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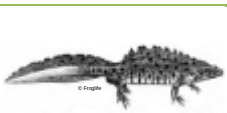
Tyrer Ecological Consultants Ltd, Formby Business Centre, 42 Duke Street, Formby, L37 4AT

Inspection & Assessment in Relation to Bats & Breeding Birds

January 2022

**7 Taylor's Lane
Ainsworth
Bolton
BL2 6QS**

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Prepared for	Neil Pike architects
Prepared by	Tyrer Ecological Consultants Ltd

Surveyor	Miss T Hesketh
Author	Miss T. Hesketh
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Reviewed by	Mr. M. Pritchard ACIEEM
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Approved by	Mrs. K. Wilding
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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 in respect to a stable building at Taylor's Lane, Bolton, Tyrer Ecological Consultants Ltd carried out a daytime inspection and assessment in relation to bats and breeding birds in December 2021. The survey was commissioned by Neil Pike Architects; proposals are understood to involve the conversion of the existing structure to provide several self-contained single-storey dwellings. As part of the scheme an adjacent shed will also be demolished.

Detailed methods, findings, conclusions and recommendations are presented throughout the report; however, the reader should be aware of the following Key points:

Bats: Based on the site-specific assessment as described, risks of impacts to bats can be considered highly unlikely and the stables are duly categorised as offering 'Negligible' bat roost potential in accordance with Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' (2016) (see Figure 8.1); no further surveys are required in relation to bats. Enhancement is recommended for bats in Appendix III.

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.

Breeding Birds: Due to the confirmed presence of breeding birds within the site along with the identified suitability of the site for birds associated with garden environments.

it is recommended that any demolition and/or clearance 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 should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing. If birds are found nesting any works which may affect them would have to be delayed until the young have fledged, and the nest has been abandoned naturally.

Along with the installation of 2 swallow nest cups after works are completed; further information is available in Appendix II

Biodiversity Enhancement: As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering biodiversity net-gain principles, the proposals may consider incorporating wildlife friendly provisions such as:

- *Native species only when landscaping / tree re-planting,*
- *Bird, bat, and invertebrate provisions,*

Further information is provided within Appendix II.

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1.0 Introduction & Reason for Survey

- 1.1 As part of a proposed planning application in respect to a stable building at Taylor's Lane, Bolton, Tyrer Ecological Consultants Ltd carried out a daytime inspection and assessment in relation to bats and breeding birds in December 2021. The survey was commissioned by Neil Pike Architects; proposals are understood to involve the conversion of the existing structure to provide several self-contained single-storey dwellings and associated parking. As part of the scheme an adjacent shed will also be demolished.

