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Greenbank Synagogue, Greenbank Drive, Liverpool, Merseyside, L17 1AN
(Grid Reference: SJ 3831 8845)

Inspection & Assessment in Relation to Bats

Prepared for:

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Summary

A planning application regarding Greenbank Synagogue, Liverpool proposes converted the structure to provide 22 residential apartments with additional apartment blocks constructed within the site grounds. As part of the Local Authority's Planning Policies ecological surveys are generally required, particularly where a specially protected species is or may be present and could be affected by the proposals for which the Application seeks consent. Therefore, the Tyrer Partnership was commissioned to undertake a daytime assessment of the buildings in relation to bats which was conducted during February 2016.

Access could not be achieved into the loft space due to health and safety constraints which prevented a full internal assessment of the structure, however, it is apparent that a large loft space is present, and with the aid of aerial imagery it is to estimated dimensions of 20 metres long x 11 metres wide, and as result it would appear to suit the requirements of loft dwelling bats (*Plecotus auritus*) as this is a species that favours a large, darkened and unrestricted loft space that allows free flight, with consistent warm and relatively stable temperatures. Furthermore, the immediate and extending habitat is considered to offer potential to meet the specific foraging requirements of this species.

An inspection of all external features and trees within the site could be assessed and consequently, an appraisal of the building and trees was achievable in relation to assessing the level of bat roost potential that may exist, which is one of the most fundamental aspects of assessing buildings for bat roost potential.

It was noted that a basement is present and accessed via the north of the site; however, due to general debris and health and safety concerns the area was not fully investigated by a lone surveyor.

Due to the positioning and height of the synagogue, it is not possible to establish if features such as ridge tiles and roof slates offer potential ingress for bats, however during the external inspection further typical ingress opportunities selected by crevice dwelling bats were observed, notably beneath raised roofing felt around the flat roof sections, gaps in the brick work (predominately to the turrets at the rear), a limited gap above the window on the north elevation, and between the brickwork and the fascia board to the east elevation of the connected adjacent hall structure.

From the ground level inspection is could be established that one tree offers an area of some limited potential that could be used by bats, and is identified as a Acer sp. to the western boundary.

From the survey results it can be concluded that the loft appears to be of adequate dimensions that would meet the requirements of loft dwelling species, and the immediate / surrounding habitat is favourable for this species specific foraging requirements, therefore, the proposed schedule of works may impact on this species should they be present.

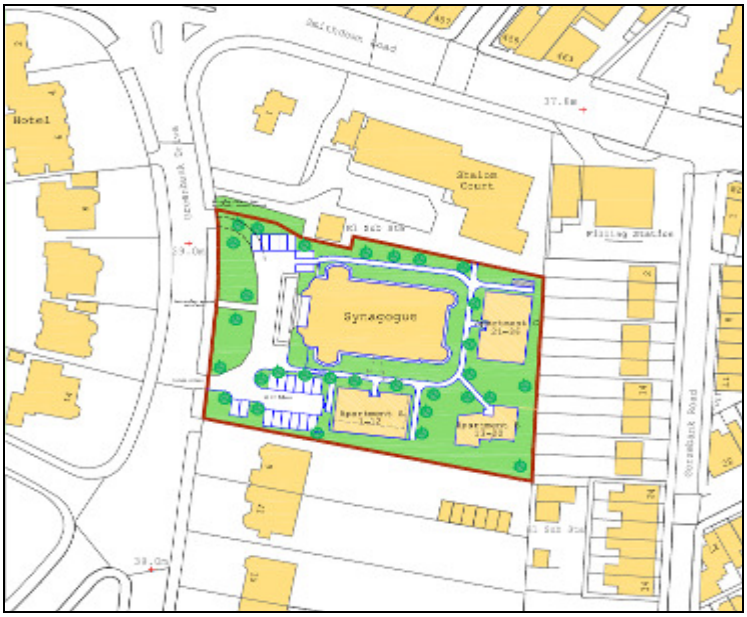
Ingress opportunities were located at the exterior of Greenbank synagogue that could be used by crevice dwelling species such as *Pipistrellus.* The habitat immediate to the building is more than capable of meeting their foraging requirements; roost opportunities identified on the building are categorised as offering low - moderate potential, thus, combined with the quality of the immediate habitat will instigate recommendations for dusk/dawn surveys.

