Landscape Architecture
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WARWICKSHIRE GOLF & COUNTRY CLUB

PHASE 1 BAT SURVEY REPORT

Prepared for The Club Company

by

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1 INTRODUCTION

1.1 Site location and summary description

1.1.1 This report describes a Phase 1 bat scoping survey of buildings and trees potentially impacted by proposals to upgrade the existing driving range at Warwickshire Golf and Country Club, Leek Wootton, Warwick, hereinafter referred to as 'the survey area'. The survey area is located by National Grid Reference SP 27939 67944. The study was commissioned by The Club Company in January 2022.

1.1.2 The survey area includes approximately 3.2ha of land within Warwickshire Golf and Country Club comprising an existing driving range. The driving range is dominated by mown amenity grassland with a driving range building in the east of the survey area, supporting an area of lit, covered bays with additional uncovered bays to the north. The survey area is bordered to the south by a treeline, with the wider golf course beyond; to the east by a small area of scrub and trees with the golf course car park beyond; to the west by an area of young trees and rough grassland, with an area of deciduous woodland beyond; and to the north by mown grassland associated with the wider golf course. The location and boundary of the survey area are shown in *Appendix A*.

1.2 Legislative context

1.2.1 All UK bat species are protected as 'European Protected Species' (EPS) under the 2019 Conservation of Habitats and Species (Amendment) (EU Exit) Regulations. In relation to an EPS, the 2019 Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of an EPS;
- Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong;
- Damage or destroy a breeding site or resting place of such an animal; and/or
- To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.

1.2.2 In addition, all UK bats are protected under the 1981 Wildlife and Countryside Act (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; and/or
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.

1.2.3 If works are planned that are likely to constitute an offence under the current legislation, an application for an appropriate derogation licence should be made to Natural England.

1.2.4 Seven species of bat (Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe) are also identified as Species of Principal Importance under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Section 40 of the Act, together with planning policy and guidance, require planning authorities to regard these species as a material consideration in the planning process.

1.3 Development proposals

1.3.1 Proposals comprise the replacement of the existing building and uncovered bays with a new driving range structure (Sparc Studio Design Consultants, 2021). In addition, a new lighting system will be installed to enable a ball tracking system for golfers (Toptracer).

1.4 Scope and purpose of the report

1.4.1 The works will result in the demolition of the existing driving range building and the provision of new lighting. In view of these works and within the legislative context set out in *Section 1.2*, a Phase 1 bat scoping survey has subsequently been undertaken by HDA in order to identify whether suitable features for roosting bats are present and determine any requirements for further Phase 2 bat roost survey work, mitigation and/or licencing. Consideration of the likely effects of the replacement lighting system is given in this report.

1.4.2 Specifically, the aims of the survey are:

i) To identify and provide a preliminary assessment of potential bat roosting sites provided by buildings and trees within the survey area;
ii) To record any evidence of current or recent use by bats;
iii) To determine any further survey, licensing and/or mitigation requirements relating to roosting bats;
iv) Identify the likely effects of the replacement lighting system on potential roost sites and foraging and commuting bats.
v) To provide outline recommendations for any mitigation and/or enhancement measures to ensure that the development avoids adverse impacts on bats, and, where possible, provides enhancements to support the long-term favourable conservation status of bats in accordance with nature conservation legislation, planning policy and the 2006 NERC Act.

2 METHODOLOGY

2.1 Introduction

2.1.1 The methodology followed in relation to bat survey work undertaken at the survey area is consistent with current legislation, and good practice guidelines set out by the Bat

Conservation Trust (BCT, 2016). The following sections detail the specific bat surveys undertaken to inform the proposed works.

2.2 Phase 1 bat scoping survey

2.2.1 A Phase 1 bat scoping survey was carried out by Clare Bird MCIEEM of HDA on 31st January 2022. All buildings and trees within the survey area were assessed for their potential to support roosting bats and classified according to their potential.

Phase 1 building survey

2.2.2 All buildings within the survey area were inspected externally from ground level using binoculars and a powerful torch to identify and investigate any potential entry and exit points such as missing roof tiles, loose fascias and lifted lead flashing, and to look for evidence of entry/exit in the form of staining, discolouration and/or scratch marks.

