



**Block K Coleg Gwent
Usk Campus**

Preliminary Bat Roost and Nesting Bird Assessment

November 2020

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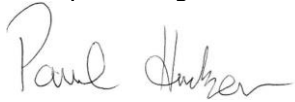
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DOCUMENT CONTROL

K Block, Coleg Gwent, Usk Campus Preliminary Bat Roost and Nesting Bird Assessment				
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Summary

Brief and Site Location	This report presents the findings of a preliminary bat roost assessment and nesting bird survey of an office building known as Block K, located at Coleg Gwent, Usk Campus, Usk, Monmouthshire, NP15 1XJ (Ordnance Survey Grid Reference: SO 3671 0194).
Proposed Works	The proposed developments include the addition of a lift and emergency escape staircase.
Survey Methodology	The preliminary bat roost assessment comprised a daytime internal and external inspection of Block K searching for signs of bats and nesting birds. The inspection provides a preliminary assessment of the potential of the site to support roosting bats.
Results of Preliminary Bat Roost Inspection	<p>The site inspection recorded two small bat droppings on the eastern elevation of the building's second roof void.</p> <p>Block K is located within an area providing high-quality foraging and commuting habitat for bats.</p>
Suitability of the Building to Support Roosting Bats	<p>Block K was assessed as having moderate suitability to support roosting bats. Details of the features which led to this assessment are set out in Section 3.2.2 of this report and shown in the corresponding photographs.</p> <p>Block K is confirmed as supporting roosting bats as evidenced by the two bat droppings found in the second roof void.</p>
Evidence of Nesting Birds	No evidence of past or current nesting by birds was noted during the surveys either within or on the exterior of the building.
Requirements for Additional Survey	<p>Further surveys are required to determine the species roosting within Block K, the roosting location(s) and accurately characterise the roost(s).</p> <p>Current best practice guidelines (Collins, 2016) suggest that Block K has moderate roost suitability and should be subject to two additional dusk emergence or dawn re-entry surveys undertaken between May and September. Four surveyors will be required for each survey (see Plan 4: Proposed Surveyor Positions).</p>
Predicted Impacts of Development on Bats and Nesting Birds	Full impacts on bats and birds will be considered after the further surveys have been undertaken.
Mitigation and Compensation of Proposed Impacts	Mitigation and compensation measures for bats and birds will be determined after the further surveys have been undertaken.
Licensing Requirements for Bats	<p>Evidence of bats has been confirmed within Block K's roof void, and consequently, a European Protected Species Licence is likely to be required from Natural Resources Wales prior to works being undertaken on the building.</p> <p>The Natural Resources Wales European Protected Species licence application will need to be accompanied by a detailed method statement which sets out the activities to be carried out under the licence to ensure that bats will not be harmed during development. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of the development.</p>
Required Actions	Further surveys are required.

1. Introduction

1.1. Brief

This report presents the findings of a preliminary bat roost assessment and nesting bird survey of an office building known as "Block K" at Coleg Gwent, Usk Campus, Usk, Monmouthshire, NP15 1XJ (Ordnance Survey Grid Reference: SO 3671 0194)¹. The building proposed for development is referred to as "Block K" throughout the remainder of this report.

Block K is situated within the boundary of Monmouthshire County Council.

1.2. Site Description

The site lies approximately 1.2km to the north-west of Usk, and 0.2km to the north-east of the A472. The wider landscape surrounding the site comprises rural habitats such as pasture and arable fields and woodland. Rows of mature coniferous and broadleaved trees border the site to the north and south-west respectively, latter of which lie immediately south-west of Block K. To the east of the site lies "Block A" and north of the site lies the front lawn of "Block J". The wider landscape comprises agricultural farmland, patches of mature woodland and the river Usk flows 0.35km to the east of the building.

The location of Block K is shown on Plan 1: Location Plan.

1.3. Proposed Works

The proposed developments include the addition of a lift and emergency escape staircase.

Proposed plans can be found in Drawing 1: Development Proposals.

1.4. Legislation and Planning Policy

1.4.1. Bats

All UK species of bat are designated as 'European Protected Species'. Their breeding sites or resting places² (roosts) are fully protected under the Wildlife and Countryside Act 1981³ (as amended) and the Conservation of Habitats and Species and Planning (various amendments) (England and Wales) Regulations 2018⁴, until and unless superseded by The Conservation of Habitats and Species (Amendment) (EU Exit) ['CHSAEU'] Regulations 2019⁵.

¹ Latitude and Longitude: 51.712569, -2.9173483

² Resting places are defined as 'areas that are essential to sustain an animal or group of animals when they are not active' (Anon 2007).

³ <https://www.legislation.gov.uk/ukpga/1981/69>

⁴ <https://www.legislation.gov.uk/uksi/2018/1307/contents/made>

⁵ EU Exit – The European Union (Withdrawal) Act 2018 (the EUWA) will end the supremacy of EU law in UK law, will convert directly applicable EU legislation (in particular, EU Regulations and Decisions) as it stands at the moment of exit into domestic law, and will preserve legislation previously made in the UK to implement EU obligations. The legislation will generally have the same effect that it had before the UK left the EU, unless or until it is changed by Parliament. In some cases, there may be changes in referencing and guidance as a result of secondary legislative amendments.

Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

1.4.2. Nesting Birds

All wild British birds (whilst building nests, nesting and sitting on eggs) and their nests and eggs, (with certain limited exceptions⁶, are protected by law under Section 1 of the Wildlife and Countryside Act 1981⁷ (as amended) and the Countryside and Rights of Way Act 2000⁸. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 have additional protection from disturbance during the breeding season as do their nests, eggs and dependent young.

1.5. Survey Scope

The preliminary roost assessment (PRA) comprised a daytime internal and external inspection of Block K searching for signs of bats and nesting birds and assessing the potential for bats to roost on site.

1.6. Reporting

This report aims to:

- Outline the survey methodology used;
- Present the results of the survey;
- Provide an interpretation of the survey results;
- Determine the need for further targeted surveys on site; and
- Provide suitable recommendations in line with planning policy and wildlife law including potential licencing requirements, mitigation, compensation and enhancement measures.

⁶ Details of the exceptions are available at <https://bit.ly/2KiQTFH>

⁷ <https://www.legislation.gov.uk/ukpga/1981/69>

⁸ <https://www.legislation.gov.uk/ukpga/2000/37>

2. Methods

2.1. Desk Study

An assessment of the site and surrounding area was carried out, including existing habitats, from maps and aerial photographs. A Geographic Information System (GIS) dataset obtained from NRW was used to search for statutory and non-statutory conservation designated sites for bats within 10km. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A search of the local planning portal was undertaken to look for other sites within the same postcode area which have had bat surveys submitted as a part of their planning application.

