CAMDEN GOODS YARD, CAMDEN, GREATER LONDON

PRELIMINARY BAT ROOST ASSESSMENT

A Report to: St George PLC

Report No: RT-MME-151076-02 Rev A

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”.

Report Version	Date	Completed by:	Checked by:	Approved by:
Final	25/11/2019	Jane Boland (Ecological Project Officer)	Paul Roebuck MCIEEM (South East Manager)	Dr Philip Fermor CEnv MCIEEM (Managing Director)
Rev A	28/11/2019	Jane Boland (Ecological Project Officer)	Paul Roebuck MCIEEM (South East Manager)	Dr Philip Fermor CEnv MCIEEM (Managing Director)

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 18 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to allow any changes in the status of bats on site to be assessed, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

In November 2019, St George PLC commissioned Middlemarch Environmental Ltd to undertake a Preliminary Bat Roost Assessment at the Camden Goods Yard in Camden. This assessment is required to inform a planning condition associated with the proposed redevelopment of the site, including the replacement of the existing supermarket and petrol filling station within a mixed-use development of homes and employment space. The wording of the condition is provided below:

Bats - Condition 54: *If more than 12 months elapse between the date of the approved bat survey (June 2017) and commencement of development, an updated bat survey shall be submitted to and approved in writing by the local planning authority.*

Middlemarch has previously conducted a Preliminary Bat Roost Assessment at this site in 2017 with findings detailed in Report RT-MME-122085-02 Rev C.

The site is dominated by buildings and associated hardstanding which are relatively poor for bats although insect prey may be present in low numbers. However, 60 m south of the site is the Regent's Canal which provides foraging and roosting habitat for bats. Further suitable habitat for foraging and commuting bats is located to the south and south-west of the site, towards Primrose Hill and Regents Park. However, the connectivity to Primrose Hill and Regents Park will be limited somewhat by high levels of street lighting, roads and the immediate surrounding habitat in an urbanised context. Overall, the potential for bats being present foraging and commuting within the site boundary is determined as low-moderate.

A detailed external and internal review of all of the buildings was undertaken on site and no evidence of bats was recorded. Taking into account the structural characteristics, the lack of features, and the immediate surrounding urban habitat, it is deemed that the buildings within the development site, including Morrison's supermarket, the access building to the market and high street, Morrison's Petrol Station and the shipping container office have negligible potential for roosting bats.

An assessment of all trees on site was undertaken and the trees were recorded to be all young and early mature specimens with no features of value to roosting bats. The trees on site were classed as having negligible potential to support roosting bats. Due to the lack of evidence it can be concluded that the Preliminary Roost Assessment has ruled out the reasonable likelihood of a bat roost being present.

Following the results of the Preliminary Bat Roost Assessment, the following recommendations have been made:

R1 Morrison's Supermarket, Access Building to the Market and High Street, Morrison's Petrol Station and Shipping Container Office

Morrison's supermarket, the access building to the market and high street, Morrison's petrol station and the shipping container office were fully inspected and no evidence of bats, nor features of potential value to roosting bats were identified. These buildings had negligible potential for roosting bats. The survey data obtained for the site is valid for 18 months from the survey date. If development works to the surveyed structures have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the structures in the interim. In the unlikely event that a bat is found during demolition works all works must immediately cease and a suitably qualified ecologist should be contacted.

R2 Lighting

Due to the low-moderate foraging and roosting habitat located immediately to the south of the site precautionary measures for lighting have been recommended. In line with paragraph 125 of the National Planning Policy Framework, the development should aim to limit the impact of light pollution on bats through the careful use of lighting in critical areas such as in areas close to the Grand Union Canal to the south of the site and at a low level with minimum spillage (Gunnell, 2012).

This lighting recommendation is already addressed through condition 60 Lighting Strategy (as amended by 2019/2962/P - decision notice).