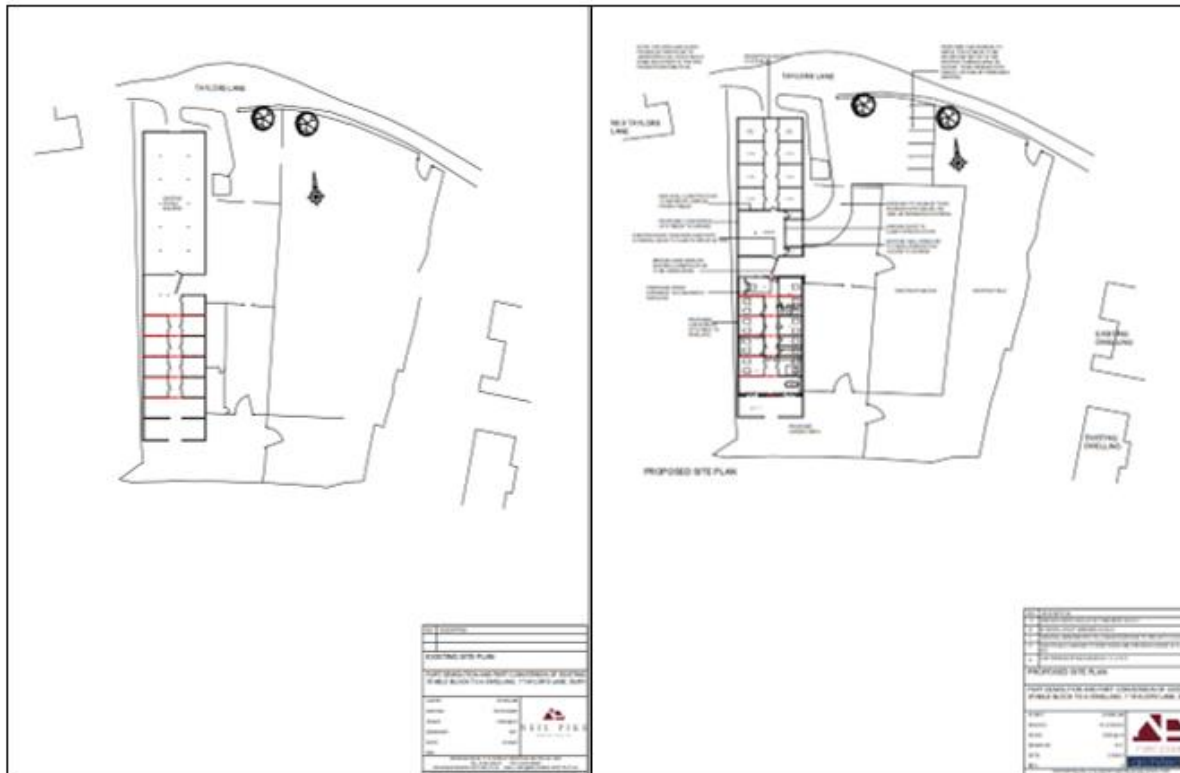


Figure 1.1 – Location plan (Left) and Proposed Plan (right) (© Neilpike Architects)

- 1.2 The aim of the inspection was to ascertain if the building is of value to bats whilst an assessment for birds was also carried out; if found to be suitable for bats, or signs of use were observed, then more detailed surveys would be recommended i.e. dusk/dawn emergence/re-entry surveys during the main active season of bats which is May – August. If it is determined that bat(s) or their roost/place of rest/shelter will be subsequently affected by the works then a European Protected Species Mitigation Licence (EPSML) would be legally required to proceed with the development. If evidence indicated breeding birds may be impacted by proposals, then recommendations would be made accordingly.
- 1.3 If additional surveys are required following the initial site visit this report will outline the details of those further requirements.
- 1.4 As part of the local authority's planning policies and obligations to the Planning Framework, ecological surveys are generally required prior to planning permission being granted where protected/priority habitats and species are, or may be present, that could be affected by the proposals for which the application seeks consent. Where more detailed surveys are recommended by the ecologist, following an initial daytime investigation, then Local Planning Authorities (LPA) on the advice of their ecological advisors, may not grant permission until such time that all relevant information is gathered.

- 1.5 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM *et al*, 2019) the site visit also aims to identify enhancement opportunities for biodiversity in line with national and local planning policy.

2.0 Protected Species & Their Requirements

Bats

- 2.1 All British bats and their **roosts are afforded full protection under the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats and Species Regulations (2019) (EU Exit). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that has a statutory duty as the local authority to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of Buildings by Bats

- a) Summer breeding roost (May-August)
- b) Hibernation roost (October-March)
- c) Transitional or temporary roost (other months)

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance; climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

** The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to “a *breeding site or resting place of such an animal*” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

Birds

- 2.3 All wild birds no matter how common, their eggs, young and nests whilst being built or occupied are protected under both the Wildlife and Countryside Act (WCA 1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Birds listed on Schedule 1 of the WCA 1981, for example Barn owl (*Tyto alba*), are afforded a greater level of protection protected also from disturbance.
- 2.4 Any work that would damage an occupied nest, eggs or young of breeding birds must be avoided; any damage to nests that may occur as a result of the development should be outside of the main breeding bird season (March-August). On occasions nests can become unoccupied during the breeding season but the status of the nest(s) should be determined by a suitably experienced ecologist before any damage takes place.

Policy

- 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 reasons⁶³ 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 Where more detailed surveys are recommended by the Ecologist following a daytime 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. This is in accordance with the obligations placed upon Local Authorities in the exercise of its functions by way of its duties under the Conservation of Habitats & Species Regulations 2019 (EU Exit).

2.7 Figure 2.1 is a process model that surmises how ecological issues should be dealt with in the context of the planning process.

