



Hampshire
County Council

Bat Survey Report – Preliminary Roost Assessment

Goodwood Block, Crookhorn College

For
Hampshire County Council
Property Services

April 2024

Hampshire County Council Ecology Team

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Report conditions

<i>Project reference</i>	23.1958	<i>Client reference</i>	C10191
<i>Report title</i>	Bat Survey Report - Preliminary Roost Assessment – Goodwood Block, Crookhorn College, Waterlooville		
<i>Client</i>	Hampshire County Council Property Services		
<i>Report status</i>	FINAL		
<i>Survey dates</i>	PRA: 21 December 2023		
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Summary

A Preliminary Roost Assessment was carried out to assess the presence or likely absence of bats at Goodwood Block, Crookhorn College, Waterloooville. This work is required to support a planning application.

Goodwood Block is a 'SCOLA' system-built brick and metal framed single and two-storey flat-roof structure, located to the eastern side of the school buildings complex. The wider site comprises other buildings and structures, areas of hardstanding and artificial surfaces, (e.g., parking areas, covered and uncovered footways, sports courts, and areas of landscape planting. Much of the eastern half of the college grounds comprises a large area of modified grassland with a mature tree-line boundary that is the western extent of the neighbouring Johnston's Coppice, an area of semi-natural woodland. The college itself is situated within a primarily suburban landscape to the southeast of Waterloooville.

The proposed works are for re-cladding of Goodwood Block. This would entail the removal of existing external cladding, installation of new cladding, and an overlay of the existing roof. Additionally, a temporary haul road and temporary works compound will be located on modified grassland next to the building.

Visual bat survey work finds the structure to have moderate suitability for supporting bats. The development works may have the potential to damage or destroy any roosts present as well as the potential to harm individual bats if present.

Further survey work is recommended to properly establish and characterise the level and nature of bat use at the site. This will enable a suitable strategy to be developed to avoid, mitigate and compensate for any identified impacts in order to satisfy the Local Planning Authority and if necessary, to support any subsequent application for a bat mitigation licence from Natural England.

1. Introduction

Objectives

- 1.1. The purpose of this study was to provide information on the possible presence or likely absence of bats at Goodwood Block, Crookhorn College, Stakes Hill Road, Waterlooville PO7 5UD, to support a planning application. Where bat roosts are identified, or where their presence cannot be confidently ruled out, the report sets out an assessment of the impacts to these and where necessary makes recommendations for measures to avoid, mitigate or compensate for impacts to bats as necessary, dependent on the nature and scale of the identified impacts.

Site Description

- 1.2. The Crookhorn College site covers approximately 9.5-hectares (ha). It is located to the east of a mature suburban environment to the south of Waterlooville, east of the Purbrook and Widley areas, and approximately 0.6km west of the A3(M).
- 1.3. The site comprises modern flat-roofed buildings and other structures, areas of hardstanding and artificial surfaces, and areas of landscape planting. A large field of modified grassland lies to the east of the school buildings. The site's boundaries primarily comprise mature treelines, which, along the east boundary, represent the western edge of an area of semi-natural woodland known as Johnston's Coppice.
- 1.4. Goodwood Block is a 'SCOLA' system built flat-roofed structure built in 1971. The building comprises two distinct sections – one single-storey, the other two-storey. The exterior walls are brick, and the windows and doors have metal frames. Some exterior areas of the two-storey part of the building are clad with hanging tiles. Both sections of the building have a continuous band of wooden cladding above the windows and below the roof-line. The building is located to the east side of the school complex, grid reference SU 68751 07865, next to a large field of modified grassland.

- 1.5. Land use to the north, west and south of the site primarily consists of residential properties and gardens, several schools, and areas of public greenspace / recreation grounds. Johnston's Coppice bounds the site to the east and is part of a band of semi-natural woodland which extends along either side of the A3(M) connecting the eastern end of Portsdown Hill escarpment to the wider rural and agricultural landscape northeast of the Portsmouth conurbation.
- 1.6. Photos 1 to 4 in the photo sheet at Appendix 3 show the elevations of Goodwood Block relevant to the proposed works.

Proposed works

- 1.7. The proposal is for re-cladding of the original SCOLA building and an overlay of the existing roof. Additionally, the proposals include the installation of a haul road and works compound on the field next to the building.
- 1.8. Appendix 1 shows the plans of the school as existing, and the development plans as proposed at the time of the Preliminary Roost Assessment.

Limitations

- 1.9. All areas of the site were fully accessible and visible during the survey work. There are therefore no significant limitations to the survey work.
- 1.10. External evidence of bat use, such as droppings stuck to walls or roof faces, are generally rapidly washed or weathered away. However, this is a typical and common factor of visual bat surveys.

2. Methods

Desk-based assessment

- 2.1. A desk-based assessment was carried out by HCCET in January 2024. Geographical Information Systems (GIS) mapping was used in order to identify all records of bats or bat roosts within a 1km radius of the site. Given the localised nature of the proposals this search radius was considered sufficient for assessing risk to all ecological features.
- 2.2. In addition, records were obtained on habitats of particular value to bats such as woodlands, species-rich grasslands, and waterbodies / river corridors.
- 2.3. The Ecology Team has full access to the extensive datasets maintained by the Hampshire Biodiversity Information Centre (HBIC). However, *“whilst every reasonable effort is made to validate information supplied to and by the Hampshire Biodiversity Information Centre, owing to the dynamic and judgmental nature of information relating to wildlife, HBIC disclaims any responsibility for the accuracy or comprehensiveness of the information supplied, and accepts no liability for any indirect, consequential, or incidental damages or losses arising from use of the information”* (Paragraph 4 of the HBIC Data Users Declaration).

Field survey – building roost assessment

- 2.4. A visual daytime bat survey was carried out on 21 December 2023 by Julie Trevellick (Ecologist), assisted by Thomas Gray (Assistant Ecologist). The weather was dry and overcast following earlier showers, with a temperature of 13°C and a moderate breeze (Beaufort Force 4).
- 2.5. Survey methodology used during the work is guided by and consistent with that set out in the Bat Conservation Trust’s *‘Bat Surveys for Professional Ecologists: Good Practice Guidelines’* 4th edition, (Collins, J. (ed) 2023).
- 2.6. The building was subject to a detailed external search. The aims of this were to identify evidence of bat activity and/or identify the presence of any features that could potentially support roosting bats or features through which bats could gain

access to possible roost locations. External areas were inspected to identify potential bat access points and roosting features. Such features typically include missing, slipped, broken or bowed roof tiles, gaps around fascias and soffits, gaps in brickwork (such as missing mortar or expansion gaps), lifted chimney, roof, or window flashing, and gaps around window and door casements.