2.2.3 Internally, buildings were searched exhaustively where possible, to look for evidence of current or former occupation by bats. A powerful torch was used to investigate any accessible cavities, crevices and recesses in each building.

2.2.4 In view of the findings of the internal/external inspections, the potential of the buildings to support roosting bats ('confirmed roost', 'high', 'moderate', 'low' or 'negligible') was assessed in accordance with current best practice guidelines (BCT, 2016). Assessment of bat roosting potential requires consideration of a number of criteria, including the design and construction of the building or structure, the size and location of potential features and access points, the position of the building or structure, aspect, geographical location, surrounding land use and adjacent landscape linkages.

Phase 1 tree survey

2.2.5 All trees within the survey area were inspected from ground-level, with the aid of binoculars and a powerful torch, to identify potential features suitable for use by roosting bats. Potential features include splits, cracks and cavities, peeling bark, woodpecker holes, broken branches and a covering of Ivy where this is of a sufficient age to provide a suitable microclimate between the tree and Ivy stem(s).

2.2.6 In accordance with current best practice guidelines (BCT, 2016), trees were placed into one of the following five categories based on the nature, size, location and quality of features present in each tree and surrounding habitat:

- Negligible suitability - Trees with no or negligible features for roosting bats;
- Low suitability - Trees of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential;

- Moderate suitability - Trees with one or more potential roost sites that could be used by bats but are unlikely to support roost types of high conservation status;
- High suitability - Trees 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; or
- Known or confirmed bat roost.

2.3 Limitations of surveys

2.3.1 The Phase 1 bat scoping survey followed best practice guidelines and was not subject to any constraints. The level of survey work carried out is therefore considered sufficient to inform an assessment of the potential for bats to be present and to inform the recommendations provided in *Section 5* of this report with regard to the need for further survey, protection of individual bats during works and maintenance of the favourable conservation status of the local bat population.

3 RESULTS

3.1 Phase 1 bat scoping survey

Buildings

3.1.1 All buildings within the survey area were inspected during the Phase 1 bat scoping survey. The results of the Phase 1 building survey are summarised in *Table 1* below and the location of the building is shown in *Appendix A*. Photograph references relate to the photographs provided in *Appendix B*.

Table 1: Results of the Phase 1 bat scoping building survey

Building	Description	Findings	Bat Roost Potential
B1 (Photos 1 to 3)	Single storey driving range building with a sloped corrugated metal roof and single skinned wooden panel walls. The building is open on the western elevation and well-lit with floodlights along the western elevation and lighting internally. Connected to the eastern elevation is a single storey extension and porch used for sorting golf balls. This is of a similar construction to the rest of the building.	**External:** No suitable features for roosting bats identified. The building is of single-skinned, metal construction, very well-lit and open on one elevation. **Internal:** The building is open on one elevation, with no loft void, light internally and likely to fluctuate in temperature. **Evidence of bat activity:** None recorded.	**Negligible**

Trees

3.1.2 All trees identified as having potential to support roosting bats within and adjacent to the survey area are described in *Table 2* below and their locations are given in *Appendix A*.

Tree	Species	Findings	Bat Roost Potential
T1 (off-site)	Oak	Multiple extensive trunk cavities.	**High**
T2	Willow	Two very small trunk cavities on the eastern elevation which may not lead anywhere. The likelihood of these features supporting bats is further reduced by the presence of the existing flood lighting on B1 which shine directly on the features.	**Low**
G1	Tree group	Group of Willow trees identified as supporting small holes and cracks in branches with limited potential to support roosting bats.	**Low**

3.1.2 All other trees within and immediately adjacent to the survey area were assessed as having negligible potential to support roosting bats.

3.2 Foraging and commuting habitat

3.2.1 The treeline bordering the southern survey area boundary and extending around B1 provide limited opportunities for foraging bats. However the suitability of these habitats for bats is reduced by the presence of high levels of external lighting associated with the existing driving range. Subsequently higher quality opportunities for foraging and commuting bats are abundant in the surrounding area. Notwithstanding this, measures are given in *Section 5* to maintain opportunities at the survey area and its surrounds for foraging and commuting bats following development.