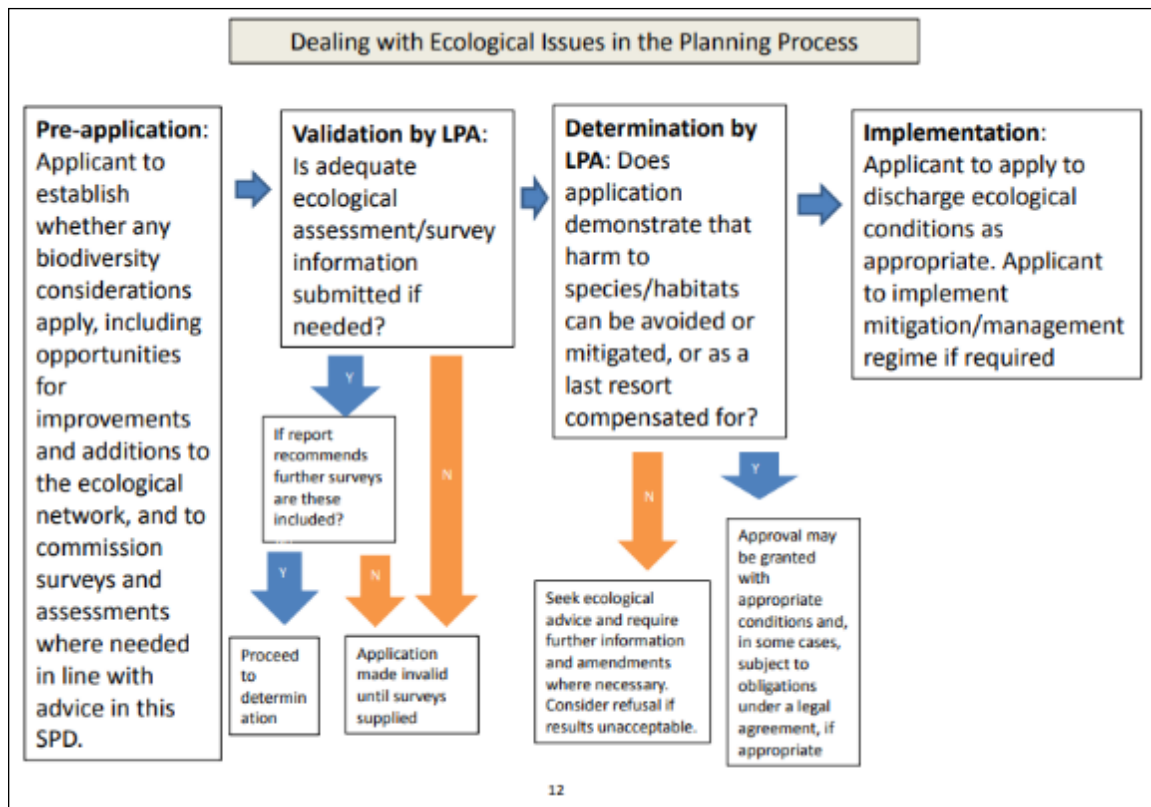


Figure 2.1 - Dealing with ecological issues in the planning process

3.0 Protected Species in Greater Manchester

- 3.1 Up to ten bat species have been recorded in Greater Manchester, most of which use built structures notably occupied residential properties for roosting, though also use trees. Bats (*Chiroptera*) feature on the Greater Manchester BAP and all are fully protected by UK legislation. The most frequently encountered bat species is the Common Pipistrelle (*Pipistrellus pipistrellus*) and its abundant status in the county is reflected throughout the UK.
- 3.2 Barn owl (*Tyto alba*) are a distinctive, widespread species of protected bird listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); they are distributed throughout the UK and will use tussock-forming grasslands, rough field margins, ditches and roadside edges for hunting purposes, whilst they typically use barns/abandoned buildings and tree hollows for nesting or roosting use. In rare instances occupied dwellings can support owls. Additional to protection from nest destruction, Schedule 1 listed species nest sites are also protected from disturbance.

4.0 Survey Methodology

- 4.1 As part of the Inspection & Assessment for Bats & Breeding Birds 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) and non-statutory (e.g. LWS) designations within 2.0km 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) to further inform conclusions concerning such species in the context of the study site and its proposed development.
- 4.3 Satellite imagery was reviewed using sources such as Google Earth (© 2021) to 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 A commercial data request to the Local Environment Records Centre serving the area has not been sourced and is justified through application of the following recent guidance:

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."*

- 4.5 As exemptions as made **bold** above can be applied at the application site, in good practice, it is considered unnecessary to conduct a commercial data request following the desk study effort and daytime assessment at this time which offers a proportionate level of survey effort, however, if a data search is considered to be necessary by the Local Authority to inform the ecological impact assessment following any further surveys recommended in this report, 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 In context with the above a diurnal inspection and assessment of the property in relation to bats and breeding birds was conducted on 14th December 2021 in overcast conditions (11°C) wind 1/12 (Beaufort scale), 100% cloud, by Miss T. Hesketh a Junior Ecologist with 2 years professional survey experience holding; BSc Biology (hons) and MSc Conservation Management a CIEEM accredited course.
- 4.7 Bat Conservation Trust (BCT) - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) states:
- "The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive."*
- 4.8 The bat and breeding bird survey was conducted in tandem; the building was inspected for potential places that may be of value to bats or breeding birds, and to determine if evidence of use by either group was present; the interior assessed with the aid of a high powered torch for evidence of bat use which mainly includes bat droppings and/or prey items, or incidental presence of live or dead animals, for example, and investigated for evidence of breeding birds which broadly involves a search for nesting materials, presence of pellets or accumulated faeces and/or dead juveniles/hatchlings, for example.
- 4.9 External elevations were investigated with the aid of high-powered torch and close focus binoculars (where necessary) for places that can be used as a roost by bats or as a means of ingress for bats and birds leading to areas of roosting/nesting potential. These features are typically referred to as potential roost features (PRF) concerning bats. All external features were able to be surveyed without constraint.
- 4.10 The surrounding habitat was also considered in terms of general suitability for bat and bird species associated with the local habitat types.