- 2.7. The external inspection also aimed to identify any direct evidence of bat use such as droppings adhering to walls, floors or window sills below gaps, or staining around possible access gaps.
- 2.8. Features were inspected using Opticron Discovery 10x42 close-focusing binoculars, with high-powered torches (Clulite Clubman CB2 and Lenser P7.2) used to illuminate potential roost and roost access features. A scaffolding tower was in place to allow access to the flat roof part of Goodwood Block, enabling close inspection of the north elevation of the two-storey part of the building.
- 2.9. There were no internal voids to inspect.
- 2.10. The building was subsequently assessed for its suitability to support roosting bats, from 'Negligible' to 'High,' in line with the survey guidelines.

Habitat suitability for foraging, commuting and other activity

- 2.11. An assessment was made of the suitability of the site and the surrounding landscape to support foraging, commuting and other flying behaviours such as swarming and social interactions. The assessment was based on the presence of habitat features such as woodland, scrub, hedgerows, grassland, and open water and watercourses, which are highly attractive to bats as both a foraging resource and as commuting routes. The presence of such habitats, particularly in a mosaic with other suitable habitats, typically increases the potential for structures to be exploited by bats where suitable roost and access opportunities are present. The presence of unlit semi-natural vegetation and habitat linkages between the site and the surrounding landscape were also considered.
- 2.12. The table in Appendix 4 sets out the guidelines for assessing roost suitability and foraging habitat quality.

3. Results

Desk-based assessment

- 3.1. Figure A2.1 at Appendix 2 shows the location of the site and its surrounding relevant features of ecological interest.

Designated sites and notable habitats

- 3.2. There are no international or national designated statutory sites within the Crookhorn College site or the 1km search radius.
- 3.3. There are no locally-designated sites within the Crookhorn College site; however, a number of Sites of Importance for Nature Conservation (SINCs) lie within the search radius. The closest of these is Johnston's Coppice which is contiguous with the school's eastern boundary and lies approximately 150m east of Goodwood Block. This SINC is designated for its ancient semi-natural woodlands and other woodlands where there is a significant element of ancient semi-natural woodland surviving. The site is also designated as it supports the notable species Hazel Dormouse *Muscardinus avellanarius*.
- 3.4. Details of the other SINCs within the wider search area are shown in Table A2.2 at Appendix 2.
- 3.5. A number of areas of Priority Habitat for bats are present within the search radius; these include Ancient Woodland, Lowland Mixed Deciduous Woodland, Wet Woodland, Lowland Calcareous Grassland, Lowland Meadows, and Purple Moor Grass and Rush Pastures. These habitats are primarily found to the east of the site and are primarily associated with the various SINCS detailed in Table A2.2 at Appendix 2.
- 3.6. Other relevant ecological features in the wider landscape include a 'green corridor' of semi-natural woodland interspersed with areas of scrub and grassland, which extends along either side of the A3(M) and connects the eastern end of Portsdown Hill escarpment to the wider rural and agricultural landscape to the northeast of the Portsmouth conurbation. Johnston's Coppice, via this 'green corridor,' provides ecological connectivity between the school

site and areas of habitat within the search radius and the wider landscape beyond.

Bat records

- 3.7. No records were returned for confirmed bat roosts within the site or wider search radius. No records of bat activity within the site were returned although there are multiple records of bat activity across the search radius; details of these are set out in Table A2.1 at Appendix 2.
- 3.8. In summary, a total of 14 species have been recorded within the search radius, with the most commonly recorded species being Common Pipistrelle *Pipistrellus pipistrellus*. This species has been consistently recorded across the search radius since 2014, with most recent records being from autumn 2021. The closest records for bats within the search radius were located 150m east of the site, all relating to bat capture surveys (harp trapping with acoustic lures) conducted in 2018; in total eight species, including rarer bats such as Alcaethoe *Myotis alcathoe* and Brandt's *Myotis brandtii*, were recorded.

Field survey

- 3.9. The following sections describe the findings of the field survey work. The photo sheet at Appendix 3 shows photos of the relevant features described below.

External Assessment

- 3.10. The timber cladding covering space between the top of windows and the roof edge, which extends around the exterior of the building, appears to be in good condition with no evidence of damage, lifting or rot (Photos 6 and 7). The building's brickwork was in generally good condition with one area of damage to a brick above a fire escape door on the east elevation (Photo 8).
- 3.11. There are several missing or damaged hanging tiles (Photos 9 to 12) on the north elevation of the two-storey part of the building. There are gaps to each side of the window at the northeast corner of the two-storey section of the building between the hanging tiles and the window frame edges (Photos 13 and 14). There is a missing hanging tile on the eastern elevation of the building (Photos 15 and 16). The gaps created by missing or damaged hanging tiles and

those around the window frames are suitable roost features for crevice dwelling bats such as Pipistrelle species. The aerial map at Appendix 4 shows the locations of the PRFs identified during the PRA.

- 3.12. There were no visible signs indicative of bat presence, such as droppings, urine staining, fur rubbing marks or evidence of feeding, on any of the parts of the building that were surveyed.

Habitats for foraging, commuting, and other activity

- 3.13. Mature tree lines along the site's boundaries are part of a wider ecological network of continuous habitat including woodland, scrub and grassland. This network of habitats connects the site to high-quality areas of habitat for bats within the wider landscape to the northeast and south/southwest of the site. Treelines within the site are considered to provide moderate quality foraging habitat for bats and are also likely to be used as flight-paths by commuting bats.
- 3.14. The field of modified grassland to the east of the site is considered to be of low ecological value at site level although it may provide occasional foraging opportunities for bats. Other areas of landscape planting within the grounds are unlikely to support foraging or commuting bats.