2.2. Field Study

2.2.1. Daytime Internal and External Inspection

A systematic search was made of the exterior and interior of Block K looking for features that bats could use for entering/exiting and roosting⁹. In addition, a search was made for the presence of bats or evidence of bat use, such as droppings, feeding remains, urine staining, scratch marks and the remains of dead bats. The survey was undertaken on 2nd November 2020 by Rory Jones¹⁰ MCIEEM (NRW Licence Number: S086186/2), accompanied by Luke Owen^{11/12} and Ffion Jones^{13/14}.

A high-powered torch (Clulite), an endoscope (Ridgid Micro CA-300), binoculars and a ladder were available for use, as appropriate during the survey.

Bat droppings¹⁵ were collected into grip seal bags without handling (i.e. wearing disposable gloves or using tweezers) to avoid cross contamination, and stored in a cool, dry area. The droppings were retained to be sent to the University of Warwick for DNA sequencing if required, to precisely determine species.

2.2.2. Assessment of Bat Roost Suitability

The value of the site for bats (and any potential roost sites therein) was assessed, in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2016) (see Appendix 2). The assessment was

⁹ Bats may utilise gaps as small as 8mm by 20mm (Bat Conservation Trust, Cluster flies leaflet).

¹⁰ Rory is employed as an ecologist with Acer Ecology and is an experienced and licensed bat worker holding both Welsh (Natural Resources Wales Licence Number: S086186/2) and English (Natural England Licence Number: 2015-16057-CLS-CLS) licenses. He graduated with a BSc. in Environmental Geoscience from Cardiff University and has eight years postgraduate experience in the environment sector. He has undertaken extensive training in protected species assessment and has undertaken numerous building inspections, dusk emergence and dawn re-entry survey. Further details of his qualifications and experience can be found at <http://bit.ly/2qI5Db1s>.

¹¹ Luke accompanied Rory and helped with the external building inspection. He did not enter the loft space during the survey.

¹² Luke graduated with a degree in Zoology from the University of Bristol. He is currently receiving training from Acer Ecology in his first season of bat survey work, working as an Assistant Ecologist.

¹³ Ffion graduated with a degree in Ecology and Conservation from the University of Exeter. She is currently receiving training from Acer Ecology working as an assistant ecologist. She also has two seasons of dusk and dawn survey work.

¹⁴ Ffion accompanied Rory and helped with the external building inspection. She did not enter the loft space during the survey.

¹⁵ It should be noted that pygmy shrew (*Sorex minutus*) droppings can closely resemble bat droppings (i.e. this species is an insectivore and so the droppings are crushable, and contain insect remains and so can easily be confused with bat droppings). Pygmy shrew droppings are occasionally found within loft voids.

based on the relative abundance and quality of potential roost sites; and the habitat features within both the site and the surrounding landscape, suitable for roosting, foraging and commuting bats.

2.2.3. Survey for Nesting Birds

A visual search was undertaken for active bird nests, as well as any signs which might indicate either past or current nesting, such as guano, singing birds, birds carrying nesting material, food items, faecal sacs and calling chicks.

2.2.4. Constraints

General Temporal Constraints

An ecological survey can only identify what was present on site at the time it was conducted. However, habitat usage by species can change over time.

Timing

The time of year when the preliminary roost assessment was carried out (November) coincides with the time when bats are spending longer amounts of time in torpor and some bats begin hibernation. However, signs of roosting activity from previous summers can still be identified and the potential of a building can be assessed outside the active season. Therefore, the timing of the inspection is unlikely to have significantly constrained the survey.

Restricted Access

The south-eastern corner of the main pitch's internal roof void was inaccessible due to areas of rock wool insulation on the exposed joists. Due to health and safety reasons this small area of the void was not surveyed close up, however this constraint is not considered to have affected the overall assessment of the building.

Data Search

A Local Records Centre (LRC) data search was not undertaken due to the small size and nature of the development. The overall impact on biodiversity is likely to be localised and of low significance and current proposals suggest no land will be lost or linear features severed. It is considered very unlikely that the development will have any impact outside the footprint of the works. The data search results are considered unlikely to impact on the decision-making process and therefore a LRC search has not been undertaken.

This approach is consistent with CIEEM's Guidelines for Accessing and Using Biodiversity Data (2016) which states that small scale internal renovations may not require a LRC search where: there is no requirement for any other preliminary survey (e.g. for habitats or other protected species) other than nesting birds or barn owls; and no trees likely to be used by roosting bats are to be affected (e.g. felling, pollarding, crown reduction, limb removal).

3. Results

3.1. Desk Study

3.1.1. Bat Roosts within 2km of the survey area

Based on evidence from previous survey reports at the campus and the associated data searches, there are a high number of bat roosts within 2km (over 60 in total). Records of roost sites included the following species:

- Common pipistrelle (*Pipistrellus pipistrellus*) (including nursery roost);
- Soprano pipistrelle (*Pipistrellus pygmaeus*);
- Pipistrelle species (*Pipistrellus* spp.) (including nursery roost);
- Brown long-eared bat (*Plecotus auritus*);
- Daubenton's bat (*Myotis daubentonii*);
- Natterer's bat (*Myotis nattereri*);
- Noctule (*Nyctalus noctula*);
- Whiskered/Brandt's bat (*Myotis mystacinus/Myotis brandtii*);
- Lesser horseshoe bat (*Rhinolophus hipposideros*) (including hibernation and nursery roosts);
- Greater horseshoe bat (*Rhinolophus ferrumequinum*);
- Myotis species (including hibernation roost); and
- Unidentified bats.

The closest records occurred within the campus, as evidenced by Just Mammals in 2009. In addition to the roost records there are many records of bats foraging or commuting in the locality, including Brandt's bat and Nathusius' pipistrelle (*Pipistrellus nathusii*).

3.1.2. Protected Sites

Statutory Sites Notified for Bats (Special Areas of Conservation (SACs)) or Sites of Special Scientific Interest (SSSIs) Within 10km

- The River Usk (Lower Usk) SSSI and at the nearest point lies 0.3km to the east of the survey area. Of special interest are the crane flies (*Tipilidae*) associated with silty river margins in the vicinity of Newbridge on Usk. The fish fauna is of international significance including several rare and scarce species and there is an expanding population of otters. Several scarce higher plant species occurring along the river's tidal reaches are also of special interest. Whilst not a special feature of the site, there is a good range of breeding birds associated with riverine habitats. The citation states that 'the frequent tree cover provides valuable feeding and roosting habitats for several bat species including Daubenton's bat; and
- Part of the Wye Valley Lesser Horseshoe SSSI Bat Site and Llangovan Church SAC and SSSI lie approximately 8.9km to the east of the survey area. Both sites form part of the Wye Valley and Forest of Dean Bat Sites SAC. Several individual SSSIs along the England – Wales border make up

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the SAC. The SAC includes buildings and caves which are used by lesser horseshoe and greater horseshoe bats for breeding and hibernating. Other bat species found within the SAC include brown long-eared and Natterer's bats. The area forms 'one of the most important areas for woodland conservation in the UK' and supports a variety of woodland habitats, including beech (*Fagus sylvatica*) forests and yew (*Taxus baccata*) woodlands.

