grounds of Prescott Cables Football Club are present to the north along with Eaton Street Park & Meadow and the grounds of Prescott School academy.
- 6.4 The extending environment is similar to that of the immediate largely sub-urban with busy roads and commercial settings with typical sub-urban green infrastructure such as parkland, scattered trees, grasslands managed for amenity use and treelines. North of the A58 at 320 metres to the north are priority habitats such as wood pasture and parkland, lakes, pockets of mixed woodland, lowland meadows, species rich grasslands and priority open mosaic habitat on previously developed grounds, most of which occurs within the grounds of Knowsley Safari Park. There are several reservoirs to the north-east within Prescott Reservoir grounds.

- 6.5 The described surrounding environment presents a wide variety of terrestrial and freshwater habitat types though the Site is somewhat isolated given its encapsulation within a sub-urban area. The protected species group most typically associated with the habitat types described are bats, namely the common pipistrelle bat, a species typically associated with roosting in urban environments.

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 One pond was identified within 250 metres on OS Maps. See **Figure 6.2**.

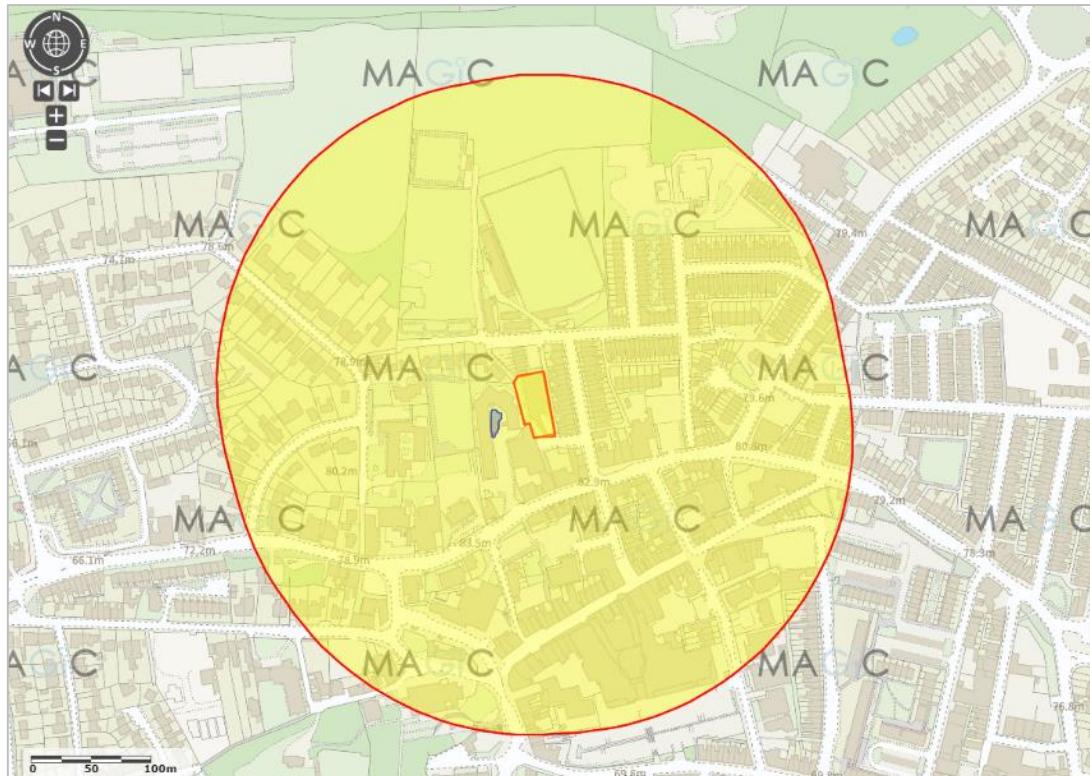


Figure 6.2 – One pond located within 250 metres of the Site (OSGB36 - 1:4000)