- 4.11 Trees on site were inspected for places that may be of value to bats and to determine if evidence of use was present; this typically involves a ground level 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. Trees (where present) would also be checked for evidence of nesting birds and suitability for relevant species. All trees were able to be surveyed without any constraint.
- 4.12 Criteria for 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 4.1).
- 4.13 An assessment of the buildings was conducted at a time outside of the breeding season for birds (this is typically March-August inclusive). Elevations were inspected for evidence of birds that show a high dependency upon built structures, many of which are in a state of decline. These might include the following species for example
- Starling (*Sturnus vulgaris*): Birds of Conservation Concern (BoCC) red status
 - House Sparrow (*Passer domesticus*): BoCC red status
 - House Martin (*Delichon urbica*): BoCC amber status
 - Swift (*Apus apus*): BoCC amber status
 - Swallow (*Hirundo rustica*): BoCC green status

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 4.1 - BCT guidelines extract

- 4.14 Additional to the site's capacity to support common species of bird, the area was subject to an assessment for capacity to support specially protected species such as Barn Owl, a species protected under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended).
- 4.15 The results, conclusions and recommendations are based on a number of factors i.e.
- Practical experience of surveyor,
 - Knowledge of bat/bird species relevant to the site location and geographical range,
 - Nature of immediate/surrounding habitat in relation to foraging/commuting,
 - Condition of the building,
 - Presence/absence of a loft space or cellar and reasonable practicality of use,
 - Presence/absence of roost potential,
 - Value of roost potential – if present.
- 4.16 All aspects of the field survey were undertaken in line with government and CIEEM (2020) standing guidance during the COVID-19 pandemic.
- 4.17 The results, conclusions and recommendations of this report have been assessed by Mrs. K. Wilding, the Director of Tyrer Ecological Consultants Ltd, and her assessment is consistent with that of Miss T. Hesketh.

5.0 Limitations

- 5.1 The survey was conducted at a time when bats are outside of their active season and are within the hibernation period. Evidence of bats can be less apparent in December; however, bat roost potential and suitability of potential roost features can be as decisively as within the active season of bats, saving time and unnecessary delay to applicants, thus frequently the assessment can be as conclusive as the active season and timing is not considered a constraint in this instance.
- 5.2 No access limitations were experienced on site and the surveyor was able to conclusively assess the building and trees for field signs at an appropriate time of the year; therefore, having considered 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 stables at 7 Taylor's Lane (referred to as "the application site") are located to the south of Taylor's Lane, north of Bury New Road (see Figure 6.1).



Figure 6.1 - Location of the building within the landscape (Source: Google 2020).

- 6.2 The immediate environs comprised of predominately arable and agricultural fields, those immediately adjacent to the stables to the east are used as horse paddocks. The fields are intersected with hedgerows and minor tracks.
- 6.3 The wider landscape continues in similarity to that of the immediate, with arable fields to all environs enveloped in hedgerows with sporadic blocks of lowland deciduous to the north and south. As you move to the south-east of the site the area becomes increasingly more urbanised as you approach the town of Broughton; However, there is significant green infrastructure present throughout the area in form of various playing fields and open green spaces and to the east country parks and designated LNR'S such as Moss Gate County Park, Leverhulme country park and Seven Aces country park.
- 6.4 The protected species most typically associated with the habitats described is the Common Pipistrelle (*Pipistrellus pipistrellus*) bat, frequently associated with using buildings in both urban and rural settings; this species presence in the landscape is likely.

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 There are 3 statutorily designated sites feature within 2.0 kilometres see details in table 6.1.

Table 6.1 – Designated sites within 2.0km of the application site

Site name	Designation type	Interest features
Moses Gate LNR 1.9km south west	Local Nature Reserve (LNR)	106 ha of reclaimed industrial land which was polluted and degraded during the industrial revolution and through to the mid-1900s, designated a Local Nature Reserve in 2009. The site comprises an area of deciduous woodland, marshland areas, developing heathland, ponds such as the Darcy Lever Gravel Pits. Which are known for populations of dragonfly and Great Crested Newts.
Leverhulme 1.8km west	Local Nature Reserve (LNR)	An area of 48.33 ha the largest area of public parkland in Bolton offers a mix of open grassland, play areas and deciduous woodland. Clear paths run through established and newly planted areas and alongside the River Tonge and Bradshaw Brook. Hosting species such as king fishers, grey heron, greater-spotted woodpecker and Tawny owls.
Seven acers 8km north west	Local Nature Reserve (LNR)	A 15 ha area of what was originally open farmland, the site experienced small scale industrial use in the 19th Century and following a period of dereliction, was developed into an informal recreational area for the local community. Comprising of habitats such as grassland areas of over one hectare (ha) and broadleaf woodland covering 9.6ha. Over 100 species of bird have been recorded a Seven Acers and shite site supports number so species such as devils bit scabious, yellow rattle, knapweed, red campion, meadowsweet and yellow tormentil.