Other Protected Sites Within 2km

- The River Usk SAC at the nearest point lies 0.3km to the east of the survey area. It incorporates the River Usk corridor and its associated habitats. It is also designated separately as the Lower Usk and Upper Usk SSSI's (see first bullet point above). The river corridor supports a wide range of habitats including woodland, marshy grassland, tall herb, swamp and fen vegetation. The primary designation is due to the presence of the EC Habitats Directive Annex I Habitat – "Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation". The SAC also supports populations of the following Annex II species: Allis shad (*Alosa alosa*), twaite shad (*Alosa fallax*), bullhead (*Cottus gobio*), river lamprey (*Lampetra fluviatilis*), brook lamprey (*Lampetra planeri*), otter, sea lamprey (*Petromyzon marinus*) and Atlantic salmon (*Salmo salar*).

The location of protected sites is shown in Plans 2 and 3: Protected Sites Within 2km and 10km respectively.

Non-statutory Protected Sites

Sites of Importance for Nature Conservation (SINC)

Ten nearby SINCs were recorded:

- Beech Hill Farm;
- Berthin & Prescarra;
- Berthin Brook Wet Meadow;
- Blackwell Wood;
- Coed Cox;
- Coed-duon;
- Coed-y-Bristley;
- Craig y Garcyd;
- Graig Foel; and
- Upper Llancau Wood.

Craig y Garcyd is the closest SINC to the proposed development site, located approximately 0.47km to the north-west. SINCs shown with an asterisk have been designated for ASNW/PAWS and do not have any summary information available. SINCs are considered to have substantive nature conservation value at the

regional or district level. They are usually designated at the county or county borough level by the relevant local planning authority and are recognised as a planning constraint in the relevant statutory development plan. However, none of the SINC's lie adjacent or within the proposed development site. Given the small scale of the development proposals and the limited scope for impacts outside of the development footprint, no negative impacts to SINC's are anticipated. Therefore, they are not mentioned again in the context of this report.

Ancient Woodland Sites

There are 54 areas of Ancient Semi-Natural Woodland (ASNW)¹⁶, 11 Restored Ancient Woodland Sites (RAWS)¹⁷, eight Plantations on Ancient Woodland Sites (PAWS)¹⁸, and one Ancient Woodland Site of Unknown Category¹⁹, located within 2km of the site. The nearest area of ancient woodland is approximately 0.4km to the north-east of the site.

Protected Sites Summary

Given the small scale of the proposed development, the localised nature of the proposed works, and the limited scope for impacts outside of the footprint of the proposed works, no adverse impacts to the protected sites are likely to occur. These sites are not mentioned any further in this report.

3.2. Field Study

3.2.1. Ecological Context of Site

Lighting

The site is assessed as being within Zone E3²⁰ (Institute of Lighting Professionals, 2012) as it is on a college campus in a suburban setting with numerous other buildings in close proximity to Block K. Additionally, there are some streetlights present near Block K, including in the car park approximately 50m to the east of the building, which generate extensive artificial lighting, somewhat decreasing the quality of foraging and commuting bat habitat²¹.

¹⁶ Ancient Semi-Natural Woodland (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.

¹⁷ Restored Ancient Woodland Sites (RAWS) – woodlands which are predominately broadleaves now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50 percent broadleaf.

¹⁸ Plantation on Ancient Woodland Sites (PAWS) – sites which are believed to have been continuously wooded for over 400 years and currently have a canopy cover of more than 50 percent non-native conifer tree species.

¹⁹ Ancient Woodland Site of Unknown Category (AWSU) – woodlands which may be ASNW, RAWS or PAWS. These areas are predominantly in transition and existing tree cover is described as 'shrubs', 'young trees', 'felled' or 'ground prepared for planting'.

²⁰ E3: Suburban lighting zone, with medium district brightness.

²¹ Lighting can impact on bats' roosting sites, commuting routes and foraging areas.

Site and Surrounding Habitats

The site is collectively considered to provide high quality foraging and commuting habitat for bats due to its close association with several watercourses, particularly Berthin Brook that lies approximately 0.2km north of Block K and flows into the River Usk SSSI. The woodland is well-linked to designated sites, other areas of mature woodland, lines of mature trees, hedgerows, and pasture. These habitats form a continuous network that provides excellent connectivity to the wider landscape.

3.2.2. Building Description from the Perspective of Bat Habitat

The following table summarises the key features of the building.

Table 1: Key Features of Building

Building Type	<p>Block K is a large, detached structure that is mainly two-storey, with the north-eastern section of the building being partly single-storey. The construction detail comprises red brick that is rendered with rough cast.</p> <p>The main pitch of the roof takes up the bulk of the roof running from west to east, with two subsidiary pitched roofs attached running from south to north (Photo 1-3).</p>
Roof	<p>The building's roof is partly pitched and partly hipped with the main pitch of the roof running on a southwest-northeast axis. The subsidiary pitch runs through the centre of the roof on a northwest-southeast axis. The north-eastern section of the roof also has a flat section covered in bitumen felt. The remainder of the roof is constructed from terracotta tiles which also make up the hanging tiles situated on the western and eastern elevation; the ridge tiles are clay (Photo 4).</p> <p>The roof tiles are generally well aligned and in good condition, but some are missing or slipped (Photo 5 and 6). Additionally, the hipped ridge tiles on the eastern subsidiary roof are raised (Photo 7). Tiles around the two chimneys on the main pitch roof are also raised (Photo 8 and 9). Edge tiles at the eaves are impeded by close-fitting guttering on all elevations (excluding a small section on the eastern elevation although the ridge tiles are tightly fitted to the roof) (Photo 1-4 and 7). Additionally, the edges of the felt roof on the eastern subsidiary roof are also close-fitted with guttering (Photo 10).</p>
Chimneys	<p>There are five chimneys on the building, all in good condition. There are two on the main pitched roof, with a third on the gable end of the eastern elevation (Photo 1). There is also a chimney on the gable end of the western subsidiary pitch and one on the eastern subsidiary pitch (Photo 10).</p>
Lead Flashing	<p>There is raised lead flashing providing potential roosting features on the two chimneys on the southern elevation of the main pitched roof (Photo 11 and 12).</p>
Soffits, Fascias and Bargeboards	<p>The uPVC soffits are well sealed on all elevations, however, there is a small gap between the soffit box and the external wall on the flat roofed section of the building (Photo 13).</p>
Vents	<p>There is a small number of vents on the building, however, they are too small and covered over with paint to be utilised by bats.</p>
Windows	<p>The windows and doors have uPVC frames that are closely fitted to the external walls and are in good condition. There is a wooden door on the eastern elevation that may provide access into the building as there are holes in the wooden panels (Photo 14).</p>
Roof Void	<p>There are three roof voids within the building:</p> <p>Roof void 1 was 2.5m in height and covers the majority of the building's footprint. Roof void 2 is connected to roof void 1 and is where the bat droppings were found on the roof hatch (Photos 16,17,19,20).</p> <p>Roof void 3 was the smallest void at 1.5m tall, 3.5 wide and 4m long (Photo 18).</p>

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Roof Lining	The three roof voids are lined with timber sarking boards (Photo 15).
Roof Construction	The internal roof voids are constructed with modern timber beams and are in good condition (Photo 16).
Insulation of Void	Rock wool insulation covered sections of the floor in the first roof void with other sections comprising bare joists (Photo 16 and 17).
Water Tank	There is a water tank within the first internal roof void, that is open and empty.
Security Lighting	There are security lights on all elevations (Photo 1,2,14,19).