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In November 2019, St George PLC commissioned Middlemarch Environmental Ltd to undertake a Preliminary Bat Roost Assessment at the Camden Goods Yard in Camden, Greater London. On 15 June 2018 full planning permission (ref: 2017/3847/P) was granted for the redevelopment of the 3.26 ha site located off Chalk Farm Road, adjacent to Juniper Crescent and Gilbeys Yard in Chalk Farm, Camden. This assessment is required to inform the following planning condition:

Bats - Condition 54: *If more than 12 months elapse between the date of the approved bat survey (June 2017) and commencement of development, an updated bat survey shall be submitted to and approved in writing by the local planning authority. Such survey to be carried out by a suitably qualified ecologist and accompanied by a report confirming the results and implications of the assessment, including any revised mitigation measures. All mitigation measures as approved shall be implemented in full in accordance with the agreed time scales*.

To fulfil the above brief to assess the potential for the existing buildings on site to support roosting bats, a Preliminary Bat Roost Assessment was undertaken on 20th November 2019. All UK bat species are European protected species and they are capable of being material considerations in the planning process. A summary of the legislation protecting bats is included within Appendix 1. This section also provides some brief information on the ecology of British bat species.

1.2 SITE DESCRIPTION AND CONTEXT

The site is located off Chalk Farm Road in the London Borough of Camden, centred at National Grid Reference TQ 2843 8414. It is irregular in shape and measures 3.25 ha in size.

At the time of the survey, the site comprised a Morrison's supermarket and petrol station, an access building to the market and high street, and a small shipping container office with an associated hardstanding access road, loading bay, parking area and forecourt. Scattered trees were present throughout the survey area, and introduced shrub beds were located within the supermarket car park whilst areas of amenity grassland were present around the peripheries of the site.

The site was bordered by railway tracks to the north-east and south-west, residential properties to the south-east, and an access road to the north-west. The wider landscape is dominated by an urban setting consisting of residential dwellings and retail/industrial units interspersed with school grounds, emergency services buildings and many places of worship. The Regent's Canal is located 60 m to the south-east at its nearest point and Regent's Park is located approximately 500 m to the south.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Topographical Survey: UAH3155_Camden_A	RPS Planning and Development
Draft Planning Framework, March 2017	Camden Council
Site Plan: 1095_00_SK_000 Rev SK6	Allies and Morrison
Masterplan Drawings Lower Car Parking Plan: 1095_00_07_098 Rev P1	Allies and Morrison
Masterplan Drawings Lower Ground Floor Plan: 1095_00_07_099 Rev P1	Allies and Morrison
Masterplan Drawings Ground Floor Plan: 1095_00_07_100 Rev P1	Allies and Morrison
Masterplan Drawings First Floor Plan: 1095_00_07_101 Rev P1	Allies and Morrison

Table 1.1: Documentation Provided by Client (cont)

Document Name / Drawing Number	Author
Masterplan Drawings Second Floor Plan: 1095_00_07_102 Rev P1	Allies and Morrison
Masterplan Drawings Third Floor Plan: 1095_00_07_103 Rev P1	Allies and Morrison
Masterplan Drawings Fourth Floor Plan: 1095_00_07_104 Rev P1	Allies and Morrison
Masterplan Drawings Fifth Floor Plan: 1095_00_07_105 Rev P1	Allies and Morrison
Masterplan Drawings Sixth Floor Plan: 1095_00_07_106 Rev P1	Allies and Morrison
Masterplan Drawings Seventh Floor Plan: 1095_00_07_107 Rev P1	Allies and Morrison
Masterplan Drawings Eighth Floor Plan: 1095_00_07_108 Rev P1	Allies and Morrison
Masterplan Drawings Ninth Floor Plan: 1095_00_07_109 Rev P1	Allies and Morrison
Masterplan Drawings Tenth Floor Plan: 1095_00_07_110 Rev P1	Allies and Morrison
Masterplan Drawings Eleventh Floor Plan: 1095_00_07_111 Rev P1	Allies and Morrison
Masterplan Drawings Twelfth Floor Plan: 1095_00_07_112 Rev P1	Allies and Morrison
Masterplan Drawings Thirteenth Floor Plan: 1095_00_07_113 Rev P1	Allies and Morrison
Masterplan Drawings Roof Plan: 1095_00_07_114 Rev P1	Allies and Morrison
Masterplan Drawings Sections AA & BB: 1095_00_07_300 Rev P1	Allies and Morrison
Masterplan Drawings Sections CC & DD: 1095_00_07_301 Rev P1	Allies and Morrison
Masterplan Drawings Sections EE & FF: 1095_00_07_302 Rev P1	Allies and Morrison
Masterplan Drawings Section GG: 1095_00_07_303 Rev P1	Allies and Morrison
Landscape General Arrangement: P10606-00-001-101 Rev D00	Gillespies
Roof Landscape: P10606-00-001-111 Rev D00	Gillespies