6.6 Despite proximity to statutory designated sites the proposed development is unlikely to have any direct impact upon the sites or their associated interest features. Where no impact to SSSI's is predicted however, Natural England issue the following advice within their standing guidance on SSSI impact zones (NE, 2019):

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

- 6.7 An online search of MAGIC maps revealed one European Protected Species Mitigation licences (EPSMLs) in relation to bats have been granted within a 2.0km radius of the application site (Figure 6.2).

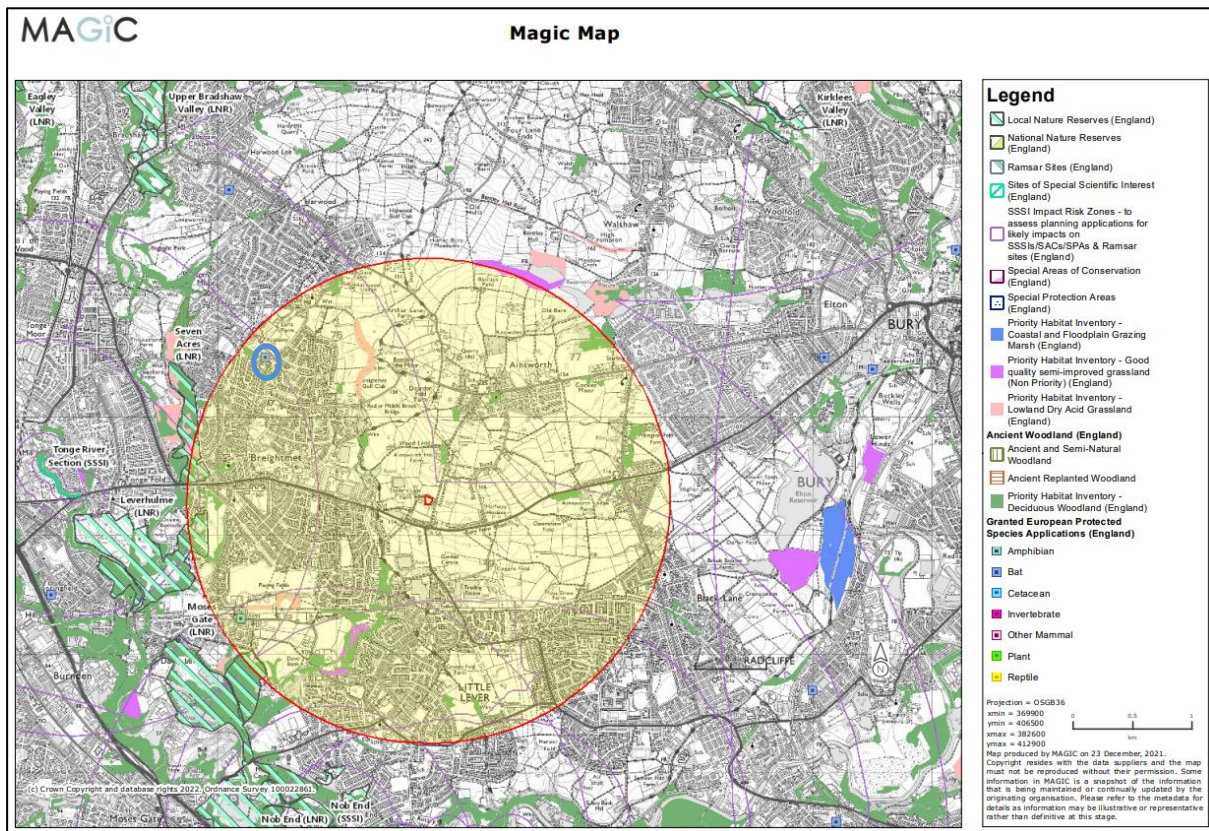


Figure 6.2 – MAGIC Map 2.0km radius desk-top results, relevant EPSML's circled in blue.

7.0 Field Study Results

Bats

- 7.1 The existing stable at 7 Taylor's Lane (Figure 7.1) is constructed of breeze block, single skin wooden cladding, timber frame and pitched corrugated steel roof; this is understood to have been replaced over the last 4 years with the most recent section having been replaced earlier this year. The buildings approximate total dimensions are to estimated measurements of 52m x 12m x 4m; whilst the surveyor is not qualified to assess the structural condition of the building, it was adjudged to be in an aesthetically good condition representative of its purpose.