Field survey – vegetation

- 3.15. To the east of the school complex is a large field of modified grassland covering approximately 3-ha, which is used for sport and recreation activities by the school. The field has an even, short sward and is subject to a regular mowing regime. Flora species noted here were common and widespread, including Perennial Ryegrass *Lolium perenne*, Clover *Trifolium sp.*, Daisy *Bellis perennis*, Dandelion *Taraxacum sp.*, and Ribwort Plantain *Plantago lanceolata*.
- 3.16. To the southern end of the buildings on the eastern side of the school one immature Oak *Quercus robur* is located adjacent to the proposed location of the temporary haul road. This tree was assessed as having negligible potential for roosting bats and it is understood that it will be removed as part of the pre-construction phase of the proposed development.

4. Discussion

Preliminary Roost Assessment

- 4.1. Crookhorn College is located to the east of a predominantly suburban area. Although the immediate vicinity of the buildings and playing fields may have lower suitability for foraging and commuting bats, the site boundaries comprise lines of mature trees that are connected to nearby areas of semi-natural woodland, scrub and grassland, which are likely to be used by commuting and foraging bats. The area to the east of the site supports a semi-natural woodland belt which is of higher suitability for bats, and which is linked to areas in the wider landscape, to the north and east, which are considered to be of high suitability for bats and are known to support a diversity of bat species. Overall, the site is considered to be located in an area of moderate suitability for bats.
- 4.2. Goodwood Block has a number of features including missing or damaged hanging tiles, damaged wooden cladding and damaged brickwork which could be utilised by individual crevice-dwelling bats. Although these features are unlikely to provide conditions suitable for higher status roosts (i.e. 'classic' hibernation or maternity roost), they may offer roosting opportunities particularly during the bat active season. The structure has no large internal voids which would be suitable for void-dwelling species.
- 4.3. Taking into consideration the presence of a number of features and the location of the structure within a moderate suitability landscape for bats which is known to support a diversity of species, the building is considered to be of moderate suitability for roosting bats:

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, such as maternity or hibernation).

Impact assessment

- 4.4. The proposals are to re-clad the building and overlay the existing roof. This will require extensive works to the exterior of the building including the removal of existing hanging tiles and wooden boarding, and their replacement with new materials.
- 4.5. In the absence of mitigation, the proposed works are likely to have the following impacts to bats or bat roosts if present:
- Risk of damage to or destruction of bat roosts.
 - Risk of blocking access to or from potential bat roosts.
 - Risk of disturbance, entrapment, or harm, including injury or death, to any bats that might be present within roosts during the course of the works.
- 4.6. Additionally, the proposals will include the temporary installation of a haul road and works compound on a stretch of grassland extending along the south of and east sides of the buildings south of Goodwood Block. This will have a temporary impact on modified grassland in these locations but once the proposed works have been completed, grass species present here should regenerate quickly.

Relevant legislation

- 4.7. Bats and their roosts (even when unoccupied) are legally protected under both the Wildlife and Countryside Act 1981 (as amended)¹ and the Conservation of Habitats and Species Regulations 2017².
- 4.8. This legislation makes it an offence to kill, injure or disturb bats, or to destroy or damage their roosts, even when the bats are not present. It also makes it an offence to 'take' a bat. For such work to legally proceed, Natural England (the Government's statutory nature conservation agency) will issue a licence for the work to be able to proceed legally, subject to the proposals meeting certain criteria.

¹ <http://www.legislation.gov.uk/ukpga/1981/69>

² <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

Planning Policy

- 4.9. Paragraph 175 of the National Planning Policy Framework (NPPF) (MHCLG, 2019) requires that when determining planning applications, if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

5. Recommendations

Further surveys

- 5.1. Goodwood Block, Crookhorn College, is considered to offer moderate bat roost suitability. Following established survey guidance, it is recommended that two bat activity surveys are undertaken. Because bats' behaviour and use of roosts can often change throughout their active season (for example maternity colonies can change sites, or bats may move roost sites across a building depending on the seasonal conditions at the time, such as level of solar warming on tiles depending on the prevailing position of the sun), these surveys need to be spaced at least three weeks apart.
- 5.2. It is considered that a minimum of three surveyors will be needed to effectively monitor the relevant areas.
- 5.3. If bats are seen emerging from or re-entering the building, then this level of survey effort will be sufficient to properly characterise any roost(s) such as confirming species, status of roost(s), numbers of individuals, and confirmation of access point(s).
- 5.4. This roost characterisation allows an appropriate strategy to be developed that would ensure that impacts to bats are avoided where possible, that unavoidable impacts can be mitigated (reduced) as far as practicable, and that any residual impacts are properly compensated for during the development.
- 5.5. The planning authority will need full bat information before they can grant planning permission. This is in line with Government guidance as well as local planning policy.
- 5.6. The bat survey season (the period when they are most active and when robust survey data can be obtained) runs from May to September, with the optimum period ending in August. All surveyors should be equipped with a high-specification time expansion or full spectrum bat detector with digital recording capability to allow for subsequent analysis of recorded bat calls following the

survey if necessary. Survey work can be supplemented with infrared cameras and additional infrared illuminators.

- 5.7. Surveys would take place during the period when bats are emerging / returning. Surveyors would remain in place monitoring and recording bat activity from 15 minutes before sunset to up to 1.5 to 2 hours after sunset for a dusk visit or 2 hours before sunrise until 15 minutes after sunrise for a dawn visit.
- 5.8. If conditions during the first survey are found to be less suitable, i.e. due to high levels of light and/or the urban environment, it may be appropriate to re-assess the suitability of the structure and further survey work may, at that point, not be required.

Bat mitigation strategy

- 5.9. Once the additional survey work has been completed, and assuming that no bats are found, it will not be necessary to carry out any further survey work.
- 5.10. However, if bats are found, a mitigation strategy will be developed. Survey work so far suggests that the site is only suitable for supporting small numbers of crevice-dwelling species. Roost features to accommodate these species can readily be incorporated into the plans for the proposed development.
- 5.11. If a bat mitigation strategy is required, it will need to address four broad areas:
- New roost creation to compensate for the loss of any existing roosts.
 - Temporary roost creation (to ensure no short-term loss of roost during the works, if necessary).
 - Timing of works (to avoid particularly sensitive periods, if necessary).
 - Sensitive hand-stripping methods of key areas during the development to avoid harming any bats that may be present.

