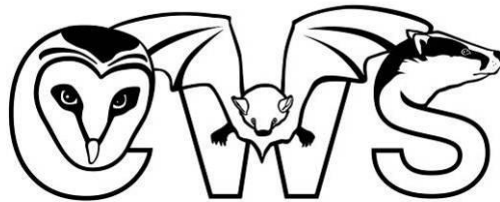


**Bat Survey Report for
proposed staff car park and path,
Greenway Hotel & Spa, Shurdington,
Cheltenham, GL51 4UG**



Cotswold Wildlife Surveys

2nd May and 12th & 26th June 2023

QUALITY CONTROL

Date	Version	Name
02.05.23	Daytime inspection	Neil Musgrave – BEng (Hons) Associate
12.06.23 26.06.23	Nocturnal surveys	Andy Warren – BSc (Hons), MA (LM), Tech Cert (Arbor A), MCIEEM, TechArborA Director James Warren Director
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06.09.23	Checked	Caroline Warren – BSc (Hons) Director
06.09.23	Reviewed and issued	Andy Warren – BSc (Hons), MA (LM), Tech Cert (Arbor A), MCIEEM, TechArborA Director

The information in this report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. The conclusions and recommendations expressed are reasoned judgements based on the evidence.

Every reasonable attempt has been made to comply with BS42020:2013 *Biodiversity – Code of practice for planning and development*, CIEEM *Guidelines for Ecological Report Writing* (CIEEM, 2017) and Bat Conservation Trust's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition, Collins, 2016). If there has been deviation from recognised practice, justification/explanation has been given.

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SUMMARY

At the Greenway Hotel & Spa in Shurdington, Cheltenham, planning permission is being sought to install a staff car park and path, with lighting from the car park to the hotel.

As this could impact on features typically used by bats as roosting places, a diurnal inspection was undertaken on 2nd May 2023, to assess the locations of the proposed car park and path for signs of bat occupation.

The existing walls that surround the location of the proposed car park, and the trees that were growing close by, were examined.

No signs of bat activity or occupation were found, and the suitability for roosting pipistrelles *Pipistrellus sp* or other bat species was considered negligible, as there were no suitable crevices or gaps.

However, as a maternity roost of Lesser Horseshoe Bats *Rhinolophus hipposideros* is present in the cellar of the hotel, nocturnal activity surveys were also undertaken to determine the use of the site by these bats, in particular their commuting and foraging routes.

The nocturnal activity surveys were undertaken on the evenings of 12th and 26th June 2023, these preceded by a count of the bats in the roost using thermal binoculars.

On 12th June 2023, at least 80 Lesser Horseshoe Bats were present, with 82 individuals counted out of the roost. These all flew off north across the car park of the spa and away north and northwest. No Lesser Horseshoes were noted in the location for the proposed staff car park, but one of two Common Pipistrelles *Pipistrellus pipistrellus* were noted flying back and forth in the gardens, and a Natterer's Bat *Myotis nattereri* was detected as it flew along the lane. A Soprano Pipistrelle *Pipistrellus pygmaeus* was also recorded.

On the second visit the colony was much more restless and it was difficult to get an accurate count of bats in the roost. However, 93 individuals emerged, with 10-15 still present in the roost when the survey ended.

Although all the Lesser Horseshoes flew off north as before, at least one or two animals were subsequently detected as they foraged around the garden, including along the route of the proposed path from the staff car park. Again Common and Soprano Pipistrelles were recorded, along with Natterer's Bat along the lane, and an overflying Noctule *Nyctalus noctula*.

Taking all the visits into account, the proposed location of the staff car park and path were not identified as bat roosts, but were used intermittently by foraging bats.

It is therefore recommended that any illumination should be bollard or low level lighting, preferably low lux LED, with light directed towards the floor, i.e. not a general spill of light. Cowls may be necessary to ensure lighting is deflected downwards.

*

No birds' nests were found either in or on the proposed location of the car park or path.