Figure 7.1 – The Stables at 7 Taylor's Lane

- 7.2 Internally the building is open to the roof, and loft spaces or upper floors are absent; on the day of the survey the interior is found to be cold, draughty and partially illuminated due to the open access nature of the stable doors. Internally it is compartmentalised providing individual stables and storage, thus free movement through the area is restricted to a degree. The stable is currently fully operational and as a consequence subject to a high rate of disturbance, it is therefore considered broadly suitable for the breeding requirements of loft-dwelling bat species such as the Brown Long-eared (*Plecotus auritus*) bat; this is a species which prefers dark, unrestrictive loft spaces with room for free flying, and a stable temperature free from draughts. No evidence of such bats was found anywhere however during the internal inspection despite a meticulous search of the building; furthermore, despite the immediate habitat being suited to other bat species it is generally considered as not being typically favourable to the specific foraging requirements of this genus.

- 7.3 No roof lining is present beneath corrugated metal roof; where present bitumen 1F underfelt or other such under linings typically improve a buildings value to bats notably for crevice-dwelling bats of the *Pipistrellus* genus, whereby the bats roost between linings and the roof cover material provided external access opportunities exist. No evidence of such bats was found; however, this is often the case due to the crevice dwelling nature of these species.

NB: The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings where the warm, dry conditions favour the requirements of a maternity colony but other structures are also used, especially for hibernation or by male bats which do not need the same conditions as a maternity colony.

- 7.4 Externally the building was found to be tightly sealed to all elevations, with only minor gaps at the base of the building between breeze blocks and the wooden cladding presumably caused by brown rats observed during the site visit. Other gaps were noted at the northern elevation where the frame of the barn door meets the wooden cladding; however, these gaps are subject to water ingress as well as being non-extensive as they are exposed to the interior. Therefore, the building offers no potential roost opportunity for crevice or loft dwelling bats. On the basis of the absence of roosting opportunities and the low favourability of the wider habitat, the building has been duly categorised as pertaining to 'Negligible' bat roost potential in line with current Bat Conservation Trust (BCT) guidelines.
- 7.5 All trees present on site were found to be absent of features that might be used by bats including cracks, peeled bark, rot holes, or other such features. All trees and other vegetation on site should be considered of value to bats for foraging and commuting purposes.

Breeding Birds

- 7.6 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 building and wider site are wholly unsuitable for this species breeding requirements.
- 7.7 Historic evidence of a single swallow cup was observed during the site visit, in the southern section of the stables. No further nesting was observed at any point during the survey. Notwithstanding the site features various viable nesting platforms for a variety of bird species associated with rural habitats namely the boundary hedgerow and 2 trees located to the east of the building. The likelihood of nesting birds using the site during the period March-August is considered to be high.

8.0 Conclusions & Recommendations

- 8.1 Based on the site-specific assessment as described, risks of impacts to bats can be considered highly unlikely and the barn is duly categorised as offering 'Negligible' bat roost potential in accordance with Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' (2016) (see Figure 8.1); no further surveys are required in relation to bats. Enhancement is recommended for bats in Appendix III.

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

- 8.2 Bats are a transient species and buildings can deteriorate over time. In the highly unlikely event that bat(s) are found, or evidence of bat(s) during proposed works then as a legal requirement the work at the site should immediately cease and an Ecologist be contacted for further advice. If bat(s) or their roost(s) will be affected, then an EPSML may be required to legally commence with the works. See Figure 8.1 for indicative evidence of bats.



Figure 8.1 - Evidence of bats - droppings, left / Common Pipistrelle bat, right - indicative

- 8.3 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, 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.

- 8.4 No impacts are applicable in relation to any Sch.1 (WCA) specially protected bird species such as Barn Owl and no further surveys or recommendations are necessary in relation to specially protected birds at this time.
- 8.5 Due to the confirmed presence of breeding birds within stable in the form of a single Swallow nest, along with the identified suitability of the site for birds associated with garden and rural environments, it is recommended that any demolition and/or clearance 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 should be checked by a professional Ecologist for nesting birds within 48 hours or less prior to works commencing. If birds are found nesting any works which may affect them would have to be delayed until the young have fledged, and the nest has been abandoned naturally.
- 8.6 It is also recommended that 2 swallow nest cups are incorporated into the building; Further information is provided within Appendix II
- 8.7 As a means of enhancement and aiding the design of the scheme in keeping with local and national planning policy considering biodiversity net-gain principles, the proposals may consider incorporating wildlife friendly provisions such as:

- Native species only when landscaping / re-planting,
- Bird, bat, and invertebrate provisions,

Further information is provided within Appendix II.

9.0 Bibliography

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- **Mitchell-Jones, A.J. and McLeish, A.P.** (Eds) (2004). *Bat Workers' Manual*, Joint Nature Conservation Committee, Peterborough.