- 6.6 There are no statutory designated sites within 2.0 kilometres; given its geographical location and sub-urban encapsulation, any proposed development is unlikely to impact on any statutory designated sites or non-statutory local wildlife sites that might be present within 2.0 kilometres.
- 6.7 A study of MAGiC Maps identified three mitigation licences have been granted within 2.0km; this included a great crested newt mitigation licence for damage and destruction of a resting place at 525 metres north, and two bat related mitigation licences at 1.65 kilometres west and 2.0 kilometres west. There is also a great crested newt class licence return record at 1.31 kilometres north.
- 6.8 Tyrer Ecological Consultants Ltd have digitised and submitted all bat data collated to the local environment record centre (LERC) serving the area since 2014; a search of our LERC submitted information received the following bat records within 2.0km which confirm their presence in the surrounding settings.
- Knowsley Safari Park to the north-west has a number of bat boxes erected on mature parkland trees that support fair numbers of common and soprano pipistrelle whilst

brown long-eared, common noctule and Daubenton's (*Myotis daubentonii*) have been recorded on site also.

- 1.30 kilometres west / 2022 / dusk and dawn surveys at Forest farm revealed a number of roosts for common pipistrelle (x10 bats) and a brown long-eared (x1) as well as local activity from common noctule (*Nyctalus noctula*) and a *Myotis* sp.
- General additional records of common pipistrelle were present.

7.0 Field Survey Results

7.1 Habitat survey

7.1.1 See **Table 7.1** (below) for baseline habitat information and descriptions; refer to **Appendix I** for any supporting imagery; scientific names for species named in **Table 7.1** are given in **Appendix II**.

7.1.2 Refer to **Appendix IV - UK Habitats Map** for the location of habitats.

Table 7.1 – UK Habitat codes and descriptions with Target Notes

Habitat code	Description
g3c 80 – other neutral grassland; unmanaged	There are two strips of unmanaged neutral grassland aside a public track of hardstanding along the west of B1 ; the main grass component is rough meadow-grass which represents approximately 40% of the sward; forbs are common and typical including stinging nettle, cleavers, wall lettuce, perennial sow-thistle, spear thistle, cow parsley, greater plantain and nipplewort, though Welsh poppy is occasional and also grows from the vertical wall facings.
u1b5 - buildings	B1 and B2 have been described in section 7.3.
u1b6 89 115 – other developed land; car park and track	This habitat represents the car park and pathways within and around the site forming hardstanding.
g 11 – scattered trees on grassland	A small number of scattered trees comprised of self-seeded sycamore, elder and buddleia are present along the western side of B1 .

7.2 Vegetation

Notable species

7.2.1 No priority species or species of conservation importance based on rarity or status were identified on site during the Site walkover; all species encountered were considered common for the county and there was no reason to suggest a priority floral community exists at different times of the year.

Invasive non-native species

7.2.2 No species listed as 'invasive' under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981) (as amended) were identified upon assessment of the survey area.

7.3 **Bats**

B1 – Large car garage

- 7.3.1 **B1** is an active large car works garage. It is steel framed and made of single-skin corrugated metal with breezeblock and brick forming the lowers to 4metres high. It has a standard pitched corrugated roof with sunlight's and there is bolted capping to the front and rear gable elevations. External fittings include hanging timbers on the eastern aspect and timber signage to the south entrance elevation. The building also has security lighting. It was adjudged to be in a favourable aesthetic state with no significant damage or dilapidation observed.
- 7.3.2 Internally the building is open spacious to the ridge though there are various heavily cobwebbed steel cross framings below the roof. A small mezzanine is present in the upper southern region of the inside accessible via a metal staircase and there are two car spray and paint rooms along the ground northern region of the building. The general conditions are dry, spacious, illuminated and non-draughty; a thick dust, likely from spray and other internal manufacture and working operations, covers most of the ground and inner furnishings/bulky items; no roof lining is present below the bolted corrugated panels that form the roof.
- 7.3.3 Based on the building design and in considering its location and surrounding habitats **B1** can be considered unsuitable for loft-dwelling bats such as brown long-eared; this is a species that prefers much darker environments and minimal to no disturbance for roosting. Additionally, no crevice value typically required for crevice-dwelling species such as Pipistrelle bats was noted inside. No evidence of bats was encountered.
- 7.3.4 Externally no typical bat roost potential, such as gaps below fascia, barge board, soffits or loose/slipped tiles, for example, was observed anywhere on **B1**.