Photos Showing the Building and its Features

Photo 1: North Western Elevation and Highlighted Security Lights



Photo 2: North Eastern Elevation and Highlighted Security Lights



Photo 3: Southern Elevation



Photo 4: Hanging Tiles on Eastern Elevation



Photo 5: Slipped Terracota Tile



Photo 6: Missing Terracota Tile



Photo 7: Raised Ridge Tiles



Photo 8: Raised Tile by Chimney



Photo 9: Raised Roof Tile Near Metal Chimney



Photo 10: View of Flat Roof Part of Building



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Photo 11: Gaps in Lead Flashing on Chimney



Photo 12: Gap Under Lead Flashing of Chimney



Photo 13: Gap Between Soffit Box and External wall



Photo 14: Wooden Door on Eastern Elevation with Highlighted Gaps and Security Light



Photo 15: Timber Sarking in Roof Void



Photo 16: Structure of Roof Voids



Photo 17: Rock Wool Insulation



Photo 18: Roof-Void 3



Photo 19: Security Lights on Southern Elevation



3.2.3. Potential Bat Access Points and Bat Roosting Locations

The following potential roost sites were recorded:



- R1 – Missing tiles on the hipped roof north east of the building and southern elevation of the roof (see Photo 6);
- R2 – Gaps in the lead flashing on the bases of the chimneys (see Photos 11 and 12);
- R3 – Internal roof voids (see Photos 15-17); and
- R4 – Soffit box on eastern elevation (see Photo 13).

3.2.4. Evidence of Bats

The site inspection recorded two bat droppings in Roof-void 2, the droppings that were found were deposited in a discrete aggregation on the roof hatch (see Photos 19 and 20). They are brown in colour and dry suggesting they are deposited from this year or the previous year. The species could not be conclusively identified.

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Photos Showing Droppings

Photo 19: Bat Droppings	Photo 20: Location of Bat Droppings (Circled) Amongst Mouse Droppings
	

3.2.5. Nesting Bird Survey

No signs of birds having recently nested were found during the survey within or on the exterior of the building.

4. Evaluation

4.1. Summary of Preliminary Roost Assessment

Two bat droppings were recorded in Roof-void 2 confirming the presence of bats. However, it was not possible to determine if the droppings were produced by crevice-dwelling bats (Pipistrelle species and smaller *Myotis* species such as Brandt's and whiskered bat or roof void-dwelling bats (long-eared species¹⁶, large myotis bats such as Natterer's bat).

4.2. Confirmed Summer Roosts

The building is assessed as supporting a confirmed roost. Droppings were found within the roof space of the building confirming the presence of bats. However, it was not possible to determine if the droppings were produced by crevice-dwelling bats (pipistrelle species and smaller *Myotis* species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*) or roof-void dwelling bats (long-eared species, large *Myotis* bats such as Natterer's bat (*Myotis nattereri*)). There is also potential for crevice dwelling bats to roost elsewhere within the building.

The building has negligible suitability for use by direct access species requiring a large access point and large roost space (lesser and greater horseshoe) as there were no suitable access points large enough for these species²² recorded during the survey.

The building is deemed to have an overall moderate bat roosting suitability. This assessment will be used to determine the level of further survey effort required (see Appendix 2).

4.3. Characterisation of Identified Roosts

Further surveys will be required before the status of the potential roost can be accurately characterised²³, in order to determine the roosting and access locations, confirm species identification and identify if any additional species are roosting within the building.

4.4. Potential Winter Roosts

The crevices between the roof tiles and lead flashing on the roof of the building could provide potential roosting opportunities for bats in winter. However, a full assessment of potential for winter use (i.e hibernation) will be undertaken after the completion of further dusk emergence and dawn re-entry surveys.

²² Both species prefer larger openings (Schofield, 2008) but sometimes even smallish openings with a minimum diameter of 10cm (lesser horseshoe) can be sufficient (Reiter & Zahn, 2006).

²³ The following roost types are identified in Section 3.3 of Bat Surveys for Professional Ecologists: day roost; night roost; feeding roost; transition/occasional roost; swarming site; mating site; maternity roost; hibernation roost; and satellite roost.

4.5. Birds – Interpretation of Nesting Bird Survey

No evidence of past or current nesting by birds was observed during the survey. An updated assessment of nesting birds will be undertaken after the completion of further dusk emergence and dawn re-entry surveys.

5. Required Actions

5.1. Further Work

Work should not commence until further surveys have been carried out. This will enable the likely impacts of the proposals on bats to be assessed, confirm that a NRW European Protected Species Development licence will be required, inform the avoidance measures (timing of works), and determine the requirement for mitigation (retention of roosts and access points) and/or compensation measures (creation of new replacement/ additional bat roosts).

Current best practise guidelines (Collins, 2016) state that two separate survey visits should be undertaken on a building with moderate roost suitability comprising one dusk emergence and a separate dawn re-entry survey. The surveys should be undertaken from May to September with at least one survey between May and August. To ensure that all potential bat access/roosting features are covered, both surveys will require four surveyors to be present (see Plan 5: Proposed Surveyor Positions).

Surveys should be timed to sample as much of the survey period as possible, and undertaken at intervals of at least two weeks apart, or preferably more (Collins 2016), to increase the possibility of encountering bats that may only use the building for short periods throughout the summer.

5.2. Licensing Requirements for Bats

Evidence of bats has been confirmed within Block K and consequently, a Habitats Regulations derogation licence is likely to be required from Natural Resources Wales prior to works being undertaken on the building.

5.3. Avoidance, Mitigation, Compensation and Enhancement Measures for Bats and Birds

These measures (if required) will be formulated after the completion of dawn re-entry and dusk emergence surveys.