1. INTRODUCTION

In late April 2023, Cotswold Wildlife Surveys was instructed by Eden Hotel Collection, to undertake a bat survey of the location for a proposed staff car park and path at Greenway Hotel & Spa in Shurdington, Cheltenham. On 2nd May 2023, a visit was made to the property to carry out a diurnal inspection of the site to check for signs of bat occupation.

As a maternity roost of Lesser Horseshoe Bats is present in the cellar of the hotel, nocturnal activity surveys were also undertaken to determine the use of the site by these bats, in particular their commuting and foraging routes.

The results of the surveys are contained in this report.

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CRoW) and the Natural Environment and Rural Communities Act 2006 (NERC), which add an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations (the Habitats Regulations), which defines 'European protected species of animals'. In England this is the Conservation of Habitats and Species Regulations 2010, in Scotland the Habitat Regulations 1994 (as amended), and in Northern Ireland the Conservation Regulations 1995.

All bats are also protected under the Bern Convention Appendix II, the Bonn Convention Appendix II, and the Wild Mammals (Protection) Act 1996.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- ❑ *Intentionally or deliberately kill, injure or capture (or take) bats*
- ❑ *Deliberately disturb bats (whether in a roost or not)*
- ❑ *Recklessly disturb roosting bats or obstruct access to their roosts*
- ❑ *Damage or destroy roosts*
- ❑ *Possess or transport a bat or any part of a part of a bat, unless acquired legally*
- ❑ *Sell (or offer for sale) or exchange bats, or parts of bats*

The word 'roost' is not used in the legislation but is used here for simplicity. The actual wording is 'any structure or place which any wild animal...uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).

As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

2. METHODOLOGY

To fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed. The latter are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent, but suitability of roosting is considered medium to high.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats *Plecotus auritus*, Myotis bats (Natterer's and Whiskered/Brandt's *Myotis mystacinus*/*M. brandtii*), and Lesser Horseshoe Bats, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where they butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The recommended period is from May to September inclusive, with May to August optimum and September sub-optimum. The season can be extended into October, although particularly cold weather will render this inadvisable. Indeed, the air temperature at the start of each survey must be at least 10°C or above.

Nocturnal visits will be a minimum of two weeks apart, and the number of surveys is dependent on the evidence found or the suitability of the site to bats.

Where bats are found, or there is evidence of bat occupation or activity, i.e., that bat use is confirmed, the number and timing of visits will be decided by the ecologist and will be appropriate for the type of roost. In general, at least two nocturnal surveys will be carried out, both of which can be emergence surveys, or one emergence and one dawn re-entry.

Where there is no evidence of bat presence, and no suitability for roosting, no nocturnal surveys will be needed.

For a site with no evidence but low suitability, just one nocturnal survey is required, this to be in the optimum period, and either an emergence or a dawn re-entry.

For medium suitability a minimum of two nocturnals are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three nocturnals will be necessary, of which two must be in the optimum period. At least one of these must be a dawn re-entry survey, with the third visit either an emergence or a dawn re-entry.

For sites < 5 ha in size, and/or regularly shaped structures, at least two surveyors must be present, with more surveyors at larger sites and more complex buildings, e.g., those with multiple elevations and/or roof structures.

On 2nd May 2023 a thorough inspection of locations of the proposed car park and path was made by Neil Musgrave (Natural England bat licence No. 2020-44602-CLS-CLS), including the walls and nearby tree.

8x42 binoculars and a Fenix TK75 torch were used for the inaccessible/unreachable areas. On this occasion an endoscope was not used, as there were no crevices and cavities that could not be inspected with a torch or by use of binoculars from a ladder.

On the evenings of 12th and 26th June 2023, nocturnal activity surveys were undertaken by Andy Warren (Natural England bat licence No. 2015-16489-CLS-CLS) and James Warren (Natural England bat licence No. 2023-10988-CL18-BAT).