Table 1.1: Documentation Provided by Client (cont'd)

2. METHODOLOGY

2.1 DESK STUDY

The desk study included a search for statutory nature conservation sites designated for bats within a 10 km radius of the site.

As part of the Preliminary Ecological Appraisal (Report RT-MME-122085-01) an ecological desk study (which included a search for records of bats) was undertaken within a 1 km radius of the site. The consultees for the desk study were:

- Natural England - *MAGIC* website for statutory conservation sites; and,
- Greenspace Information for Greater London (GiGL) - local records centre.

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations. Relevant bat data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

2.2 FIELD SURVEY

In line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), a Preliminary Bat Roost Assessment of the buildings was conducted during daylight hours. A visual assessment was undertaken to determine the presence of any Potential Roost Features (PRFs), together with a general appraisal of the suitability of the site for foraging and commuting. Table 2.1 provides examples of PRFs. Any accessible PRFs were inspected using binoculars, a torch and endoscope for evidence of possible bat presence. Buildings were surveyed externally. Internal building access was not made available at the time of the survey.

Example of Potential Roost Features
Externally • Access through window panes, doors and walls; • behind peeling paintwork or lifted rendering; • behind hanging tiles; • weatherboarding; • eaves; • soffit boxes; • fascias; • lead flashing; • gaps under felt (even including those of flat roofs); • under tiles/slates; • existing bat and bird boxes; and • any gaps in brickwork or stonework permitting access into access to cavity- or rubble-filled walls. Internally • behind wooden panelling; • in lintels above doors and windows; • behind window shutters and curtains; • behind pictures, posters, furniture, peeling paintwork; • peeling wallpaper, lifted plaster and boarded-up windows; • inside cupboards and in chimneys accessible from fireplaces. • within attic voids: • the top of gable end or dividing walls; • the top of chimney breasts; • ridge and hip beams and other roof beams; • mortise and tenon joints; • the junction of roof timbers, especially where ridge and hip beams meet; • behind purlins; • between tiles and the roof lining; and • under flat felt roofs.

Table 2.1: Potential Roost Features (Adapted from Collins 2016)

Based on the PRF's present, the survey area was assessed using the suitability classes detailed within Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), as detailed in Table 2.2.

Suitability	Description
High	A structure 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 and surrounding habitat.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions 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).
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 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).
Negligible	Negligible habitat features on site likely to be used by roosting bats.

Table 2.2: Classification of Structures with Bat Potential (Adapted from Collins, 2016)

3. DESK STUDY

3.1 STATUTORY NATURE CONSERVATION SITES

The site is not located within 10 km of any statutory nature conservation sites designated for the presence of bats.

3.2 SPECIES RECORDS

Records of bat species within a 1 km radius of the survey area provided by the local record centre are summarised in Table 3.1. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Local BAP?	Legislation / Conservation Status
Common pipistrelle *Pipistrellus pipistrellus*	65	2012	180 m north	-	✓	ECH 4, WCA 5, WCA 6
Myotis species *Myotis* sp.	8	2008	180 m north	#	✓	ECH 2 #, ECH 4, WCA 5, WCA 6
Pipistrelle species *Pipistrellus* sp.	10	2008	270 m north	#	✓	ECH 4, WCA 5, WCA 6
Soprano pipistrelle *Pipistrellus pygmaeus*	24	2011	420 m north	✓	✓	ECH 4, WCA 5, WCA 6
Noctule *Nyctalus noctula*	6	2011	480 m north	✓	✓	ECH 4, WCA 5, WCA 6
Serotine *Eptesicus serotinus*	1	2009	690 m south-west	-	✓	ECH 4, WCA 5, WCA 6

Key:
#: Dependent on species.
†: Records are confidential and therefore proximity is not provided within the report.

ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.

WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).
WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.

Table 3.1: Bat Species Records Within 1 km of Survey Area

3.3 PREVIOUS BAT SURVEYS RECORDS

Middlemarch has previously conducted a Preliminary Bat Roost Assessment at this site in 2017 with findings detailed in Report RT-MME-122085-02 Rev C. As the development works did not take place within 12 months of the report, an updated Preliminary Bat Roost Assessment was required.

The results of the assessment in 2017 concluded that the site was dominated by buildings and associated hardstanding which are relatively poor for bats, however, suitable foraging and roosting habitat was identified 60 m south of the site, in the form of Regent's Canal, and that further suitable habitat for foraging and commuting bats is located to the south and south-west of the site at Primrose Hill and the Regent's Park.

A full external assessment of all buildings on site was conducted, and it was concluded that the buildings offered negligible features of potential value to roosting bats. A single feature was identified during the survey, in the form of a missing panel on the ceiling of the covered outdoor walkway on the northern aspect of Morrison's supermarket. There was, however, no evidence of bat activity (e.g. droppings, scratch marks, urine staining, feeding remains or bats) recorded near the ceiling panel nor on any other feature related to the building during the survey.

4. SURVEY RESULTS

4.1 INTRODUCTION

The Preliminary Bat Roost Assessment was conducted on the 20th November 2019 by Ecological Project Officers Rita Smoldareva and Jane Boland. Weather conditions were recorded and are presented in Table 4.1.

Parameter	Conditions
Temperature (°C)	7
Cloud Cover (%)	5
Precipitation	0
Wind Speed (Beaufort)	F3

Table 4.1: Weather Conditions During the Preliminary Bat Roost Assessment

4.2 CONSTRAINTS

There was no access to the roof of all buildings therefore they were surveyed and assessed from the ground, and internal access to the buildings was not made available at the time of the survey. Additionally, external access was not possible to the south-eastern corner of Morrison's supermarket due to a locked gate being present. These restrictions were not considered to be a significant constraint. It should be noted that the desk study results are two years old. However, the age of these is not considered to be significant in the context of the findings.

4.3 SURVEY RESULTS OF BUILDINGS

4.3.1 Morrison's Supermarket

External Assessment
The Morrison's supermarket building was a single storey, flat roofed building. At the entrance to the structure, on the northern aspect a pitched roof was present. It was constructed from brick and cement with a corrugated material and metal structure overhanging the walkway surrounding the north-east aspect of the brick structure. There were large glass windows located on the northern aspect of the building. The building was in use at the time of the survey as a supermarket. The exterior of the building was well maintained and in good condition as shown in Plate 4.1 and 4.2. There was no observed notable vegetation growth on the building.

Plate 4.1 Exterior of Morrison's Supermarket (Pitched Roof)

Plate 4.2 Exterior of Morrison's Supermarket (Eastern Aspect)

The majority of the roof of the supermarket building was flat. No suitable features for roosting bats were identified along the flat or pitched roof areas. The join between the brick wall and the roof was inspected on the eastern and western aspects of the building. This was observed to be tightly fitted around the building with no gaps or potential access points for bats, as depicted in Plates 4.3 and 4.4.

Plate 4.3 Tightly Fitted Roof (western elevation)

Plate 4.4 Tightly Fitted Roof (eastern elevation)

Elsewhere, the windows, door and shutters were all in good condition as depicted in Plates 4.5 and 4.6 There were no gaps or access points located during the assessment in these areas.

Plate 4.5 Tightly Fitted Doors (northern elevation)

Plate 4.6 Tightly Fitted Windows (eastern elevation)

On the northern aspect of the building, ceiling tiles were present underneath a sheltered outdoor walkway. All ceiling tiles were observed to be tightly fitted (Plates 4.7-4.9). Light cobwebbing was recorded along many of the tiles and no evidence of bats was observed.