B2 – Reception & office

- 7.3.5 **B2** is directly annexed to **B1**; date plated '1936' it is a brick-built single-storey block like construct with a mainly flat, minor mono-pitched corrugated roof and its western facings form a 5-6m high brick wall alongside the adjacent public track / grassland strips. The only typical potential roost feature of note is a timber fascia below the roof on the eastern aspect and it features a minor area on the south-west corner with climbing ivy (*Hedera*). It was adjudged to be in a favourable aesthetic state with no significant damage or dilapidation observed.
- 7.3.6 Internally a narrow continuous roof void less than 0.5m high likely exists above the ceiling of three inner rooms; each is confined/non-spacious, full of bulky items, warm, dry and illuminated by windows on the eastern side. Based on the building design and in considering its location and surrounding habitats **B2** can be considered unsuitable for loft-dwelling bats such as brown long-eared; this is a species that prefers much darker environments and minimal to no disturbance for roosting. Additionally, no crevice value typically required for crevice-dwelling species such as Pipistrelle bats was noted inside. No evidence of bats was encountered.
- 7.3.7 Externally, neither the fascia, brick wall, roof components or areas with ivy were considered to offer bat roost potential and no evidence of bats was found at **B2**.

Trees

- 7.3.8 None of the scattered trees within and along the west of the survey area had bat roost suitability given an absence of any potential roost features such as holes, splits/tear outs or cracks leading to cavities/crevices. The trees provide low value foraging and commuting habitat in an otherwise urban setting.

7.4 Birds

- 7.4.1 In relation to WCA Sch.1 listed species, the Site is unsuitable for any WCA Sch.1 listed species such as Barn owl as there is a definitive absence of any breeding value and the surroundings are unsuitable for hunting.
- 7.4.2 In relation to s.41 priority species and more common breeding birds, the trees along the western aspect of **B1** provide potential nesting habitat; assessment of the buildings and grassland areas located no evidence of historic nests, and both have been assessed as unsuitable for nesting birds.

7.5 Other terrestrial mammals

- 7.5.1 No field signs were located to suggest presence of badgers including any setts, latrines, pathways, hairs, footprints or feeding signs such as snuffle holes and scratched trees/logs and the survey area is wholly unsuitable for this species.
- 7.5.2 No field signs or sightings of hedgehog were encountered though this species is nocturnal and hides by day and may be present in the locale based on the habitat types and connectivity to wider more valuable habitat. There were no areas that hedgehog could use for hibernation or breeding.

7.6 Herpetofauna

Great crested newt (GCN)

- 7.6.1 No ponds are present on the application Site that could support great crested newt for breeding and the habitats present offer low value opportunities for rest/shelter, foraging or commuting. The site is encapsulated by urbanisation and isolated from both any ponds and the high value terrestrial habitat required around ponds to sustain newts during the course of their lifetime.

Other herpetofauna

- 7.6.2 The presence of common amphibians and reptiles can also be reasonably discounted due to the Site's isolation and fragmentation from wider semi-natural habitat and suitable areas.

7.8 Invertebrates

- 7.8.1 Flora rich grassland margins can be typically considered valuable to invertebrates particularly from providing areas suitable for foraging, breeding and pollination. There is no reason to suggest any significant invertebrate assemblages or notable species to be present based on habitat types and flora present.