Licensing requirements

- 5.12. As discussed above, bats are legally protected. The protection makes it an offence to kill or injure bats, or to disturb them, and to destroy or damage / modify a bat roost.

- 5.13. If bats are present, then once planning permission has been obtained, a European Protected Species Mitigation (EPSM) licence can be applied for. Provided the development can pass three 'derogation' tests, Natural England will grant the relevant licence to do this work – i.e. to modify a bat roost and disturb bats.
- 5.14. The three tests are:
1. the consented operation must be for 'preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;' (Regulation 53(2)(e))
 2. there must be 'no satisfactory alternative' (Regulation 53(9)(a)); and
 3. the action authorised 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range' (Regulation 53(9)(b)).
- 5.15. The planning authority, in considering the impacts to bats and the mitigation strategy, along with the merits of the development as a whole, are also obliged to consider these tests during their determination of the planning application.
- 5.16. Provided the development accords with local planning policy in all other respects, it is likely that the first two of these tests would be met. The mitigation strategy would address the third test. This will be sufficient to satisfy the planning authority and allow permission to be granted.
- 5.17. The information provided to the planning authority with the planning application and the full and final bat information would subsequently form the basis of the EPSM licence application to Natural England.

6. Conclusions

- 6.1. Visual bat survey work at Goodwood Block, Crookhorn College found the building to have moderate suitability for bats.
- 6.2. External inspection identified features including missing or damaged hanging tiles, damaged wooden cladding and damaged brickwork, which may offer potential roosting opportunities for bats.
- 6.3. The development works have the potential to impact bat roosts or bats if present.
- 6.4. Further survey work is recommended to properly establish and characterise the level and nature of bat use at the site. This will enable a suitable strategy to be developed to avoid, mitigate and compensate for any identified impacts in order to satisfy the Local Planning Authority and if necessary to support any subsequent application for a bat mitigation licence from Natural England.
- 6.5. A small extent of the area of modified grassland to the south and east of Goodwood Block will be impacted via the temporary installation of a haul road and works compound. This area of grassland is considered to be of low ecological value and should quickly regenerate following the removal of temporary works infrastructure.
- 6.6. Unless otherwise advised, the findings and recommendations in this report are solely based on the plans and brief provided to HCCET. The results and findings are valid for two years from the date of the initial field survey. HCCET should be contacted if this report is to be used after this period to check if any updating work needs to be undertaken.

References

Chartered Institute of Ecology and Environmental Management (CIEEM). (2013), *Guidelines for Preliminary Ecological Appraisal*. CIEEM; Winchester.

Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). Bat Conservation Trust; London.

MHCLG, (2019). *National Planning Policy Framework*. Ministry of Housing, Communities and Local Government; London.