Table of Contents

1.0 Introduction & Reason for Survey

1.1 As part of proposed works at Greenbank Synagogue, Liverpool, a daytime inspection and assessment was undertaken in relation to bats. NC Homes Architects commissioned the inspection and report on behalf of the site owner; it is understood that the building is to be converted to provide 22 residential apartments with additional apartment blocks constructed within the site grounds. As part of the Local Authority's Planning Policies ecological surveys are generally required, particularly where a specially protected species is or may be present and could be affected by the proposals for which the Application seeks consent.

Site plan showing Greenbank Synagogue as existing



Site plan showing Greenbank Synagogue as proposed

1.2 The aim of the inspection was to initially ascertain if the building is of value to bats; if it was found to be suitable for bats or signs of use were located, or the results of the survey were inconclusive, 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 bat/s or their roost/place of rest/shelter is subsequently affected by the work then a European Protected Species Mitigation Licence would be required to proceed with the development. In addition to the inspection of the building any trees at the site were also investigated for bat roost potential.

1.3 The optimum time to investigate any structure for evidence of a bat roost is May – August, however that is not to say they cannot be inspected and assessed outside of that time and frequently the results can be conclusive, which can save time and expense for Planning Applicants. It should be borne in mind that equally the inspection can be inconclusive.

2.0 Protected Species

2.1 All British bats and their **roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended). When dealing with cases where a European Protected Species (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the 2010 Regulations and therefore has a statutory duty to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 The National Planning Policy Framework (NPPF) has replaced the existing Planning Policy Guidelines. (PPG's) In relation to wildlife PPG 9 was one of the documents to which Planning Authorities referred to, particularly where a specially protected species is or may be present and will be affected by a development for which a Planning application seeks consent. The aims of the NPPF in relation to species and habitats are that it places a clear responsibility on Local Planning Authorities to conserve and enhance biodiversity and to encourage on the consideration that should be given to Protected Species where they may be affected by development. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation.

This is supported by a guide to good practice entitled 'Planning for Biodiversity and Geological Conservation: Building in Biodiversity' in which paragraphs 5.34 and 5.35 identify that species such as bats are highly dependent upon built structures for survival and that roosts can be easily incorporated into existing and new developments/conversions to benefit these species.

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles

If significant harm 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.

2.3 Use of Buildings by Bats

a) Summer breeding roost.

b) Hibernation.

c) Transitional or temporary roost.

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 & Species Regulations 2010 (Regulation 41) 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.

3.0 Protected Species in Merseyside

3.1 Up to 9 bat species have been recorded in Merseyside most of which use built structures, notably occupied residential properties, for roosting. The most frequently encountered species is the Pipistrelle bat (*Pipistrellus)* and its abundant status in Merseyside is reflected throughout the UK.

4.0 Survey Methodology

4.1 BCT Survey Good Practice Survey Guidelines state:

The guidance should be interpreted and adapted on a case-by-case basis, according to the expert judgement of those involved. There is no substitute for knowledge and experience in survey planning, methodology and interpretation of findings, and these guidelines are intended to support these. Where examples are given they are descriptive rather than prescriptive.

4.2 The daytime survey was conducted on 08th February 2016 by Mrs K Wilding who is a highly experienced bat surveyor and holder of a Natural England Class 2 bat licence (CLS02804), when the interior and exterior elevations of the synagogue were inspected from ground floor level and where required with the aid of close focussing binoculars for places that are frequently used by bats as roosts or as access into roost chambers and if any obvious evidence of use was present. A loft hatch is present within the structure, however, is located at an estimated height of 8 metres and thus was not accessed due to health and safety reasons.

4.3 In addition to the building, trees within the site were investigated for features that may be of value to bats as a roost, which may include woodpecker/natural holes splits/crevices; the inspection was undertaken from ground level with the aid of close focussing binoculars.

4.4 Magic Mapping was accessed relative to European Protected Species Mitigation Licences within close proximity to the site although at this stage a data search via BioBank local records was not sourced, however, the Tyrer Partnership are aware of and have bat records from within the locality.

4.5 The results, conclusions and recommendations are based on a number of factors i.e.

Practical experience of surveyor
Knowledge of bat species relevant to the site location and geographical distribution
Nature of the immediate and surrounding habitat in relation to foraging opportunities
Condition of the buildings
Presence/absence of a loft space
Presence/absence of roost potential
Value of roost potential – if present

4.6 During the survey the surrounding habitat was evaluated in relation to bats as very often roost site selection is closely correlated with the surrounding habitat.