8.0 Conclusions & Recommendations

Designated sites

- 8.1 The planning application does not meet any of the categories whereby it becomes immediately evident Natural England need to be consulted regarding potential impacts to statutory designated sites and Tyrer Ecological find it unlikely the proposals pose any risks to designated sites, or their respective qualifying features, to warrant a Habitat Regulations Assessment (HRA).
- 8.2 No construction or operational impacts are anticipated to arise from the proposed development in relation to statutory or non-statutory designated sites by virtue of distance and spatial separation.

Habitats & Vegetation

- 8.3 No impacts will occur from the proposals to any priority habitats or species.
- 8.4 A small number of trees may be lost to facilitate the proposals; where tree loss will occur, suitable re-planting of native fruit or seed-bearing species is recommended on Site, adjacent to Site or within ecologically desirable areas at a minimum 2:1 ratio to suitably mitigate tree loss based on the urban location and value of trees in that context.
- 8.5 No invasive non-native species listed under Schedule 9 (Part II) of the Wildlife & Countryside Act (1981) were identified upon assessment of the Site to warrant any specific measures.
- 8.6 Standard environmental protection and pollution prevention measures should be adopted throughout the construction phase to protect off-site environs.
- 8.7 Any landscaping strategy should aim to use native woody species suitable for the area and local soil type as opposed to non-native exotic species of minimal biodiversity value - see **Appendix III** for planting ideas.

Bats

- 8.8 Based upon the findings of the survey covered through sections 6.0-7.0 of the report, whilst following best practice guidance, **B1** and **B2** were determined to offer '**Negligible**' bat roost suitability in accordance with the *Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 3rd ed. (2016) (see **Figure 8.1**). No further surveys are recommended at this time.

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 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.

Figure 8.1 - Bat Conservation Trust (BCT) extract on negligible roost suitability

- 8.9 Bats are a transient group and buildings can deteriorate over time to provide greater roost value based on site-specific factors, therefore these recommendations apply for 18 months; if works are not carried out within 18 months of the issue of this report an updated preliminary roost assessment is recommended at the adjacent stables. If in the event of an updated

appraisal that bat(s) are found, or evidence of bat(s) (see **Figure 8.2**), or during works or at any time, then an Ecologist should be on hand to provide suitable guidance.

- 8.10 Nearby treelines and scattered trees should be considered valuable habitats to bats in a local context in that they likely provide valuable foraging/commuting habitat; any loss of trees to facilitate development works should be adequately compensated as discussed in section 8.4.



Figure 8.2 – Evidence of bats – droppings on the left / Common Pipistrelle bat on the right – indicative

- 8.11 The Site is currently subject to moderate levels of illumination by night. Installation of harsh artificial lighting as part of any development that exceeds current levels could have a negative impact upon foraging and commuting bats in the landscape, particularly if increased light spillage occurs in areas that are currently free from illumination. A bat-sensitive lighting plan is recommended as part of the scheme in order to avoid potential impacts to bats that may use the Site. 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.

- 8.12 The inclusion of various bat boxes would enhance opportunities for a variety of roosting bats / bat species– see **Appendix III**.

Birds

- 8.13 No impacts are likely to occur to any WCA Schedule 1 listed species and no further surveys or mitigation is recommended at this time in considering protected bird species.
- 8.14 In relation to more common birds, trees provide viable nesting opportunities for smaller birds though the buildings were considered unsuitable for nesting birds; as breeding birds are protected when breeding / when at the nest, timings implications are applicable to avoid disturbing or harming breeding birds and breaching legislation.
- 8.15 It is recommended that no removal of, or works to damage, any trees that may be used by breeding birds, shall take place during the main bird breeding season (1st March to 31st August inclusive), unless a competent Ecologist has undertaken a careful, detailed check for active birds' nests immediately before any works and provided confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting bird interest on site. Appropriate measures - 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 is typically species dependant.

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.*

- 8.16 The inclusion of various bird nest boxes would enhance opportunities for a variety of breeding birds – see **Appendix III**.

Other terrestrial mammals

- 8.17 The proposals pose negligible risks to badgers or hedgehogs and no specific further measures are recommended at this time for these species or any other terrestrial mammals.