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

Appendix 1 – Site Location and Existing / Proposed Plans

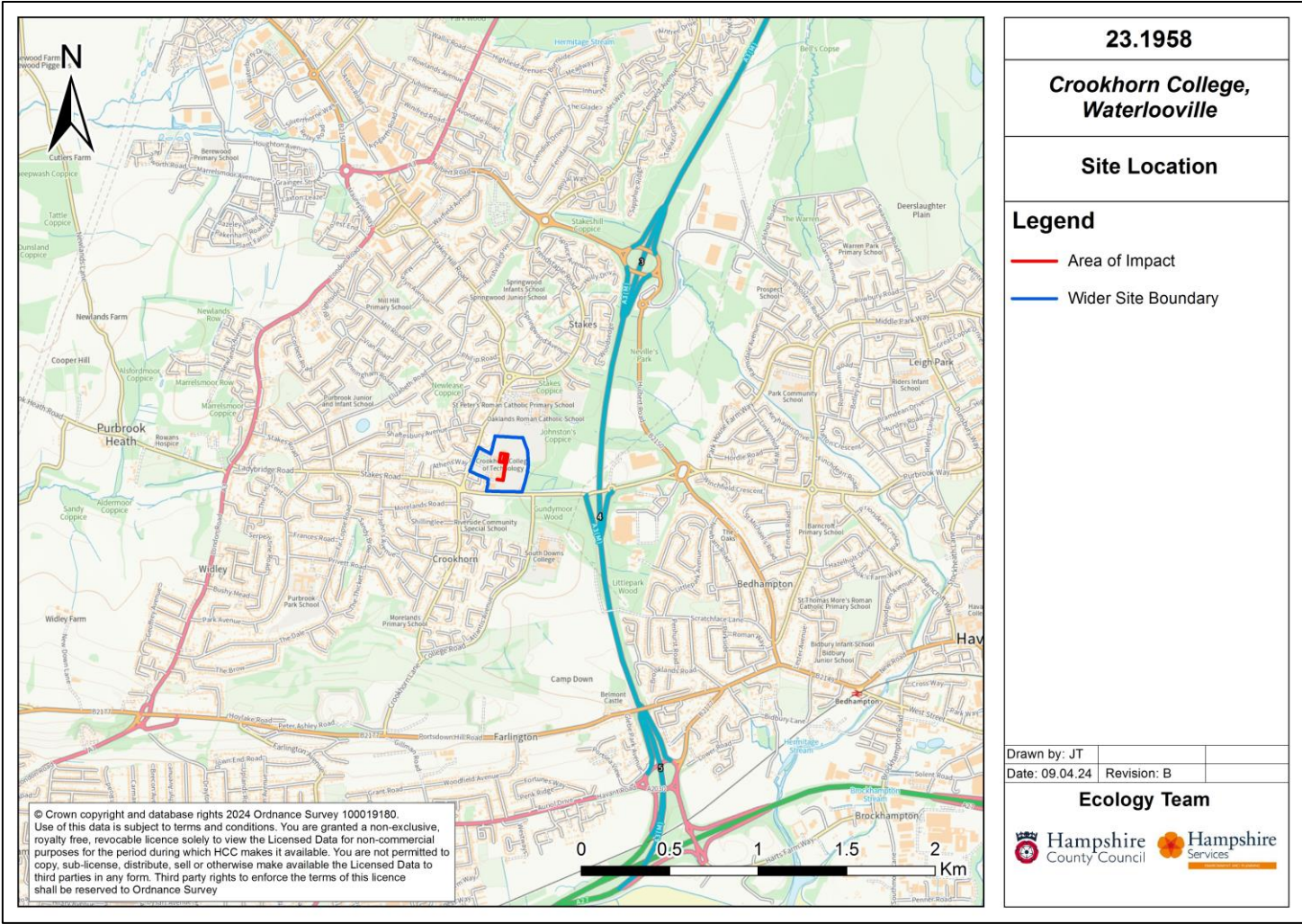


Figure A1.1 Site Location

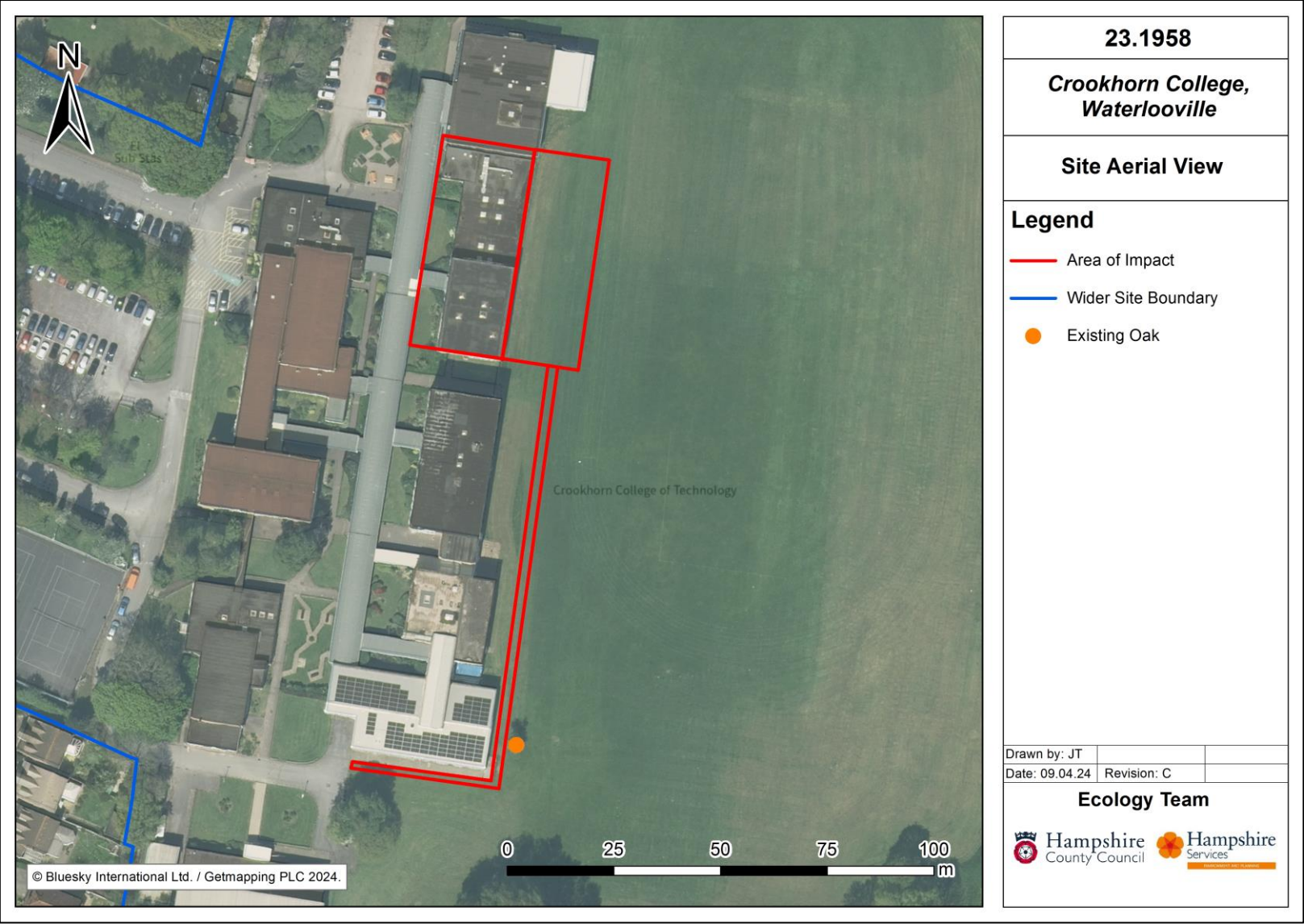


Figure A1.2 Site Aerial View



Figure A1.3 Proposed Site Plan - March 2024.

Appendix 2 – Desk based assessment results

Table A2.1 Bat records within 1km of site

Common name	Taxon name	Details	Distance / bearing from site
Alcathoe Bat	<i>Myotis alcathoe</i>	2018; Harp trapping w acoustic lure; Bat capture survey. One male adult.	150m E
Brandt's Bat	<i>Myotis brandtii</i>	2018; two records; Harp trapping w acoustic lure; Bat capture surveys. One male juvenile. 2020; bat droppings with DNA analysis; Catted, taken into care.	150m E 950m NW
Brown Long-eared Bat	<i>Plecotus auritus</i>	2018; two records; Harp trapping w acoustic lure; Bat capture surveys 2014; Bat detector - time expansion; Static survey 2021; six records; Bat detector - statics; Average passes per night ranging from 1 to 30 2020; Bat detector - full spectrum; Activity survey.	150m E 375m E 675m S 825m NE
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	2018; three records; Harp trapping w acoustic lure; Bat capture surveys 2019; Bat detector - full spectrum; 2014; Bat detector - time expansion; Static survey 2017; Bat detector - full spectrum; 2017; Bat detector - full spectrum; 2017; Bat detector - full spectrum; 2019; Bat detector - full spectrum; 2019; Bat detector - full spectrum; Social calls 2017; Bat detector - full spectrum; 2019; Bat detector - full spectrum; 2019; Bat detector - full spectrum; 2019; Bat detector - full spectrum; 2019; Bat detector - full spectrum; 2021; six records; Bat detector - statics; Average passes per night ranging from 42 to 240 2021; seven records; Bat detector - full spectrum; 2019; two records; Bat detector - full spectrum; Social calls 2019; Bat detector - full spectrum; 2019; Bat detector - full spectrum; Social calls 2022; Full-spectrum; Patchy cloud; calm; mild. 2020; Bat detector - full spectrum; Activity survey. 2019; two records; Bat detector - full spectrum; Social calls 2019; Bat detector - full spectrum; Social calls 2019; Bat detector - full spectrum; 2019; two records; Bat detector - full spectrum; one sonogram shows 2 bats and Social calls 2019; Bat detector - full spectrum; Sonogram showing 2 bats 2019; Bat detector - full spectrum; Social calls 2019; Bat detector - full spectrum; Social calls	150m E 300m SW 375m E 375m E 375m SE 425m NE 500m NE 525m SW 550m NE 550m NW 625m NW 650m NE 650m NW 675m S 675m S 675m W 700m W 750m SW 800m SE 825m NE 850m N 875m SW 875m W 925m SW 950m N 950m NE 950m NW