4 SUMMARY AND IMPACT ASSESSMENT

4.1 No features providing suitable opportunities for roosting bats were identified within/on the driving range building (B1) proposed for demolition and no trees are proposed for felling/trimming to facilitate the proposed works (HDA, 2022). It is therefore considered highly unlikely that roosting bats would be directly impacted by the proposed works.

4.2 Notwithstanding the above, new external lighting is proposed which also requires consideration for its potential to indirectly impact roosting, foraging and commuting bats. The development proposals include the provision of a new driving range lighting system which will enable 'Toptracer'[1] to function. The proposals will include the installation of '*4 lights installed at 7.4m above the range floor for the 2 storey bays and 5 lights will be installed at 3.8m above the range floor for the single storey bays*' and require '*a minimum 30 lux should be achieved over a vertical grid spanning the range width, 50m in front of the bays and up to a height of 30m*' (Midlands Lighting Solutions, 2022).

[1] The Toptracer system lighting allows golfers to track the golf balls trajectory and distance.

4.3 The requirement for the lighting system to be incorporated into the proposals means that the external lighting cannot be installed in accordance with guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals (BCT and ILP, 2018). However, it should be noted that the survey area is currently subject to high levels of artificial lighting associated with its use as an existing driving range and the adjacent car park to the east which is also lit. Midlands Lighting Solutions concluded that the existing lighting '*consisted of 9 No. high wattage (probably in the region of 1000W each) floodlights, although the exact types and characteristics cannot be confirmed, it is our professional opinion the lights were at least 5000 kelvin colour temperature, and they were all concentrated within the width of the existing range bays footprint*'. Midlands Lighting Solutions subsequently concluded that *'Although the footprint of the proposed range will be larger, there will be the same number of light units (9) and the wattage will be significantly lower in our opinion*'.

4.4 Midlands Lighting Solutions also carried out an assessment of the proposed lighting levels in association with T1 (the tree with high bat roost potential situated immediately beyond the southern survey area boundary). Current levels of lighting associated with this tree were measured at 0.5 lux[2] and their calculations concluded that the new lighting system will result in 1.1 lux on this tree. 1 lux is approximately the level of light recorded at twilight/full moon and 10 lux is approximately the level of light recorded at sunset (BCT & ILP, 2018). It is therefore concluded that the increase in lux by approximately 0.5 lux to 1.1 lux is unlikely to have a significant impact on any bats roosting within this tree as all UK bat species will emerge from roosts at lux levels in the vicinity of 1 lux. In addition, it should be noted that the lighting system will not be turned on for the whole night. The lighting will be turned on from sunset until 22:00 on Monday to Friday and from sunset to 21:00 on Saturday and Sunday[3].

4.5 In view of the current levels of external lighting already present on the driving range and the parameters of the replacement lighting scheme, no further Phase 2 surveys with respect to roosting, foraging or commuting bats are recommended in relation to the proposed scheme. Notwithstanding this, further measures to reduce the current and future effects of external lighting are discussed in *Section 5* below.

4.6 In addition to implementing mitigation relating to external lighting to avoid any effects of the proposed works on roosting bats, development proposals should also seek to maintain and enhance opportunities for roosting, foraging and commuting bats within the survey area following development in accordance with planning policy and the 2006

[2] It should be noted that the light closest to the treeline was not operating at the time of the survey, so the existing light levels may normally be slightly more.
[3] Lighting times confirmed by Patrick Ferguson, Club Director of The Warwickshire.

NERC Act. Measures by which this can be achieved are also identified in *Section 5* below.

5 RECOMMENDATIONS

5.1 This section identifies any requirements for measures to be implemented during the development of the survey area in order to avoid, mitigate and compensate for potential effects of development on bats. In addition, measures for enhancement of the survey area for roosting and foraging bats are included in accordance with the National Planning Policy Framework (NPPF, 2021) and the 2006 NERC Act.