Herpetofauna

- 8.18 In respect of herpetofauna, the combined desktop and field-based results suggest there is a negligible scale of risk associated with the proposals concerning great crested newts, common

amphibians or reptiles and no further surveys or specific recommendations are considered necessary at this time.

Invertebrates

- 8.19 No impacts are likely to occur in respect to invertebrates. General enhancement measures for invertebrates are recommended to be included in the proposed development plans to provide provisions with regards to invertebrates.

Biodiversity net-gain

- 8.20 Enhancement ideas that consider the specific scale and nature of the proposals 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 – Front south elevation and entrance of B1



Plate 2 – Nature of the underside of the roof cover inside B1

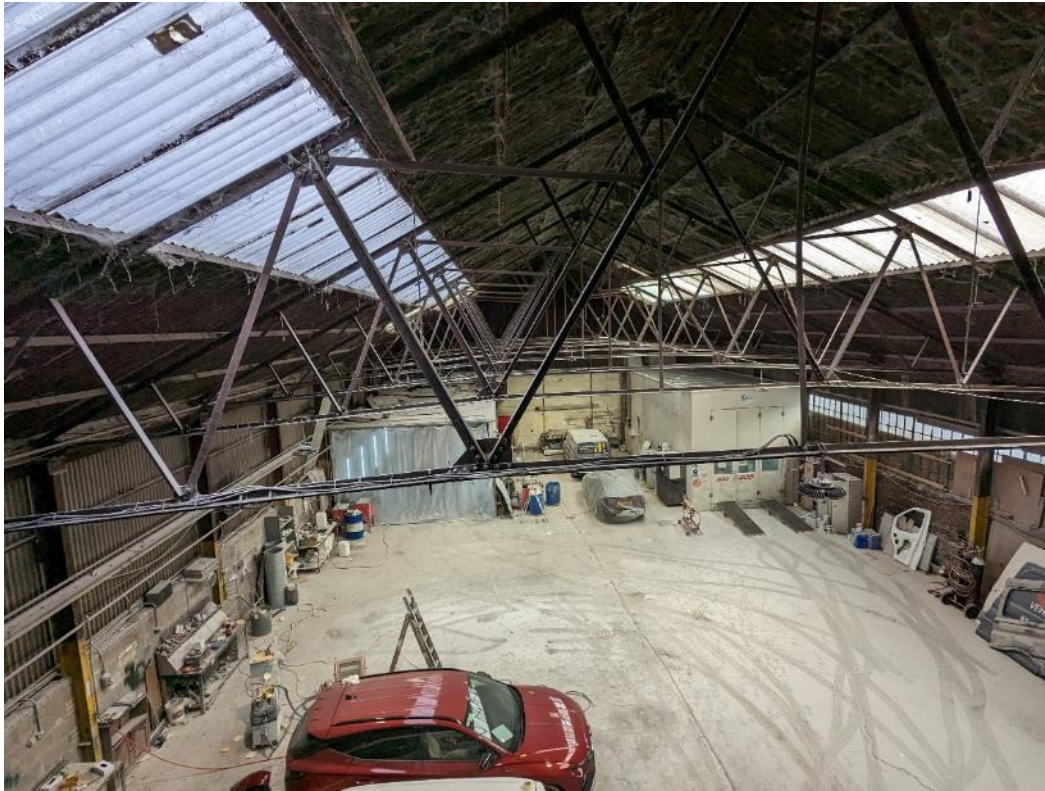


Plate 3 – General interior of B1



Plate 4 – Interior of B1 inner rear gable



Plate 5 – North-western side of B1



Plate 6 – Eastern side of B1



Plate 9 – Western aspect of B2



Plate 10 – Track with other neutral grassland margins and trees to its sides



Plate 11 – Closer view of the grassland margin in the west of the site



Plate 12 – Track with other neutral grassland margins and trees to its sides



Plate 13 – Closer view of the sward in the west of the site



Plate 14 – Closer view of the sward in the west of the site

Appendix II: Botanical Species List

Botanical species recorded during the PEA. Species nomenclature follows Stace, C (2019).