5.4. Longevity of Report

Bat Surveys for Professional Ecologists (Collins, 2016) states that the survey data should ideally be from the last survey season before a planning or licence application is submitted, although the length that survey data remains valid should be decided on a case-by-case basis and is dependent upon several factors²⁴. It is considered that if development works do not begin within eighteen months (CIEEM, 2019) to two years of the date of this report, an update survey may be required in accordance with guidance in BS 42020:2013²⁵

²⁴ The factors identified are as follows: Were the original surveys carried out according to good practice guidelines?; Were the original surveys constrained in any way?; Do the results of the original surveys support the original conclusions and are these still relevant?; Has the nature of the site or the surrounding area changed since the original surveys were undertaken; and are additional surveys likely to provide information that is material to a decision, the design of mitigation measures, or specific advice relating to a proposed activity.

²⁵ As set out in Section 6.2.1, Point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance).

Acer Ecology

and CIEEM (2019), to determine if conditions and evidence of bat use has changed since described in the current report.

6. References

Anonymous (2007) *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC*. Final version, February 2007.

BSI (2013) *BS 42020:2013 Biodiversity – Code of practice for planning and development*. British Standards Institution, London.

CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

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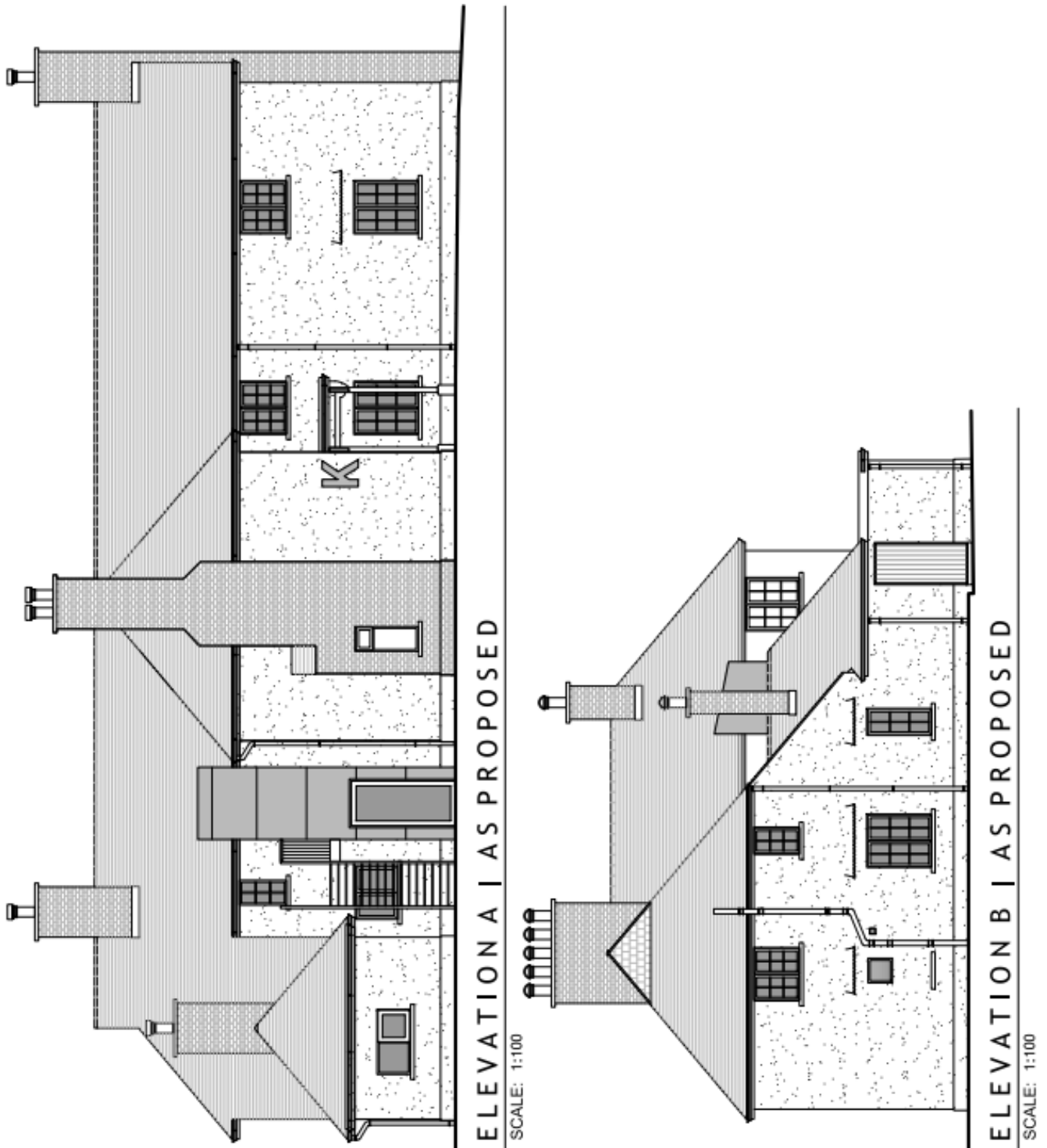
Collins, J (ed) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

Institute of Lighting Professionals (2012) *Guidance for The Reduction of Obtrusive Light*.

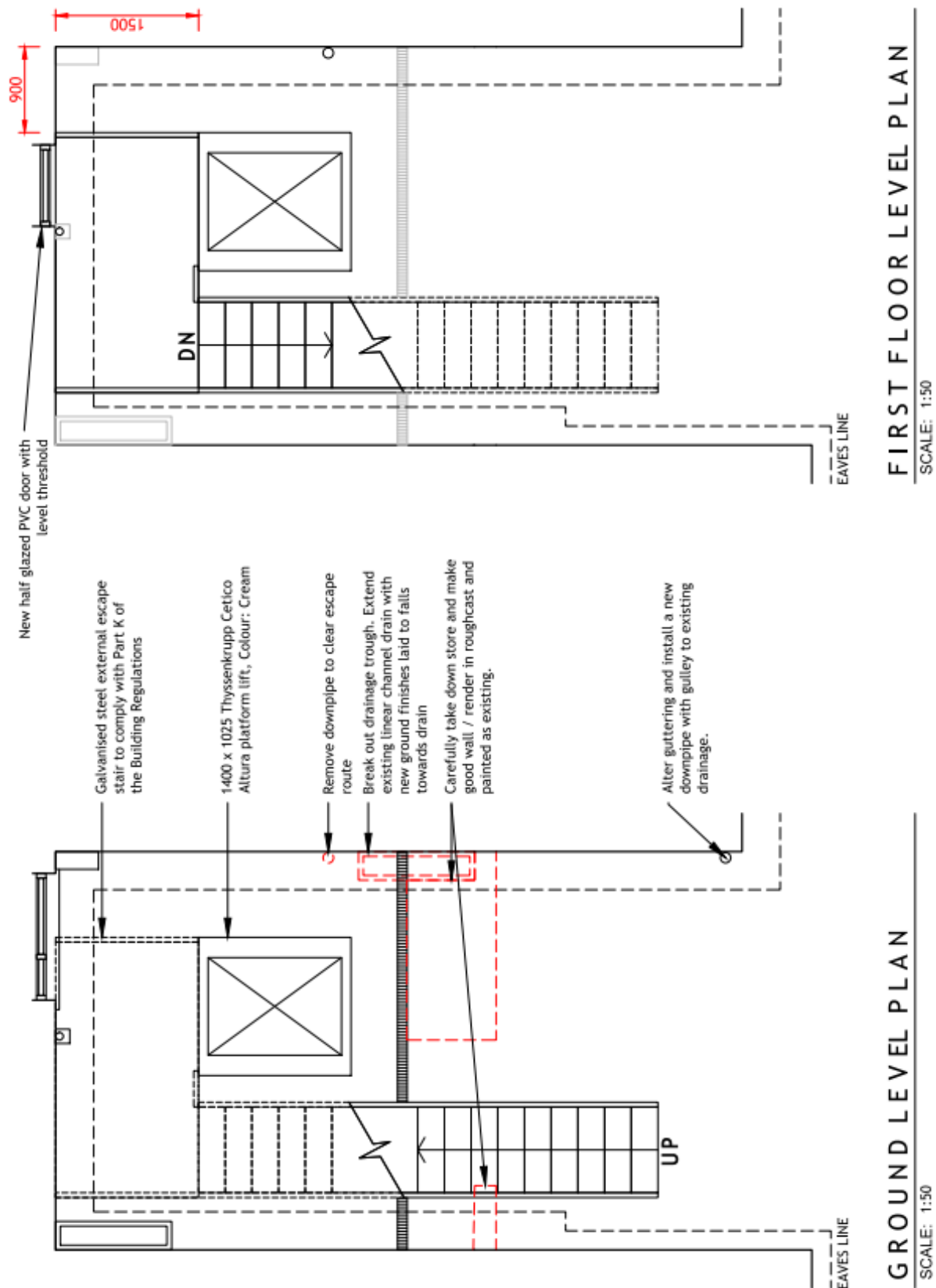
Mitchell-Jones, A.J, & McLeish, A.P. Ed., (2004) *Bat Workers' Manual (3rd Edition)*. Joint Nature Conservation Committee, Peterborough.