The activity surveys began 15 minutes before and continued for an hour and three quarters after sunset.

The surveys were aided by electronic Echo Meter Touch bat detectors and iPads.

A count of bats in the roost was also made using Pulsar Accolade LRF XP50 Pro Thermal Binoculars.

The results of the inspection and nocturnal surveys are detailed in Section 3.

3. RESULTS

3.1 Desk Study

In view of the small scale of the proposed works, the likely low impact on bats, and in line with current guidance on accessing and using biodiversity data (CIEEM, 2016), a detailed background data search was not carried out in this case. However, a maternity roost of Lesser Horseshoe Bats is known to roost in the cellar of the hotel.

3.2 Location

Greenway Hotel is located approximately 250 m off the A46 Shurdington Road in Shurdington, and 1.2 km northeast of the roundabout junction with the A417. The Ordnance Survey Grid Reference of the site is SO 91992 17829 (Appendix 1).

3.3 Site Description

The survey site comprised a gravelled area with brick and stone walls to the west and north, timber fencing to the north, and close mown lawn to the east and south. A small open-fronted timber lean-to was also present (Figs. 1-4).



Figs. 1 & 2 View to the west (L) and east (R)



Figs. 3 & 4 Views of the proposed path to the east (L) and west (R)

The layout of the site is shown in the aerial photograph in Appendix 2.

3.4 Building Survey

The daytime inspection was carried out on 2nd May 2023 commencing at 10:30. The weather conditions during the time of the survey were recorded and are presented in Table 1 below.

Parameter	Value
Temperature (°C)	14.0
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0

Table 1 Weather conditions during the diurnal survey

3.4.1 Bats

The proposed staff car park is to be located to the south of the hotel and spa in an existing area of gravelled bare ground partially bordered by high brick and stone walls and a timber fence.

The brick and stone walls were sound throughout, with no suitable crevices or cavities for bat roosting, whilst the timber fence was intact with no gaps.

The small lean-to had negligible suitability, as it was effectively just a sloping roof on posts, open-fronted and sided, and brightly illuminated inside.

The route of the proposed path from the car park ran across the close mown of the garden, alongside a row of young fruit trees and two mature broadleaves where the row joined the brick wall (Fig. 5). None of these contained any features suitable for bat roosting.



Fig. 5 Looking east from the hotel – route of proposed path

3.4.2 First activity survey

The first activity survey was carried out on 12th June 2023, commencing at 21:35 and finishing at 23:00. The weather conditions during the time of the survey were recorded and are presented in Table 2.

Parameter	Value
Temperature (°C)	17.5 start, 15.5 finish
Cloud cover (%)	100
Precipitation	None; high humidity
Wind speed (Beaufort scale)	0
Sunset	21:27

Table 2 Weather conditions during the first activity survey

A pre-survey inspection counted at least 80 Lesser Horseshoe Bats in the roost in the cellar.

A total of 82 individuals were subsequently counted out of the roost, these all flying off north across the car park of the spa and away north and northwest. No Lesser Horseshoes were noted in the location for the proposed staff car park, but one of two Common Pipistrelles were noted flying back and forth in the gardens, and a Natterer's Bat was detected as it flew along the lane. A Soprano Pipistrelle was also recorded.

Details of the bat observations and detections are listed below.

Time	Observation
21:37	Lesser Horseshoe Bats light sampling in preparation to emerge
21:39	First Lesser Horseshoe Bat emerges
21:40-22:03	All Lesser Horseshoe Bats (82 individuals) emerge from the cellar and fly off to the north and northwest
22:14	Common Pipistrelle distantly passed the proposed car park to the east of the site
22:14	Soprano Pipistrelle flew by the spa car park
22:21	Common Pipistrelle flew by the proposed car park
22:24	Common Pipistrelle flew by the spa car park
22:26	Natterer's Bat flew along the lane by the proposed staff car park
22:34	Common Pipistrelle flew over the proposed staff car park at height
23:00	No further detections were made and survey ended

The bat flight paths on 12th June 2023 are shown on Plan 1 overleaf

Plan 1 Bat flight paths on 12th June 2023



Lesser Horseshoe Bats →

Common Pipistrelle Bats →

Soprano Pipistrelle Bat →

Natterer's Bat →

Positions of observers ☀

3.4.3 Second activity survey

The second activity survey was carried out on 26th June 2023, commencing at 21:15 and finishing 23:15. The weather conditions during the time of the survey were recorded and are presented in Table 3.