5.0 Constraints

5.1 The daytime survey was conducted outside of the breeding season, when bats are within the hibernation season. Access could not be achieved into the loft space due to health and safety constraints which prevented a full internal assessment of the structure, however, an inspection of the interior, all external features and trees within the site could be assessed and consequently, an appraisal of the building was achievable in relation to assessing the level of bat roost potential that may exist, which is one of the most fundamental aspects of assessing buildings for bat roost potential.

It is noted that a basement is present and accessed via the north of the site; however, due to general debris and health and safety concerns the area was not fully investigated by a lone surveyor.

5.2 Taking into consideration the above it is deemed that there were survey constraints, however, they are not sufficiently significant to prevent the gathering of information on which to base conclusions and recommendations.

6.0 Daytime Results – Bats

6.1 Greenbank Synagogue is located within an urban environment approximately 4.70 kilometres south east of Liverpool city centre (Grid Reference: SJ 3831 8845) and stands within its own extensive grounds. Whilst not particularly relevant to the current survey it is located within a SSSI Impact Zone notably in context with the Mersey Estuary and associated qualifying species for which the estuary is designated; notwithstanding its location the work will not have an impact on designated sites.

6.2 Built in 1936 this historic building has played part in some of Liverpool City's most important events over the last 80 years including acting as a refuge for homeless families during the Blitz. Also known as 'The Ark', the synagogues demise was partially due to the falling Jewish population in the city which over the last century went from 11,000 to just 3,000, and it closed its doors for the final time in 2007. The structure was given a Grade II listing to ensure its future survival and was placed on the 'at risk' register by Historic England.

6.2 The building is set back off Greenbank Drive within a large plot of land; the immediate habitat is noted to be a leafy suburb of Liverpool comprising of large residential dwellings with established mature gardens incorporating a number of established tree specimens, ornamental shrubs and tree line roads. Immediately south of the site extensive mature woodland and a large water body within the grounds of Greenbank Park are evident.

6.3 This urbanised landscape maintains a good semi-natural cover, which comprises urban green infrastructure and parks with associated vegetation. Notable named ecological and favourable landscape features are also apparent 0.50 kilometres south west at Sefton Park, with numerous mature woodland areas and a large water body located south of the recreational space. Additional favourable features incorporate, Otterspool, Calderstone and Fullwood Park, which are connected to the Synagogue plot via linear features. Collectively, the aforementioned semi-natural features represent a localised urban network of notable value that is anticipated to provide a valuable resource that represents a productive habitat for bat species that are known to being present in the locality which are represented by Common/Soprano Pipistrelle, Whiskered/Brandt's, Daubenton's, Brown Long Eared and Noctule; most of which forage within the local parks.

Location of Greenbank Synagogue within immediate habitat

6.4 As ascertained the synagogue is currently unoccupied and redundant from its former purpose and remains in a disused state. It is of unique construction and architecture consisting of a brick building with both flat and a main pitched slate roof; turrets are also noted to all elevations, and the structure atheistically reflects its original purpose. A further building is located to the south and connects to the main building, access cannot be established into this section, however, its appearance is representative of a hall; it is of brick construction with a felt covered roof. A basement is accessed via the north elevation of the building, however, was not fully entered due to health and safety concerns.

6.6 In respect to the previously discussed health and safety restrictions contained within paragraph 5.1, an investigation of the loft space was not conducted; notwithstanding the number of flat roof sections, it is apparent that a large loft space is present. With the aid of aerial imagery it is to estimated dimensions of 20 metres long x 11 metres wide, and although the height of the loft is not known it would appear to suit the requirements of loft dwelling bats (*Plecotus auritus*) as this is a species that favours a large, darkened and unrestricted loft space that allows free flight, with consistent warm and relatively stable temperatures.

Furthermore, the immediate and extending habitat is considered to offer potential to meet the specific foraging requirements of this species.

6.7 Due to the constraints previously outlined it is not possible to ascertain if roof lining is present beneath the roof slates, however, due to the construction and age of the property it is assumed that a traditional bitumen will have being utilised during the construction phase; the presence of such beneath roof tiles can provide opportunity for crevice dwelling species, whereby they often roost between tiles/slates and roof lining materials, provided external access exists. The breeding roosts of Pipistrelle bats are proportionally higher in occupied residential dwellings were 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.