Plate 4.7 Tightly Fitted Ceiling Tiles (northern elevation)

Plate 4.8 Tightly Fitted Ceiling Tiles (northern elevation)

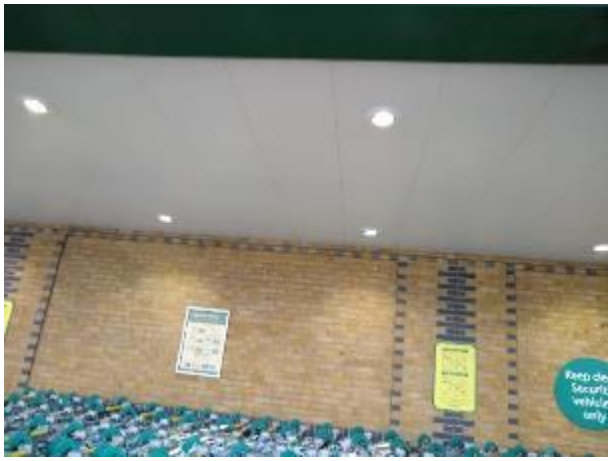

Plate 4.9 Tightly Fitted Ceiling Tiles (northern elevation)

In summary, there was no evidence of bat activity (e.g. droppings, scratch marks, urine staining, feeding remains or bats) identified during the external inspection of the building and no features of potential value to roosting bats were recorded.

4.3.2 Access Building to the Market and High Street

External Assessment
Within the car park to the Morrison's supermarket there was a second building which provides an access route to the market and high street. This building was single storey and had a flat roof, as depicted in Plates 4.10 and 4.11. There were no windows on the building and there was a single entrance and exit point on the north-east aspect of the structure. The building was in a good state of repair and tightly fitted with no gaps providing access for bats. There were no features identified on the building which could be utilised by bats to gain entry into the building and potential roost locations. In addition, no evidence of roosting bats, e.g. droppings, urine staining, feeding remains or scratch marks was recorded.

Plate 4.10 Building Exterior (eastern elevation)

Plate 4.11 Building Exterior (north-eastern elevation)

Internal Assessment
The building is currently used as a walkway to access the market and the high street. It was not considered to provide suitability for roosting bats. There was no evidence of bat activity (e.g. droppings, scratch marks, urine staining, feeding remains or bats) identified during the internal inspection of the building.

4.3.3 Morrison's Petrol Station

To the north of the Morrison's Supermarket there was a single storey brick-built building with a flat roof and a brick barrier wall which is the Morrison's Petrol Station as depicted in Plates 4.12 and 4.13. There were large glass windows located on the western aspect of the building, as shown in Plate 4.14. The building was in a

good state of repair with no gaps in the brickwork nor around the windows which could allow for bat ingress. There was no notable vegetation growth on the building recorded.

Plate 4.12 Building Exterior (south-western elevation)

Plate 4.13 Building Exterior and Barrier Wall (eastern elevation)

Plate 4.14 Glass Windows

There was a metal sheltering roof over the petrol re-fuelling area as shown in Plates 4.15 and 4.16. However, this structure had no features identified which could be utilised by bats to gain entry into the roof and potential roost locations.

Plate 4.15 Metal sheltering roof

Plate 4.16 Metal sheltering roof

In summary, there were no features identified on the building which could be utilised by bats to gain entry into the building and potential roost locations. In addition, no evidence of roosting bats, e.g. droppings, urine staining, feeding remains or scratch marks, was recorded.

4.3.4 Shipping Container Office

A small metal shipping container was present on site and in current use as an office space (Plate 4.17). The building had a metal roof and sealed doors and windows. No features were identified which could be utilised as ingress points or roosting locations for bats and no evidence of bats was recorded.

Plate 4.17 Metal Shipping Container Office

4.4 SURVEY RESULTS OF TREES

4.4.1 Trees with Negligible Potential to Support Roosting Bats

Numerous scattered trees were present within the interior of the site, predominantly within borders and amenity grassland. The trees were largely young and early mature specimens of species including London plane *Platanus* × *acerifolia* and cherry *prunus* sp.