Common name	Taxon name	Details	Distance / bearing from site
		2019; Bat detector - full spectrum; Social calls 2019; Bat detector - full spectrum;	975m N 975m W
Daubenton's Bat	<i>Myotis daubentonii</i>	2021; Bat in hand; Found in noodle isle. Taken into care. ID confirmed DNA analysis. Released Chichester canal.	775m SE
Long-eared Bat species	<i>Plecotus</i>	2017; Bat detector - full spectrum;	625m NE
Myotis Bat species	<i>Myotis</i>	2014; Bat detector - time expansion; Static survey 2017; Bat detector - full spectrum; 2022; Full-spectrum; Patchy cloud calm mild. 2019; Bat detector - full spectrum; 2017; Bat detector - full spectrum; 2021; five records; Bat detector - statics; Average passes per night ranging from 3 to 50 2021; Bat detector - full spectrum; 2020; Bat detector - full spectrum; Activity survey.	375m E 550m NE 575m SE 625m N 625m NE 675m S 675m S 825m NE
Nathusius' Pipistrelle	<i>Pipistrellus nathusii</i>	2021; four records; Bat detector - statics; Average passes per night ranging from 1 to 6	675m S
Natterer's Bat	<i>Myotis nattereri</i>	2018; two records; Harp trapping w acoustic lure; Bat capture surveys; One male adult and one female adult.	150m E
Noctule Bat	<i>Nyctalus noctula</i>	2014; Bat detector - time expansion; Static survey 2019; Bat detector - full spectrum 2021; two records; Bat detector - full spectrum; 2021; six records; Bat detector - statics; Average passes per night ranging from 1 to 21	375m E 450m SW 675m S 675m S
Parti-coloured Bat	<i>Vespertilio murinus</i>	2014; bat in hand; Young male trapped in bathroom vent. Taken into care, no visible injury. Released on site.	450m SW
Serotine	<i>Eptesicus serotinus</i>	2018; Harp trapping w acoustic lure; Bat capture survey 2017; Bat detector - full spectrum; 2021; five records; Bat detector - statics; Average passes per night ranging from 5 to 15 2021; two records; Bat detector - full spectrum; 2022; Full-spectrum; Patchy cloud calm mild.	150m E 375m SE 675m S 675m S 775m S
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	2018; two records; Harp trapping w acoustic lure; Bat capture surveys 2014; Bat detector - time expansion; Static survey 2021; five records; Bat detector - full spectrum; 2021; six records; Bat detector - statics; Average passes per night ranging from 1 to 240 2019; Bat detector - full spectrum; 2019; Bat detector - full spectrum;	150m E 375m E 675m S 675m S 725m N 900m NE
Whiskered Bat	<i>Myotis mystacinus</i>	2018; two records; Harp trapping w acoustic lure; Bat capture surveys. One female adult; One male juvenile and one female juvenile.	150m E