6.8 Due to the positioning and height of the synagogue, it is not possible to establish if features such as ridge tiles and roof slates offer potential ingress for bats, however during the external inspection further typical ingress opportunities selected by crevice dwelling bats were observed, notably beneath raised roofing felt overlap around the flat roof sections, gaps in the brick work (predominately to the turrets at the rear), a limited gap above the window on the north elevation, and between the brickwork and the fascia board to the east aspect of the connected adjacent hall structure. However, breeding potential for crevice dwelling species such as the Pipistrelle bat within the latter areas is deemed low-absent, as such features are more likely to be utilised by singular male or non-breeding bats; furthermore, as the building has been dormant for a prolonged number of years, it is considered not to suit the requirements of a maternity colony for this species.

6.9 The basement was inspected from the exterior, however, was found to be full of general rubbish and debris; despite the area not being accessed typical areas/crevices preferred by bats for hibernation do not appear to be present and the concrete decking is of a tight fitting nature, however, the basement can not entirely be ruled out for this purpose.

6.9 On the day of the survey, the trees around the site were inspected for bat roost potential, notable opportunities include small crevices, behind loose bark, cracked or rotted limbs and natural/woodpecker holes. At times exterior staining can be present where a roost has been used over a long period of time and during warm weather conditions audible sounds may be located from an occupied tree, however, the identification of tree roosts tends to be more difficult as evidence quickly degrades and bats often will have more than one roost within wooded areas.

From the ground level inspection is could be established that one tree offers an area of some limited potential that could be used by bats, and is identified as a Acer sp. to the western boundary.

7.0 Daytime Conclusions

7.0 From the survey results it can be concluded that the loft appears to be of adequate dimensions that would meet the requirements of loft dwelling species, and the immediate / surrounding habitat is favourable for this species specific foraging requirements, therefore, the proposed schedule of works may impact on this species should they be present.

7.2 Ingress opportunities were located at the exterior of Greenbank synagogue, that could be used by crevice dwelling species such as the *Pipistrellus;* no evidence was present externally, however, this is not to say that this species is absent as evidence of use is often not possible to detect, and due to the time of year field signs may have been lost due to wind and rain. The habitat immediate to the building is more than capable of meeting their foraging requirements; roost opportunities identified on the building are initially categorised as offering low - moderate potential, thus the combination of the roost potential combined with the quality of the immediate habitat will instigate recommendations for dusk/dawn surveys.

7.3 From the daytime assessment one tree offers a level of bat roost potential, and its removal could potentially result in the in the loss of roost potential.

7.4 BCT Survey Good Practice Survey Guidelines use a classification table relative to bat roost potential. The aforementioned tree can be classed as *Category 1:* A tree that has definite features of potential for roosting bats, *"Moderate"* supporting fewer suitable features than Category 1* trees (above) or with potential for use by single bats but are less than ideal in some way, for example, may have cluttered access.

8.0 Daytime Recommendations & Implications

8.1 Prior to work commencing at the building a safe means of access will need to be provided to undertake an inspection of the loft space to investigate the area for evidence of use by bats, in particular loft dwelling species. An inspection of the basement area could also be undertaken at this time.

8.2 It is recommended that in order to establish whether or not bats are using the building and if present how they are using it, dusk emergence or/and dawn surveys should be undertaken. The surveys will need to be conducted during the active season of bats i.e. between May – August as bats, particularly Pipistrelle bats often alternate between roosts and do not necessarily use one roost over their active season. One dusk survey and two dawn surveys are generally accepted as being a reasonable level of survey effort where low - moderate potential has been identified but need to be spaced between those months. In addition a data search of local bat records should be sourced to compliment the dusk/dawn emergence/re entry surveys. (See Figure1: Extract from Bat Conservation Bat Surveys: Good Practice Guidelines)

Table 8.5 Minimum number of presence/absence survey visits required to provide confidence in negative preliminary roost assessment results from buildings, built structures and trees in summer

High roost potential	Low to moderate roost potential	Low roost potential
3 dusk emergence and/or pre-dawn re-entry surveys during May to September Optimum period May – August	2 dusk emergence and/or pre-dawn re-entry surveys during May to September Optimum period May – August.	1 dusk emergence and/or pre-dawn re-entry survey during May to September Optimum period May – August.
If bats are discovered emerging from any of the buildings during surveys, the survey schedule should be appropriately adjusted to increase the survey effort so that sufficient information can be collected. **Note: two surveys carried out within the same 24 hour period constitute 1 survey**		

Figure 1

8.3 It should be noted that where bat/s or their roost/place of rest/shelter will be affected by the proposed works, then to allow work at the site to legally commence, an application for European Protected Species Mitigation Licence (EPSML) will be required. Notwithstanding the granting of a licence works that would affect a roost cannot take place if a maternity colony is in occupation. It should also be noted that before an EPSML can be applied for all Planning issues including Consent and any pre-commencement Planning Conditions relative to bats should be resolved.