Parameter	Value
Temperature (°C)	16.5 throughout
Cloud cover (%)	100
Precipitation	None
Wind speed (Beaufort scale)	0-1 W
Sunset	21:30

Table 3 Weather conditions during the second activity survey

On the second visit the colony was much more restless and it was difficult to get an accurate count of bats in the roost. However, 93 individuals emerged, with 10-15 still present in the roost when the survey ended.

Although all the Lesser Horseshoes flew off north as before, at least one or two animals were subsequently detected as they foraged around the garden, including along the route of the proposed path from the staff car park.

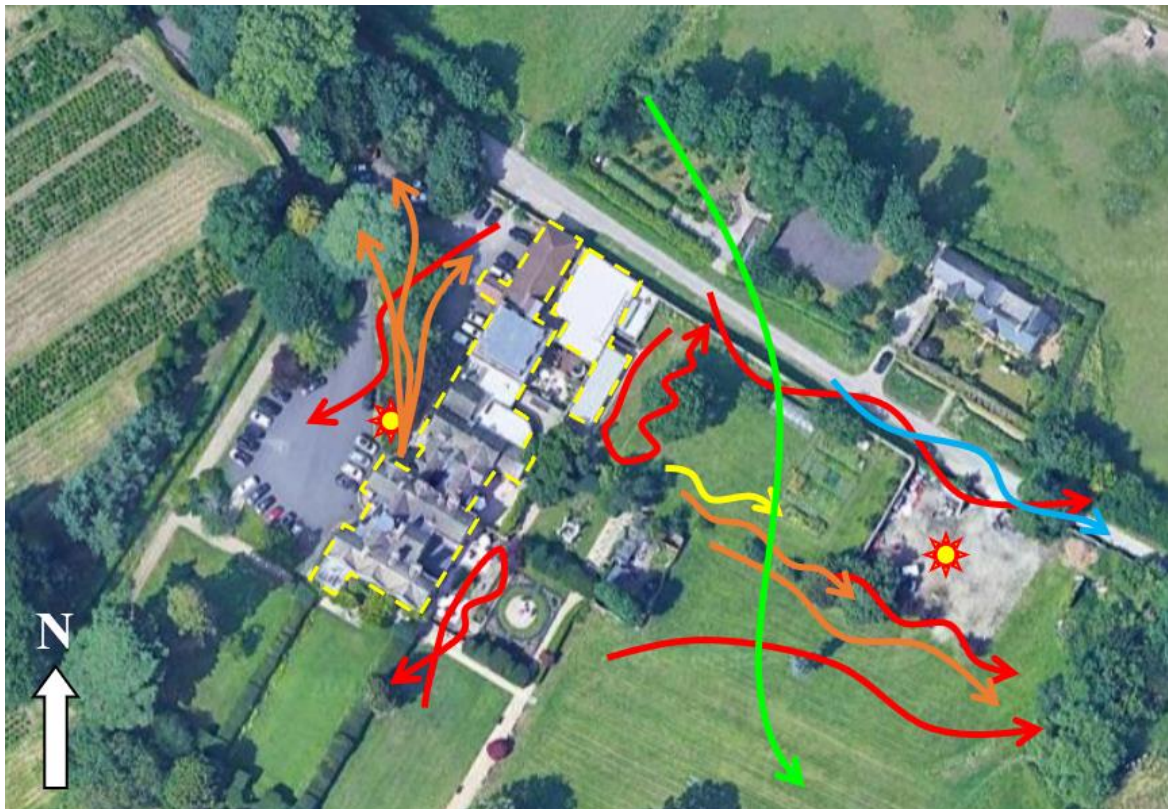
Again Common and Soprano Pipistrelles were recorded, along with Natterer's Bat along the lane, and an overflying Noctule.