No potential features were identified on any of the trees on site and all trees on site were classified as having negligible potential to support roosting bats. Example photographs of the scattered trees around the Morrison's supermarket and Morrison's petrol station are presented in Plates 4.18-4.23.

Plate 4.18 Negligible Potential

Plate 4.19 Negligible Potential

Plate 4.20 Negligible Potential

Plate 4.21 Negligible Potential

Plate 4.22 Negligible Potential

Plate 4.23 Negligible Potential

4.5 SITE AND SURROUNDING HABITATS

The habitat surrounding the Morrison's supermarket and petrol station is predominantly hardstanding interspersed with areas of introduced shrubs and amenity grassland. The site is set within a commercial/industrial setting with Camden High Street located to the north-east of the site. There are industrial buildings located along the Regents Canal locks to the south-east of the site. Train lines were located to the south-west of the Supermarket study area and between the Supermarket study area and the Petrol Station study area. To the west of the study area there were residential and industrial buildings.

Habitats within 1 km of the site suitable for roosting, commuting and foraging include:

- Residential houses and associated gardens;
- Running and standing water bodies; and,
- Railway lines with vegetated banks.

The site is located approximately 50 m north of the Regents Canal, which provides good habitat for foraging and roosting bats. Primrose Hill Park is also located 500 m south-west of the site and Regents Park 500 m south of the site which also provides suitable roosting, foraging and commuting habitat.

There is connectivity between the areas described but the roads and hardstanding will restrict the movement of bats. Furthermore, the site and the immediate surroundings are subject to street lighting and moderate levels of traffic movement which may deter these species. In general, the surrounding environment has low-moderate value for bats. The buildings and trees have been deemed as having negligible potential for roosting bats. The small areas of amenity vegetation may offer a low to moderate value to foraging and commuting bats.

5. DISCUSSION AND CONCLUSIONS

5.1 SUMMARY OF PROPOSALS

Proposals involve the redevelopment of the site, including the replacement of the existing supermarket and petrol filling station within a mixed-use development of homes and employment space.

5.2 ASSESSMENT OF BUILDINGS

A detailed external review of all of the buildings was undertaken on site and no features of potential value to roosting bats nor evidence of bats was recorded. Taking into account the structural characteristics, the lack of features on the buildings and the immediate surrounding urban habitat, it is deemed that the buildings on site have negligible potential for roosting bats. Due to the lack of evidence it can be concluded that the Preliminary Roost Assessment has ruled out the reasonable likelihood of a bat roost being present.

5.3 ASSESSMENT OF TREES

All of the trees on site were young and early mature specimens with no features such as cracks, knots, deadwood or other ingress points which would be suitable for roosting bats. No evidence of bats was recorded and the trees on site were classified as having negligible potential to support roosting bats.

5.4 POTENTIAL IMPACTS ON BATS

The assessment of buildings and trees concluded that there were negligible habitat features with the potential to be utilised by roosting bats on the development site. Therefore, the development works are not expected to have an impact on roosting bats.

From the data search, there were records of common pipistrelle, soprano pipistrelle, noctule, serotine and myotis bat species within the local area. These records range from 690 m from the site to 180 m from the site.

The site is dominated by buildings and associated hardstanding which are relatively poor for bats although insect prey may be present in low numbers. However, 60 m south of the site is the Regents Canal which provides foraging and roosting habitat for bats. Further suitable habitat for foraging and commuting bats is located to the south and south-west of the site, towards Primrose Hill and Regents Park. There is connectivity to the Regents Canal from the site due to its locality. However, the connectivity to Primrose Hill and Regents Park will be limited somewhat by high levels of street lighting, roads and the immediate surrounding habitat in an urbanised context. Overall, the potential for bats being present foraging and commuting within the site boundary is determined as low-moderate.