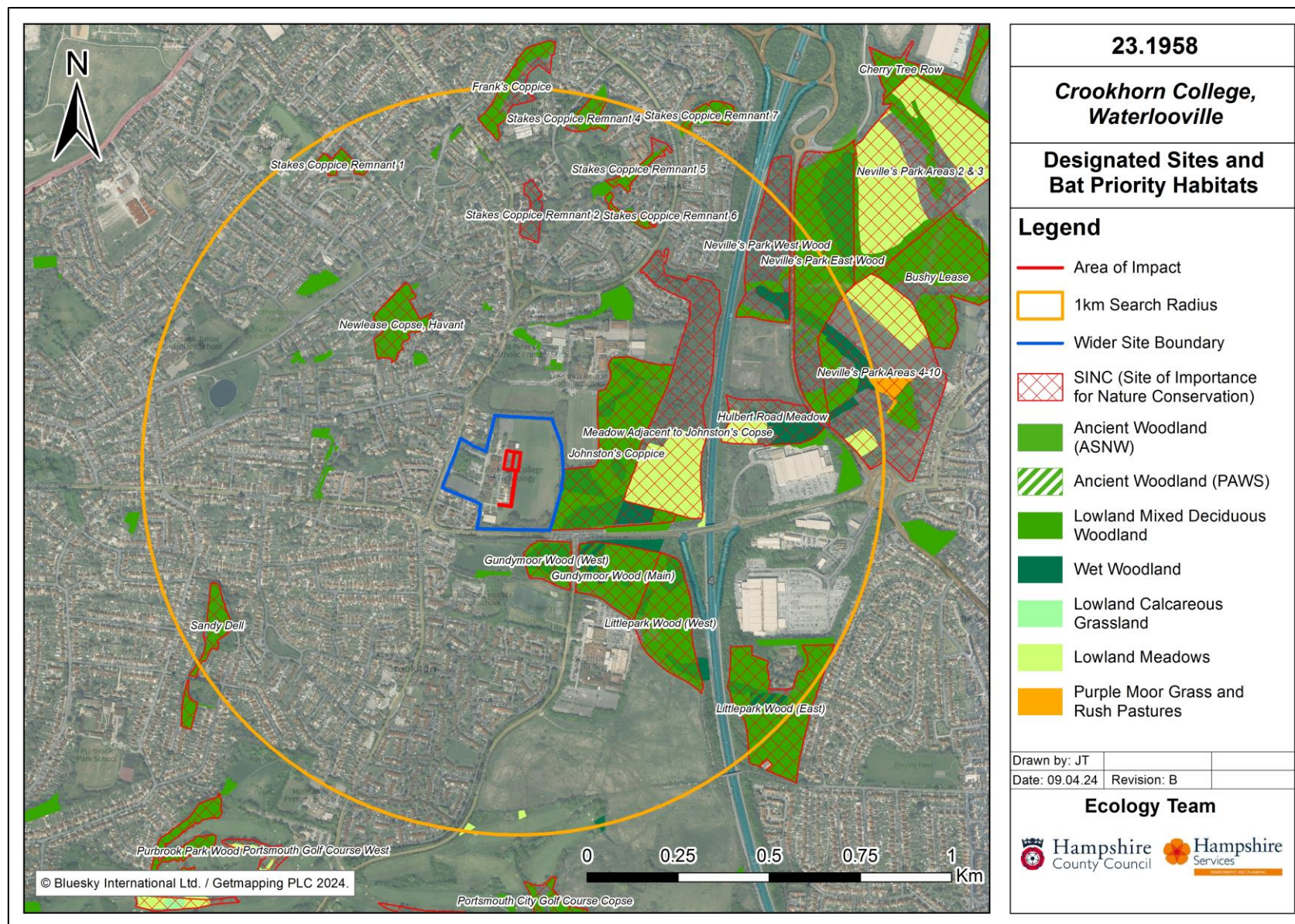


Figure A2.1 Designated sites and surrounding key bat foraging and commuting habitat.

Table A2.2 SINCs within 1km of site

SINC Name	Details	Distance (approx.) / Direction
Johnston's Coppice	Site supports ancient semi-natural woodlands and other woodlands where there is a significant element of ancient semi-natural woodland surviving. Site also supports notable species Hazel Dormouse <i>Muscardinus avellanarius</i> .	150m E
Gundymoor Wood (West)	Site supports ancient semi-natural woodlands and wet woodlands.	235m SSE
Gundymoor Wood (Main)	Site supports ancient semi-natural woodlands.	300m SSE
Meadow Adjacent to Johnston's Copse	Site supports ancient semi-natural woodlands and other woodlands where there is a significant element of ancient semi-natural woodland surviving. Site also supports semi-improved grasslands, and wet grasslands supporting species characteristic of unimproved and waterlogged conditions. Additionally, site supports notable species Hazel Dormouse.	350m E
Newlease Copse, Havant	Site supports ancient semi-natural woodlands.	420m NW
Littlepark Wood (West)	Site supports ancient semi-natural woodlands and wet woodlands. Site also supports notable species Hazel Dormouse.	490m SSE
Hulbert Road Meadow	Site supports grasslands which have become impoverished and wet grasslands supporting species characteristic of unimproved and waterlogged conditions.	580m E
Stakes Coppice Remnant 2	Site supports other woodlands where there is a significant element of ancient semi-natural woodland surviving.	600m N
Neville's Park West Wood	Site supports other woodlands where there is a significant element of ancient semi-natural woodland surviving.	730m NE
Stakes Coppice Remnant 6	Site supports ancient semi-natural woodlands.	735m N
Littlepark Wood (East)	Site supports ancient semi-natural woodlands and wet woodlands.	790m SSE
Stakes Coppice Remnant 5	Site supports ancient semi-natural woodlands and other woodlands where there is a significant element of ancient semi-natural woodland surviving.	805m N
Neville's Park East Wood	Site supports ancient semi-natural woodlands.	815m E

Neville's Park Areas 4-10	Site supports other woodlands where there is a significant element of ancient semi-natural woodland surviving, and also supports wet woodlands. Additionally, site supports agriculturally unimproved grasslands and grasslands which have become impoverished. Site also supports notable species Meadow Brome <i>Bromus commutatus</i> .	875m E
Sandy Dell	Site supports ancient semi-natural woodlands.	875m SW
Frank's Coppice	Site supports other woodlands where there is a significant element of ancient semi-natural woodland surviving.	880m N
Stakes Coppice Remnant 1	Site supports other woodlands where there is a significant element of ancient semi-natural woodland surviving.	880m NNE
Stakes Coppice Remnant 4	Site supports other woodlands where there is a significant element of ancient semi-natural woodland surviving.	925m N

Appendix 3 – Photos



Photo 1 West elevation of single-storey section of Goodwood Block.



Photo 2 West elevation of two-storey section of Goodwood Block.



Photo 3 South elevation.



Photo 4 East elevation.



Photo 5 North elevation of two-storey section – viewed from roof of single-storey section.



Photos 6 and 7 Views north and south along east elevation of single storey section; timber cladding above windows, typical of that around the building exterior, appears in good condition.

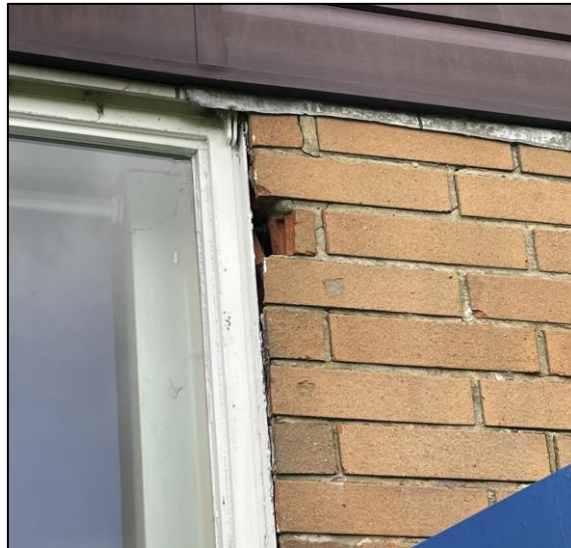


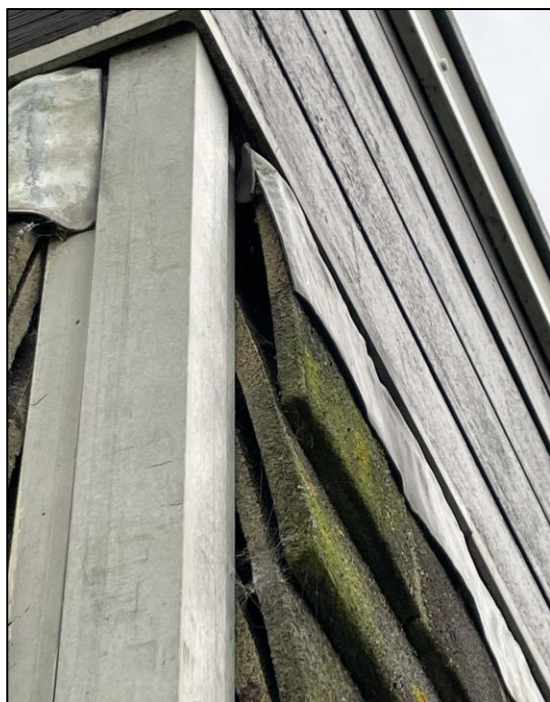
Photo 8 Feature - broken brickwork above doorway to east side of building.