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. Natural England, Peterborough.

Drawing 1: Existing Site Plans



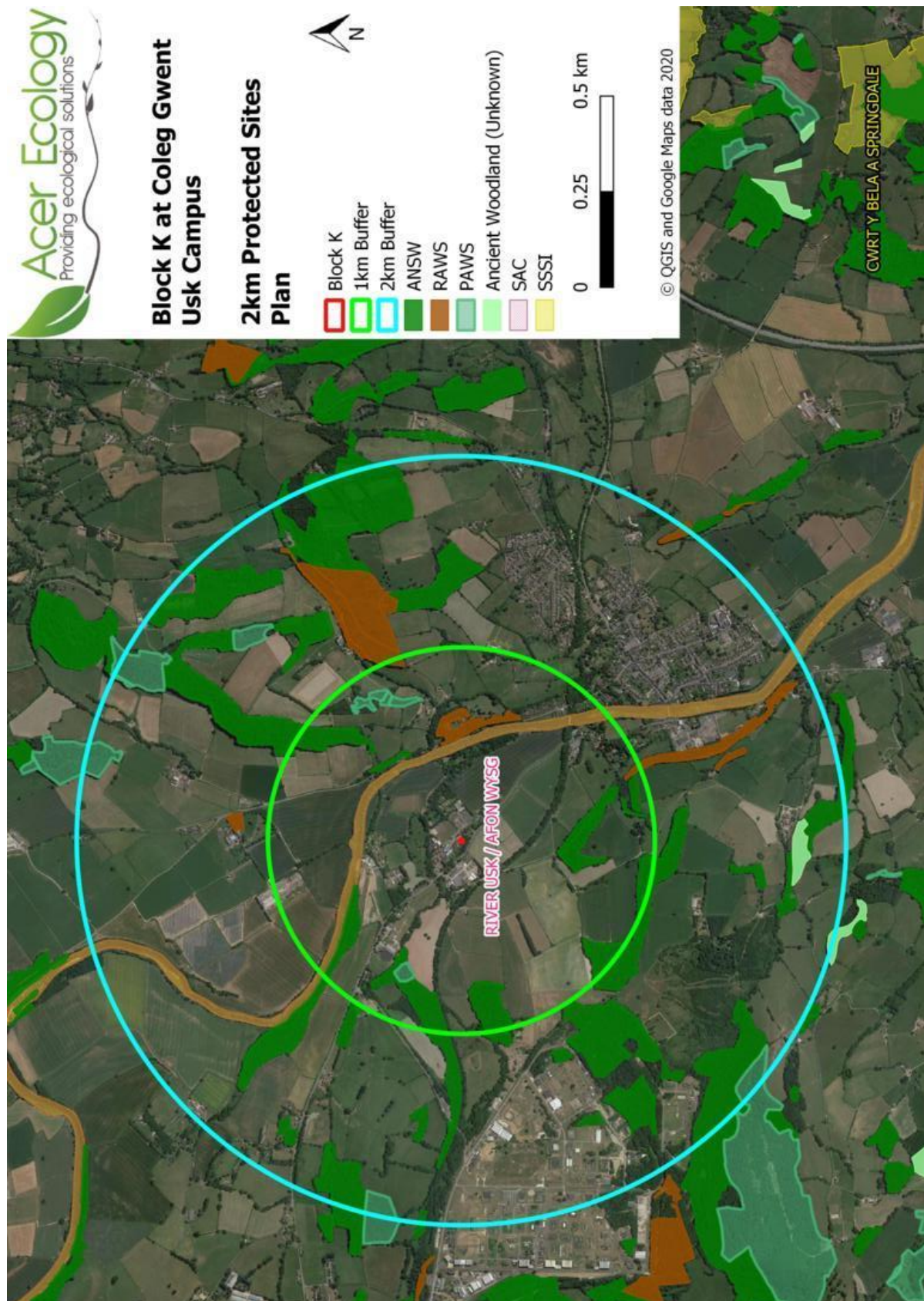
Drawing 2: Proposed Development



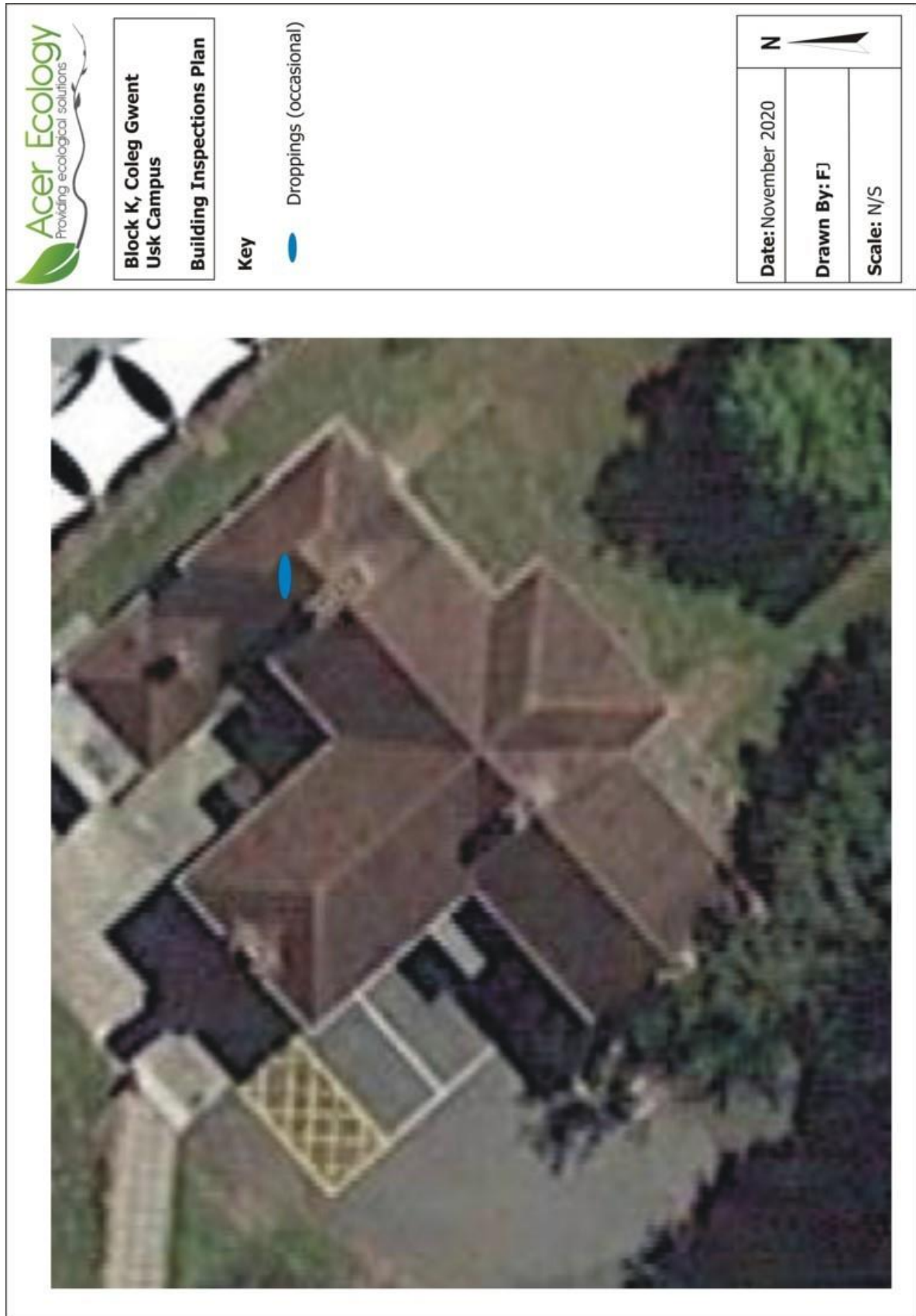
Plan 1: Location Plan



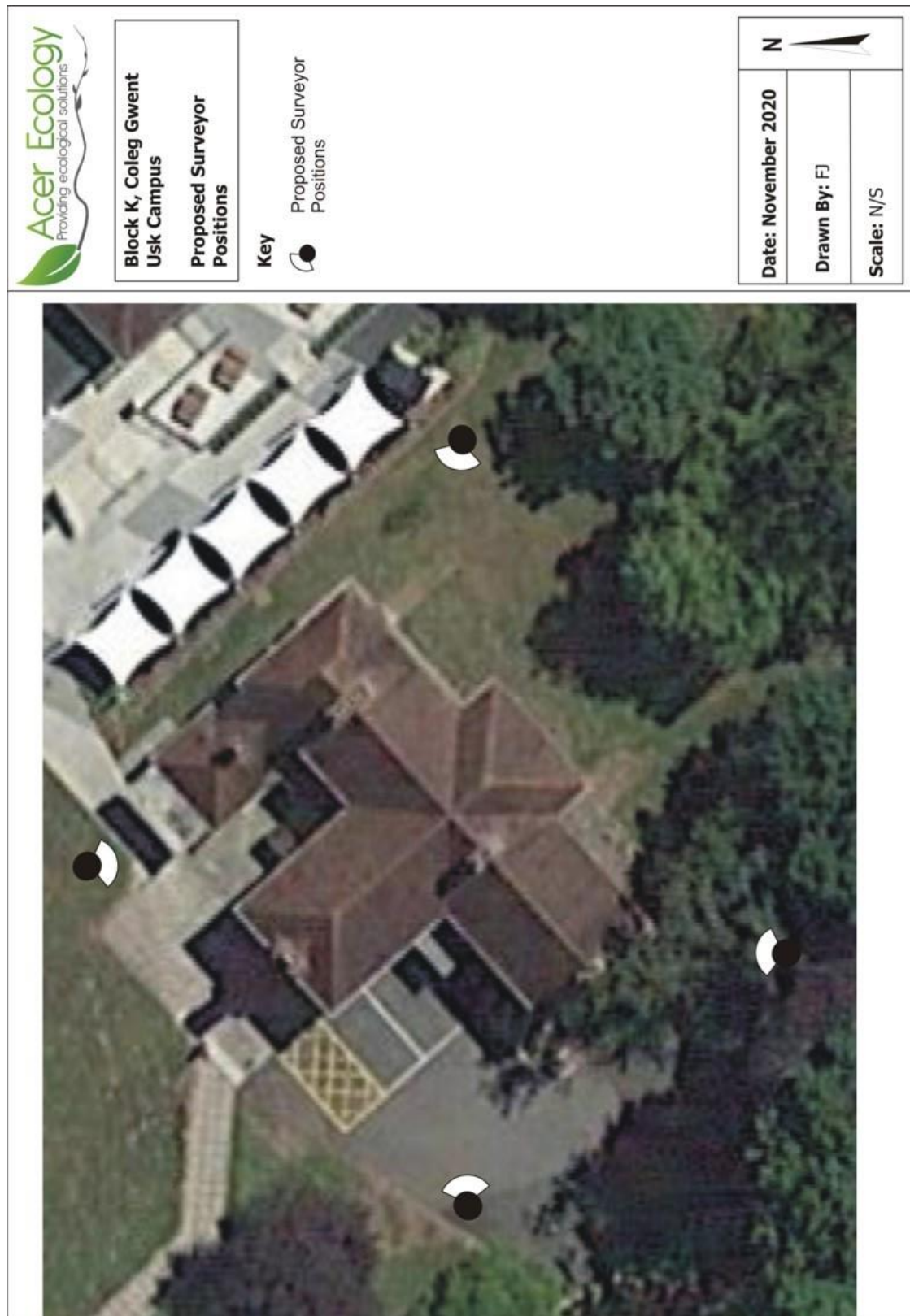
Plan 2: Protected Sites Within 2km



Plan 4: Building and Preliminary Roost Inspection



Plan 5: Proposed Surveyor Positions for Dusk Emergence and Dawn Re-entry Surveys



Appendix 1: Bat Ecology and Legislation Protecting Bats and Their Roosts

Bat Ecology

There are 17 known breeding species of bat found in the UK, with additional species recorded as migrants or vagrants. All of them are small, nocturnal, flying, insectivorous mammals that are under conservation threat and many having undergone massive population declines over the last century. Some species, such as common and soprano pipistrelle are relatively common and widespread in the UK, while others, such as greater horseshoe bats, have an extremely restricted distribution.