8.4 Natural England provides information and guidance about EPSML and the following extract is included in that guidance:-

If you intend to apply for a licence for development you are advised to seek the guidance of a consultant ecologist. Natural England's view is that:-

- A licence is needed if the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably likely to result in an offence under the Conservation of Habitats & Species Regulations 2010 (as amended)

- If the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence being committed then no licence is required. However, in these circumstances Natural England would urge that reasonable precautions be taken to minimise the effect on European protected species should they be found during the course of the activity. If European protected species are found, cease the work until you have assessed whether you can proceed without committing an offence.

- A licence should be applied for if offences are unavoidable and the work should not be re-started until a licence is obtained.

- The application should be completed by the developer and a consultant ecologist. The ecologist will need to be able to demonstrate to the satisfaction of Natural England that they have the relevant skills and knowledge of the species concerned.

*NB**:** Were more detailed bat surveys are recommended, following an initial investigation, then Local Authorities on the advice of their ecological advisors, may not determine the application until such time that all relevant information is gathered, i.e. by conducting dusk/dawn surveys. The advice that is provided by the ecological advisors is also in accordance with the obligations placed upon Local Authorities by way of its duties under the Conservation of Habitats & Species Regulations 2010 (as amended). Therefore it would be prudent to make enquiries to the relevant departmental Planning Officer before submitting a Planning Application that includes an ecological survey report that recommends more detailed surveys.*

8.5 If at any time the identified tree is to be removed, a further investigation will be required which will consist of a licensed bat ecologist, accessing the identified roost potential or in association with the services of an arboriculturist ‘tree climber’ who is familiar with this type of work. The more detailed investigation would assess the potential roost feature for actual bats or any evidence of use by bat/s by way of narrow beam torchlight and/or endoscope.

If the results from the further investigation provide a conclusive absence of bats or evidence of use then holes etc can be immediately blocked to allow for future operations (including removal) to take place. However, if bat/s or evidence of use is found or the hole etc cannot be conclusively investigated then further survey work i.e. dusk/dawn surveys will need to be undertaken at the tree/s at which the investigation was not conclusive.

APPENDIX I –

Site Photographs

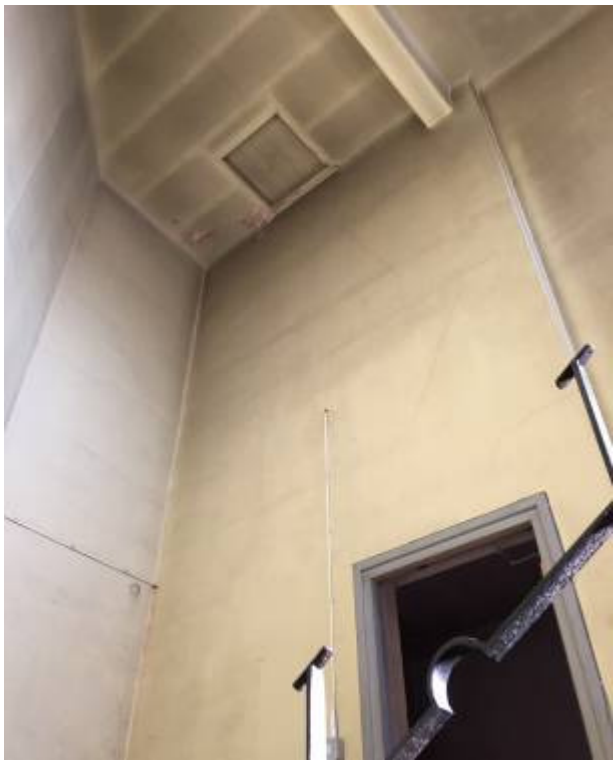
Synagogue proposed for conversion

Areas of raised roofing felt

Crevice within brickwork

Access down into the basement

Minor gaps above window



Access hatch into loft area

Minor potential with tree to west boundary

Gaps between fascia & brickwork to adjacent structure