6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 Morrison's Supermarket, Access Building to the Market and High Street, Morrison's Petrol Station and Shipping Container Office

Morrison's supermarket, the access building to the market and high street, Morrison's petrol station and the shipping container office were fully inspected, and no evidence of bats was identified. These structures had negligible potential for roosting bats. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed buildings have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the structures in the interim. In the unlikely event that a bat is found during demolition works all works must immediately cease and a suitably qualified ecologist should be contacted.

R2 Lighting

Due to the low-moderate foraging and roosting habitat located immediately to the south of the site precautionary measures for lighting have been recommended. In line with paragraph 125 of the National Planning Policy Framework, the development should aim to limit the impact of light pollution on bats through the careful use of lighting in critical areas such as in areas close to the Regents Canal to the south of the site and at a low level with minimum spillage (Gunnell, 2012).

In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012), any new lighting within close proximity to Regents Canal should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Examples of good practice include:

- Avoiding the installation of new lighting in proximity to key ecological features.
- Using modern LED fittings rather than metal halide or sodium fittings, as modern LEDs emit negligible UV radiation.
- The use of directional lighting to reduce light spill, e.g. by installing bespoke fittings or using hoods or shields. For example, downlighting can be used to illuminate features such as footpaths whilst reducing the horizontal and vertical spill of light.
- Where the use of bollard lighting is proposed, columns should be designed to reduce horizontal light spill.
- Implementing controls to ensure lighting is only active when needed, e.g. the use of timers or motion sensors.
- Use of floor surface materials with low reflective quality. This will ensure that bats using the site and surrounding area are not affected by reflected illumination.
- For internal lights, recessed light fittings cause significantly less glare than pendant type fittings. The use of low-glare glass may also be appropriate where internal lighting has the potential to influence sensitive ecological receptors.

This lighting recommendation is already addressed through condition 60 Lighting Strategy (as amended by 2019/2962/P - decision notice).

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APPENDIX 1

LEGISLATION

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2010, as amended (Habitats Regulations 2010, as amended). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2010 (as amended), states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2010 (as amended) for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*.

At least eight species of bat are known to breed in Greater London, all of which are listed on the London local BAP: Noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, Whsikered *Myotis mystacinus,* Brandt's *Myotis brandtii*, Natterer's *Myotis natererii,* Daubenton's *Myotis daubentoni*, Serotine *Eptesicus serotinus*, Leisler's *Nyctalus leisleri*, common pipistrelle *Pipistellus pipistrellus* and nathusius pipistrelle *Pipistrellus nathusiusii*.

The reader should refer to the original legislation for the definitive interpretation.

ECOLOGY

At present, 18 species of bats are known to live within the United Kingdom, of which 17 species are confirmed as breeding. All UK bat species are classed as insectivorous, feeding on a variety of invertebrates including midges, mosquitoes, lacewings, moths, beetles and small spiders.

Bats will roost within a variety of different roosting locations, included houses, farm buildings, churches, bridges, walls, trees, culverts, caves and tunnels. At different times of the year the bats roosting requirements alter and they can have different roosting locations for maternity roosts, mating roosts and hibernation roosts. Certain bat species will also change roosts throughout the bat activity season with the bat colony using the site to roost for a few days, abandoning the roost and then returning a few days or weeks later. This change can be for a variety of reasons including climatic conditions and prey availability. Bats are known live for several years and if the climatic conditions are unfavourable at a particular roost, they may abandon it for a number of years, before returning when conditions change. Due to the matriarchal nature of bat colonies, the locations of these roosts can be passed down through the generations.

Bats usually start to come out of hibernation in March and early April (weather dependent), when they start to forage and replenish the body weight lost during the hibernation period. The female bats then start to congregate together in maternity roosts prior to giving birth and a single baby is born in June or July. The female then works hard to feed her young so that they can become independent and of a sufficient weight to survive the winter before the weather gets too cold and invertebrate activity reduces. Males generally live solitary lives, or in small groups with other males, although in some species the males can be found living with the females all year. The mating season begins in the autumn. During the winter bats hibernate in safe locations which provide relatively constant conditions, although they may venture outside to forage on warmer winter nights.