Photos 9 and 10 PRF A - missing tile to southern side of north end of two-storey section.



Photos 11 and 12 PRFs B1-B2-B3 – missing and damaged hanging tiles to central area of north end of two-storey section; view into gap created by missing tile.



Photos 13 and 14 PRFs C and D – gaps along edges of hanging tiles where they meet the the northeast window corner and window frame. Photo 15 shows the north edge of the window where it meets the corner of the two-storey section; photo 16 shows the south edge of the window, further along the east elevation.



Photos 15 and 16 PRF E – missing hanging tile on east elevation of two-storey section of building.



Photos 17 and 18 Modified grassland to east of building and woodland within Johnston's Coppice SINC which is contiguous with the eastern boundary of the school.

Appendix 4 – Location of Potential Roost Features

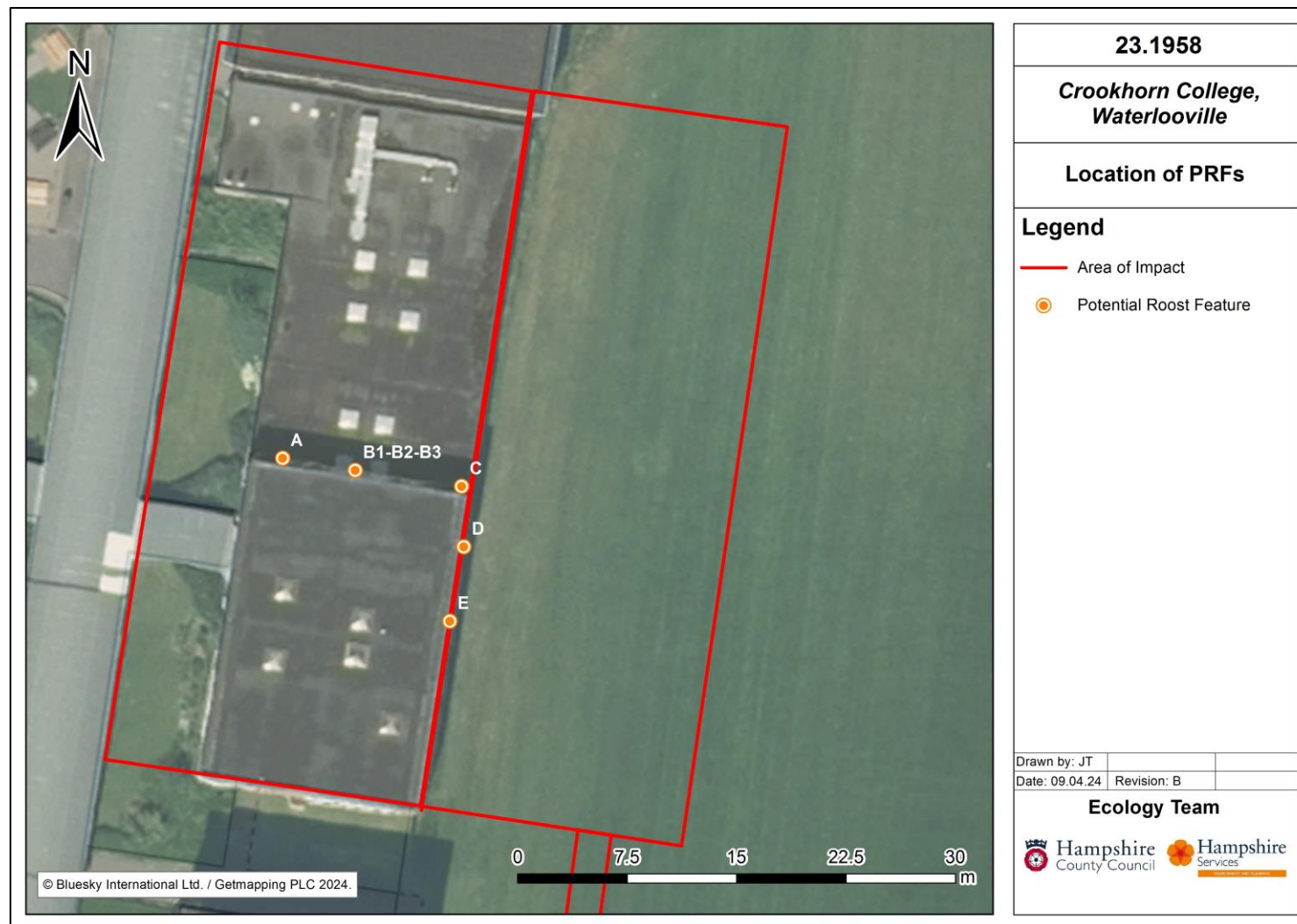


Figure A4.1 Location of Potential Roost Features A to E.

Appendix 5 – Roost and activity habitat suitability criteria

Table A5.1 BCT guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape.

Potential Suitability	Roosting habitats in structures	Potential flight-paths and foraging habitats
<i>None</i>	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e., a complete absence of crevices / suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any foraging or commuting bats at any time of the year (i.e., no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available for foraging bats).
<i>Negligible^a</i>	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, small element of uncertainty remains in order to account for non-standard bat behaviour.
<i>Low</i>	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b 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 and not a classic cool/stable hibernation site but could be used by individual hibernating bats ^c).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream but isolated i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
<i>Moderate</i>	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity or hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

High	A structure 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 ^b and surrounding habitat. These structures have the potential to support high conservation roosts, e.g., maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
^a Negligible is defines as ‘so small or unimportant as to be not worth considering, insignificant.’ This category may be used where there are places that a bat could roost or forage (due to one attribute), but it is unlikely that they actually would (due to another attribute). ^b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. ^c Evidence from the Netherlands shows mass swarming events of Common Pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten <i>et al.</i>, 2016 and Jansen <i>et al.</i>, 2022). Common Pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.		