Appendix I: Site Photographs



Plate 1 – Interior of stables viewed from the north



Plate 2 – Interior of stables viewed from the south

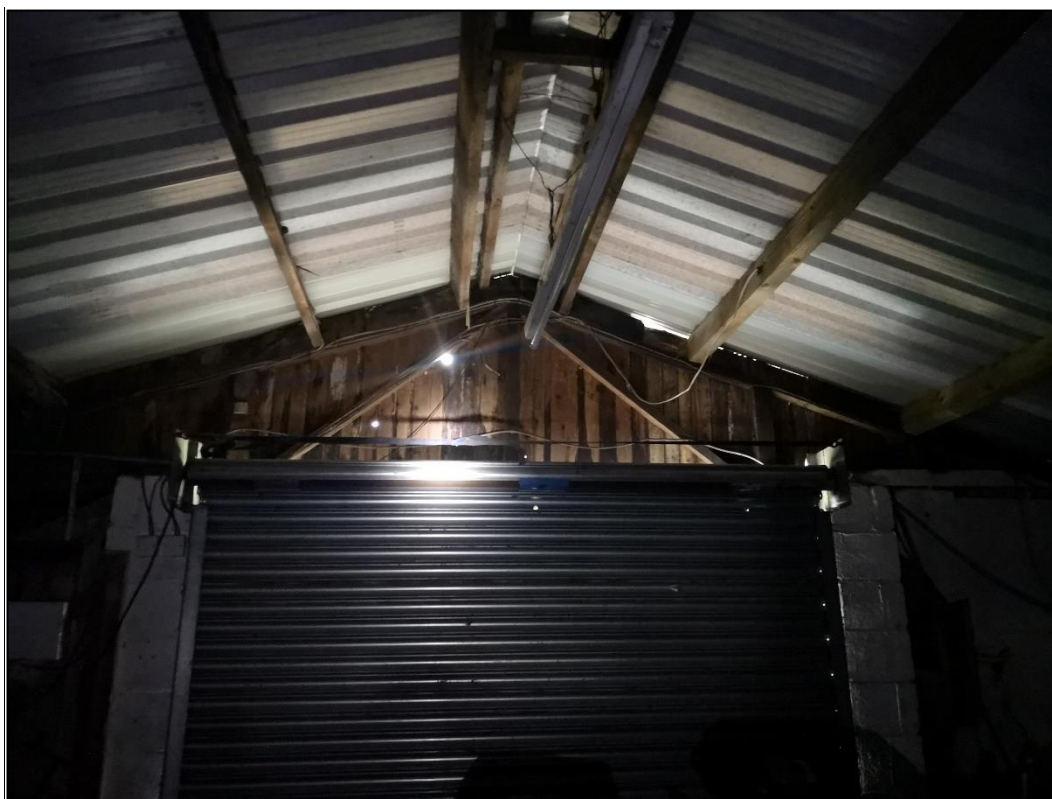


Plate 3 – Internal character of northern access, light and water ingress visible



Plate 4 – interior storage area highly illuminated

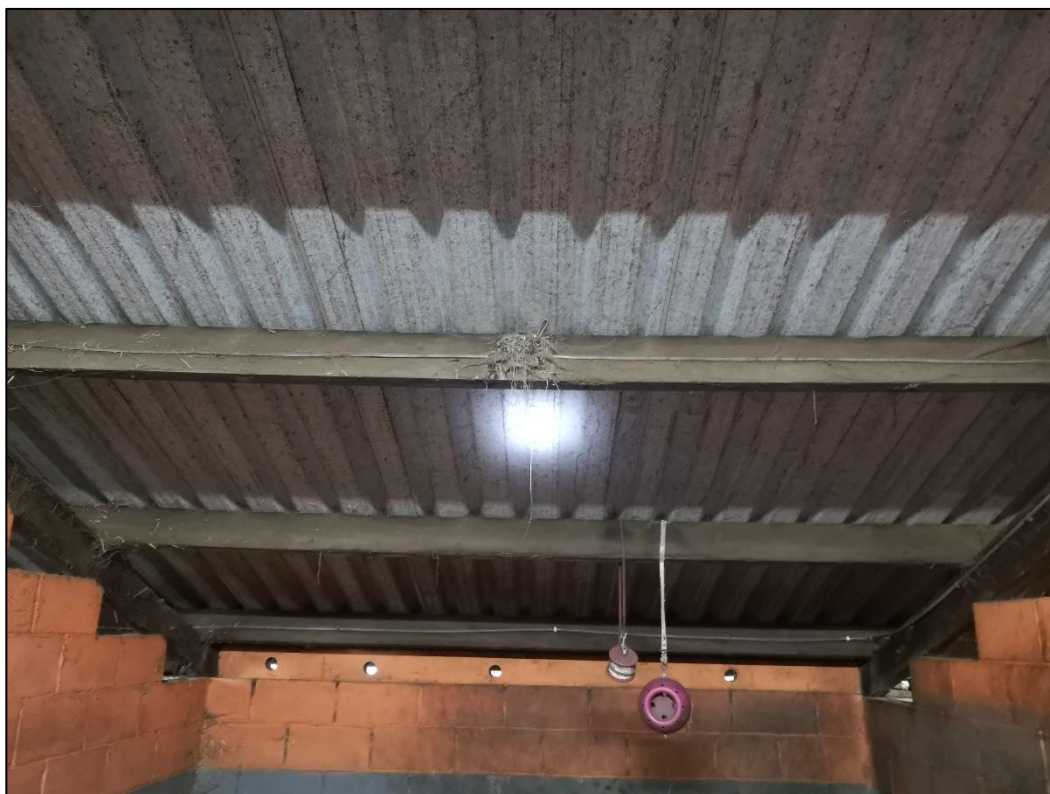


Plate 5 – Historic evidence of nesting



Plate 6 – Character of trees to the east of the building



Plate 7 –eastern elevation, open access to the stable



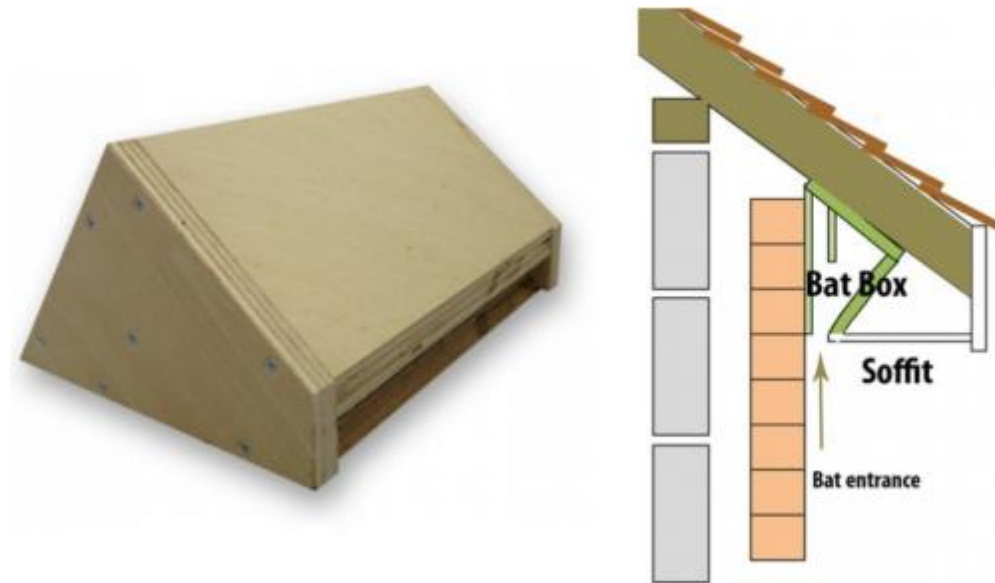
Plate 8 – Character of the surrounding land

Appendix II: Biodiversity Enhancement Strategy

Bats

Soffit access

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



Externally fitted boxes

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



Birds

Breeding Birds – Swallow nest cups

Mitigate new nest cups for loss of the Swallow nest site to accommodate the barn conversion.

The Swallow Nest Cup consists of a woodcrete nesting bowl which is attached to a wooden panel of formaldehyde-free chipboard. The nests should be placed inside outbuildings such as sheds, barns or stables leaving a distance of at least 6cm between the top of the nest and the ceiling. You should ensure there is always access for the birds through an open window or sky-light. Swallows are sociable birds but multiple nests should not be placed at less than 1m intervals. Cleaning of the bowl is recommended, although not absolutely necessary.