The times of bat observations and detections are shown below.

Time	Observation
21:55-22:20	93 Lesser Horseshoe Bats emerge from the cellar and fly off to the north and northwest. 10-15 remain inside
22:00	Common Pipistrelle in the gardens east of the hotel
22:07	Natterer's Bat recorded over the east gardens
22:15	Lesser Horseshoe Bat flew over the east gardens
22:15	Common Pipistrelle flew by in the east gardens
22:17	Lesser Horseshoe Bat in the gardens
22:18	Common Pipistrelle foraging around the vegetable garden
22:23	Lesser Horseshoe Bat flew along the lane north of the hotel
22:23	Common Pipistrelle flew along the lane
22:24	Soprano Pipistrelle flew along the lane
22:24-22:36	Common Pipistrelle foraging up and down the lane
22:30	Lesser Horseshoe Bat flew by in the east gardens
22:33	Noctule flew over the east gardens
22:36	Natterer's Bat flew by in the east gardens
22:41	Common Pipistrelle recorded in the lane
22:50	Common Pipistrelle flying around behind the hotel
22:50	Common Pipistrelle flying in front of the hotel
22:51	Lesser Horseshoe Bat recorded over the car park
23:00	No further detections were made and survey ended

The bat flight paths at emergence on 26th June 2023 are shown on Plan 2 overleaf.

Plan 2 Bat flight paths on 26th June 2023



Lesser Horseshoe Bats →

Common Pipistrelle Bats →

Soprano Pipistrelle Bat →

Natterer's Bat →

Noctule Bat →

Positions of observers ☀

3.4.4 Other species

No birds' nests were found round the car park or path locations.

4. CONCLUSIONS AND RECOMMENDATIONS

Bats tend to be seasonal visitors to properties and are not usually in occupation all year round. The females normally form maternity colonies during May or June and then leave for adjacent trees and/or woodland during July or August once the young bats are able to fly and become independent. Here they will spend the winter months in hibernation before returning to the house or barn the following spring.

Male bats generally live alone and have a number of favoured roosts. During the summer they visit each of these for a few days at a time, before moving to their chosen hibernation site in mid-late October. Different species have different habits, but this seasonal movement is common to all.

Bats choose their roosts carefully. During the summer they look for sites which are warmed by the sun, and as a result are most often found on the south and western side of buildings.

Pipistrelles, our smallest and commonest bats, prefer to roost in very confined spaces around the outside of buildings, typical places being behind hanging tiles, weather boarding, soffit, barge and eave boarding, between roof felt and roof tiles or in cavity walls.

As such they can be difficult to find, so the suitability for roosting was also assessed.

This was considered negligible, as there were no suitable external crevices or cavities in the walls, fence or lean-to.

The nocturnal surveys subsequently revealed foraging Common and Soprano Pipistrelles around the gardens, but only low levels of activity.

Another bat frequently encountered in buildings is the Brown Long-eared Bat. This is also a common species, but unlike pipistrelles, they prefer the dry, warm space of the loft or roof void, and can often be found hanging from roof timbers, especially rafters and the ridge board next to chimney breasts.

No signs of Brown Long-eared Bat activity were found, nor evidence of other bat species which are commonly found inside buildings.

However, a maternity roost of at least 103-108 Lesser Horseshoe Bats is present in the cellar of the hotel.

On 12th June 2023, no Lesser Horseshoes were noted in the location for the proposed staff car park, but on 26th June 2023, at least one or two animals were subsequently detected as they foraged around the garden, including along the route of the proposed path from the staff car park.