Scientific	Common
<i>Poa annua</i>	Annual Meadow-grass
<i>Anisantha sterilis</i>	Barren Brome
<i>Rumex obtusifolius</i>	Broad-leaved Dock
<i>Buddleja davidii</i>	Butterfly-bush
<i>Galium aparine</i>	Cleavers
<i>Jacobaea vulgaris</i>	Common Ragwort
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Bellis perennis</i>	Daisy
<i>Sambucus nigra</i>	Elder
<i>Myosotis arvensis</i>	Field Forget-me-not
<i>Epilobium hirsutum</i>	Great Willowherb
<i>Plantago major</i>	Greater Plantain
<i>Geranium robertianum</i>	Herb-robert
<i>Hedera helix</i>	Ivy
<i>Lapsana communis</i>	Nipplewort
<i>Sonchus arvensis</i>	Perennial Sow-thistle
<i>Silene dioica</i>	Red Campion
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Poa trivialis</i>	Rough Meadow-grass
<i>Cirsium vulgare</i>	Spear Thistle
<i>Urtica dioica</i>	Stinging Nettle
<i>Acer pseudoplatanus</i>	Sycamore
<i>Mycelis muralis</i>	Wall Lettuce
<i>Veronica arvensis</i>	Wall Speedwell
<i>Meconopsis cambrica</i>	Welsh Poppy

Appendix III: Biodiversity Enhancement: General Recommendations

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.

	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	Blackthorn	<i>Prunus spinosa</i>	-
	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>	-
	Rowan	<i>Sorbus aucuparia</i>	-
	Silver Birch	<i>Betula pendula</i>	-
	Wild Cherry	<i>Prunus avium</i>	-
Aquatic/marginal plants	Common Water-crowfoot	<i>Ranunculus aquatilis</i>	Ponds
	Marsh Marigold	<i>Caltha palustris</i>	Marginal vegetation
	Ragged Robin	<i>Silene flos-cucculi</i>	Marginal vegetation
	Water Mint	<i>Mentha aquatica</i>	Marginal vegetation
	Water-violet	<i>Hottonia palustris</i>	Ponds
	White Water-lily	<i>Nymphaea alba</i>	Ponds

Enhancement for Bats



- Beaumaris woodstone bat box

This bat box is made entirely from Woodstone, a robust material comprising concrete and wood fibres. The Beaumaris box has a single narrow cavity which makes it suitable for crevice roosting bats such as the Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle, Brandt's bat and Whiskered bat. The interior of the box has a rough surface for bats to cling to and the front of the box features a subtle but attractive imprint of a bat in flight.

Suitable for attaching to external walls and available in two sizes: the Midi and the Maxi.

For more information see www.nhbs.com/beaumaris-woodstone-bat-box.



- Cardinal bat box

The Cardinal Bat Box incorporates three separate chambers with louvered entrance holes to each direction.

Enhancement for 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.

www.nhbs.com/title/174850/1sp-schwegler-sparrow-terrace



Enhancement for Invertebrates

- Bee Bricks

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.



- National Trust Bee Log



- Insect maisonette



Insect provisions such as the above should be sited approximately 1.5m above ground level on a south facing aspect somewhere that will receive sun for at least part of the day.

Insect provisions can be installed at any time of year following the cessation of construction works.

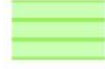
See:

<https://www.nhbs.com/>

<https://www.birdfood.co.uk/>



UK Habitats Key

-  Red Line Survey Boundary
-  g 11 - Trees
-  g3c - other neutral grassland
-  u1b5 - buildings
-  u1b6 - other developed land

Land to the rear of Hope St., Prescot

Survey Date: 17/05/2023
Drawn: MJP
Date Drawn: 18/05/2023
Size: A3
Scale: 1:300:00

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