Lighting

5.2 In view of the current levels of external lighting already present on the driving range and the parameters of the replacement lighting scheme, no significant additional impacts of lighting on roosting, foraging or commuting bats are expected to arise as a result of the proposed scheme. Notwithstanding this, where possible the following measures to further reduce the current and future effects of external lighting identified below should be implemented:

- Use of 'warm' narrow-spectrum bulbs (maximum of 4000 kelvin) with low UV output should be installed.
- Light-spill into adjacent areas should be avoided through luminaire design or fitting with accessories such as hoods, cowls, louvers, barn doors and shields to direct the light.
- Lighting to be turned off from 22:00 to provide some dark periods for wildlife.
- The lighting installation should be carried out and documented by a lighting professional to demonstrate the correct use of additional accessories, appropriate bulbs have been used (maximum of 4000 kelvin) and the accurate aiming of the floodlights to ensure unnecessary light spill outside the survey area or on ecological receptors.

Protection and enhancement of roosting, foraging and commuting opportunities

5.3 Notwithstanding the limited level of bat foraging and commuting habitat present, where possible, development proposals should seek to maintain and enhance the value of the survey area and its surrounds for foraging and commuting bats in accordance with the 2021 NPPF and the 2006 NERC Act.

5.4 Although the proposals will not result in the loss of any scrub or trees likely to be used by common and widespread bat species for foraging and commuting, consideration should be given to the planting of a native treeline/hedgerow along the northern survey area boundary to provide habitat for a range of species and reduce light spill into the wider golf course to the north.

5.5 Updating of the existing driving range also provides opportunities to enhance the value of the survey area for roosting bats in the long-term through the creation of a range of roosting features within the new building/retained trees within the survey area and wider golf course. The detailed design and location of such features would be determined at an appropriate stage prior to construction. Consideration should be given to inclusion of a selection of the following:

- Creation of bat roosting opportunities within the new building e.g. through the installation of 'Habibat' type bat boxes and/or use of wooden boarding for wall cladding (incorporating strategic gaps); and
- Provision of bat boxes on the new building or retained trees with the survey area or wider golf course suitable for a range of bat species (e.g. Greenwoods Ecohabitat).

6 CONCLUSION

6.1 Although opportunities for roosting bats are present within several trees on the margins of the survey area, these will be retained within the scheme and are not expected to receive additional indirect impacts as a result of the replacement lighting scheme.

6.2 Although no significant impacts on roosting, foraging or commuting bats are expected to arise, and no further survey is therefore required, it is recommended that the measures identified in *Section 5* above are implemented to improve the current conditions provided by the site for roosting, foraging and commuting bats in accordance with the planning policy and the 2006 NERC Act.

7 REFERENCES

Altringham, J. (2003) *The New Naturalist: British Bats.* Harper Collins Publishers, London.

Bat Conservation Trust (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines.* Bat Conservation Trust, London.

Bat Conservation Trust and Institute of Lighting Professionals (2018) *Bats and artificial lighting in the UK; Bats and the Built Environment series.* Institute of Lighting Professionals, Rugby.

HDA (2022) *Warwickshire Golf Course: Tree Survey Report and Arboricultural Impact Assessment.* Hankinson Duckett Associates, Wallingford.

Midlands lighting Solutions Ltd (2022) *Warwickshire Golf Club – Proposed Range Lighting: Lighting Impact Report – May 2022.* Midlands lighting Solutions Ltd, Warwickshire.

Ministry of Housing Communities and Local Government (2021) *National Planning Policy Framework*.

Mitchell-Jones, A. J. (2004) *Bat Mitigation Guidelines.* English Nature.

Mitchell-Jones, A. J. and McLeish, A. P. (eds.) (2004*) Bat Workers' Manual (3rd Edition).* Joint Nature Conservation Committee.

Natural Environment and Rural Communities Act (2006) sited on http://www.legislation.gov.uk/ukpga/2006/16/contents/enacted.

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APPENDIX A

Phase 1 Bat Survey Summary Plan

KEY

Survey area boundary

Buildings and trees *

- High bat roost potential
- Low bat roost potential
- Negligible bat roost potential

All other trees within the survey area are regarded as having 'Negligible' potential to support roosting bats.

*Roosting categories relate to roost potential in accordance with the BCT 2016 guidelines.

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Warwickshire Golf & Country Club: Driving Range Bays

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Phase 1 Bat Scoping Plan

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APPENDIX B

Photographs

Photo 1 – Western elevation of B1.

Photo 2 – Eastern elevation of B1, showing small extension.

Photo 3 – Internal view of small extension.