Taking all the visits into account, the proposed location of the staff car park and path were not identified as bat roosts, but were used intermittently by foraging bats.

It is therefore recommended that any illumination should be bollard or low level lighting, preferably low lux LED, with light directed towards the floor, i.e. not a general spill of light. Cowls may be necessary to ensure lighting is deflected downwards.

*

No birds' nests were found either in or on the proposed location of the car park or path.

5. REFERENCES

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APPENDICES

Appendix 1: Location plan

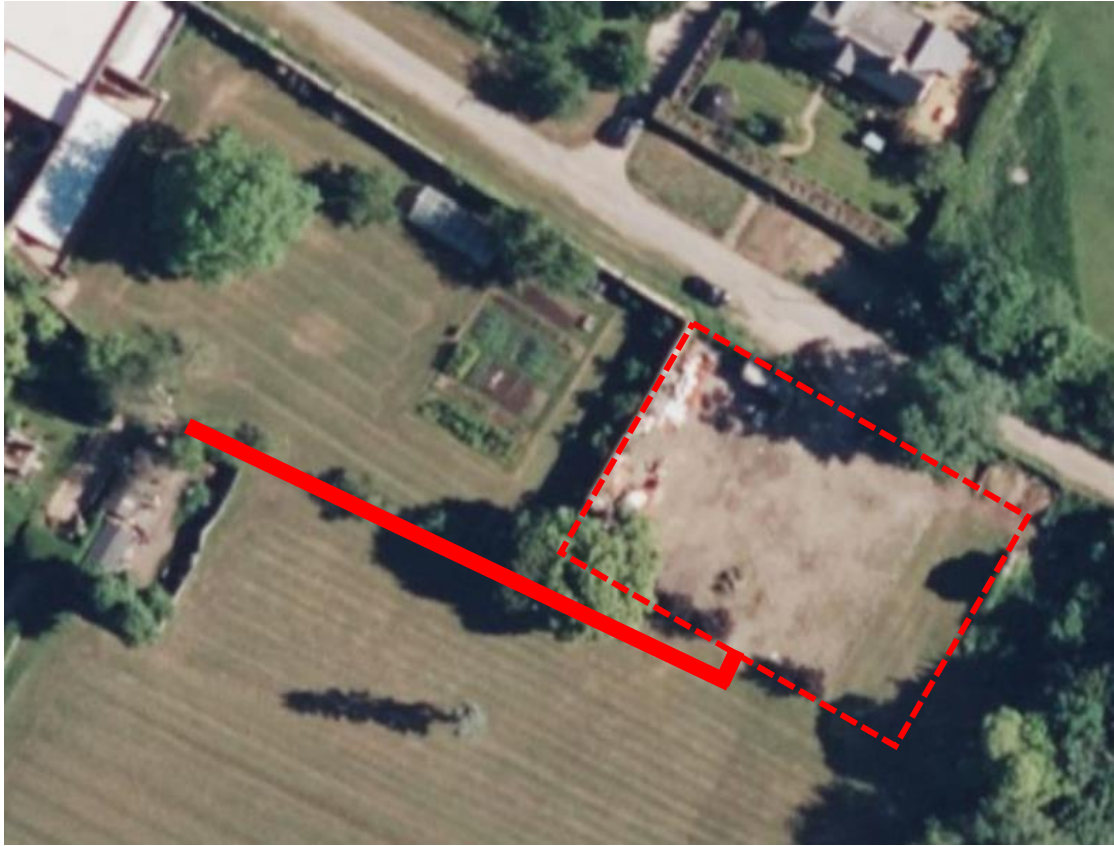
Appendix 2: Site layout

Appendix 1: Location plan



Proposed staff car park and path, Greenway Hotel, Shurdingham

Appendix 2: Site layout



Proposed staff car park and path

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Proposed staff car park and path, Greenway Hotel, Shurdington – Bat Survey Report

To: Eden Hotel Collection

Report Number: 4515-CWS-01

Version: 01

Date: 6th September 2023