Breeding Birds - House Sparrow

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



Breeding Birds - Other

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

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



Invertebrates

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

New feature landscaping should incorporate native woody plants as opposed to non-native species that are of significantly less benefit to biodiversity. Species such as Blackthorn (*Prunus spinosa*), Honeysuckle (*Lonicera periclymenum*), Rowan (*Sorbus aucuparia*), Guelder-rose (*Viburnum opulus*) and Hawthorn (*Crataegus monogyna*) are native and will provide a valuable resource for a myriad of wildlife as opposed to non-native, exotic species which are generally much less effective, particularly to pollinator groups including bees, butterflies and moths.

Trees	Woody Shrubs
English Oak (<i>Quercus robur</i>)	Hawthorn (<i>Crataegus monogyna</i>)
Rowan (<i>Sorbus aucuparia</i>)	Honeysuckle (<i>Lonicera periclymenum</i>)
Wild Service Tree (<i>Sorbus torminalis</i>)	Guelder Rose (<i>Viburnum opulus</i>)
Silver Birch (<i>Betula pendula</i>)	Elder (<i>Sambucus nigra</i>)
Ash (<i>Fraxinus excelsior</i>)	Wild Privet (<i>Ligustrum vulgare</i>)
Goat Willow (<i>Salix caprea</i>)	Blackthorn (<i>Prunus spinosa</i>)
Beech (<i>Fagus sylvatica</i>)	
Wild Cherry (<i>Prunus avium</i>)	