Most bats will use a variety of roosts of different types throughout the year. The winter hibernation sites typically have cool, humid conditions with a stable microclimate and low levels of disturbance. Most British bats hibernate in caves or artificial structures that fulfil these requirements such as mines, tunnels and cellars. Bats emerge from hibernation around late March or early April and move into transition or intermediary roosts. Around early May, female bats gather in colonies to form summer or maternity roosts, and it is here where they will give birth between late May and early July. A colony may consist of many individuals (sometimes hundreds of bats) of mixed age and sex. Roosts may be in a variety of habitat types including tree-holes, caves, buildings and other secure crevices or internal spaces with appropriate stable temperatures and humidity. Bats may change roost locations many times during a year and colonies may split up and reform during this period. Males occupy solitary roosts in autumn, to which they attract females for mating.

Legislation

All British bat species and any place used for shelter or protection, or a breeding site or resting place (their roosts) are fully protected under the amended Wildlife and Countryside Act 1981 through inclusion in Schedule 5. The roosts are protected irrespective of whether bats are present at the time. All bats are 'European Protected Species' and fully protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species and Planning (various amendments) (England and Wales) Regulations 2018, until and unless superseded by The Conservation of Habitats and Species (Amendment) (EU Exit) ['CHSAEU'] Regulations 2019. These pieces of legislation make it illegal to deliberately or recklessly:

- kill, injure or capture bats;
- disturb bats;
- damage, destroy, or obstruct access to bat roosts (including sites that are currently unoccupied);
- possess or transport a bat or any part of a bat unless acquired legally; or
- sell, barter or exchange bats or parts of bats.

Disturbance is defined as that which is likely to impair bats ability:

- to survive, to breed or reproduce, or to rear or nurture their young;
- to hibernate or migrate; or
- to significantly affect the local distribution or abundance of the species to which they belong.

Habitats Regulations Licensing

If a European Protected Species will be affected by a development, Natural Resources Wales (NRW) can issue licences under the Habitats Regulations to permit otherwise prohibited acts. Licences for certain activities can be granted providing “3 tests” are satisfied, that is:

1. the purposes of “preserving public health or safety, or for reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment”;
2. there must be “no satisfactory alternative”; and,
3. the derogation is “not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”.

Licences are issued by NRW, with NRW assessing Test 3, and the Local Planning Authority assessing tests 1 & 2 (where proposals are not subject to planning, then NRW alone will assess all three tests). Where Planning regulations apply, NRW will only issue a licence after determination of the planning application.

The licence application will require the production of a detailed method statement, which sets out the activities to be carried out under the licence to minimise the risk of bats being harmed during construction works, and to ensure that bats will be conserved during the development of the site. This will need to detail the mitigation proposed (such as the replacement or compensation roost), the timescale and schedule of works, the number, size and locations of bat access points to be provided, the type of materials to be used (roofing material, roof lining, fascias, soffits and bargeboards etc.), lighting proposals, action to be taken in the event bats are found during works and a post-development monitoring programme. The method statement will need to be accompanied by scaled plans and maps detailing the bat mitigation features. A cross-section of the access points and roost space is often required. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of development works. In some instances, a method statement is requested by the Local Planning Authority or Natural Resources Wales before the planning application is determined.

Environment (Wales) Act 2016

The Environment (Wales) Act 2016²⁶ dictates that Local authorities have a duty to have regard to the conservation of biodiversity in exercising their functions. The duty affects all public authorities and aims to raise the profile and visibility of biodiversity, to clarify existing commitments relating to biodiversity, and to make it a natural and integral part of policy and decision making. Part 1 Section 7 of the Act provides a list of the ‘*living organisms of principal importance for maintaining and enhancing biodiversity in relation to Wales*’. This includes seven bat species (soprano pipistrelle, barbastelle (*Barbastella barbastellus*), Bechstein’s (*Myotis bechsteini*), noctule, brown long-eared, lesser horseshoe and greater horseshoe bats).

²⁶ <http://www.legislation.gov.uk/anaw/2016/3/contents>

Appendix 2: Guidelines for Assessing Potential Bat Roosting Suitability and Determining Required Number of Dusk/Dawn Surveys

Suitability	Description of Roosting Habitat	Minimum Number of Dusk/Dawn Surveys Required ²⁷
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None.
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 ²⁸ 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 ²⁹ .	One survey visit. One dusk emergence or dawn re-entry survey (Survey period from May to August) (Collins 2016).
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 ³⁰ (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey ³¹ . Surveys should be undertaken from May to September with at least one of the survey between May and August (Collins 2016).
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.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. Surveys should be undertaken from May to September with at least two of the surveys from May to August (Collins 2016).
Confirmed Roost	Evidence of bats or use of bats found.	Minimum of two required to characterise the roost. If it is not possible to characterise the roost on the basis of two surveys, additional surveys may be required. In the event that no evidence of bat roosting is detected during the dusk and dawn surveys a third survey may be required. In this situation DNA analysis of the droppings may also be required.

²⁷ Adapted from Tables 7.1 and 7.3 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

²⁸ For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

²⁹ 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 *et al.*, 2015). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for large numbers of this species to be present during the autumn and winter in large buildings in highly urbanized environments.

³⁰ 'High roost status' is not defined within Collins, 2016. Acer Ecology Ltd. interpret maternity, hibernation, swarming sites, mating sites, and satellite roosts as being of 'high roost status' and exclude day roosts, night roosts, feeding roosts, transitional/occasional roosts from this definition. Pre-maternity/collecting roosts are not included within Collins, 2016 and will be assessed on an individual basis.

³¹ Multiple surveys should be spread out to sample as much of the survey period as possible. It is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk survey is considered only one visit.

Appendix 3: Guidelines for Assessing Bat Habitat Suitability

Suitability	Commuting and Foraging Habitat
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	<p><u>Commuting Habitat</u> Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p><u>Foraging Habitat</u> 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.</p>
Moderate	<p><u>Commuting Habitat</u> Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p><u>Foraging Habitat</u> Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>
High	<p><u>Commuting Habitat</u> Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p><u>Foraging Habitat</u> 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.</p> <p><u>Proximity to Known Bat Roosts</u> Site is close to and connected to known roosts.</p>