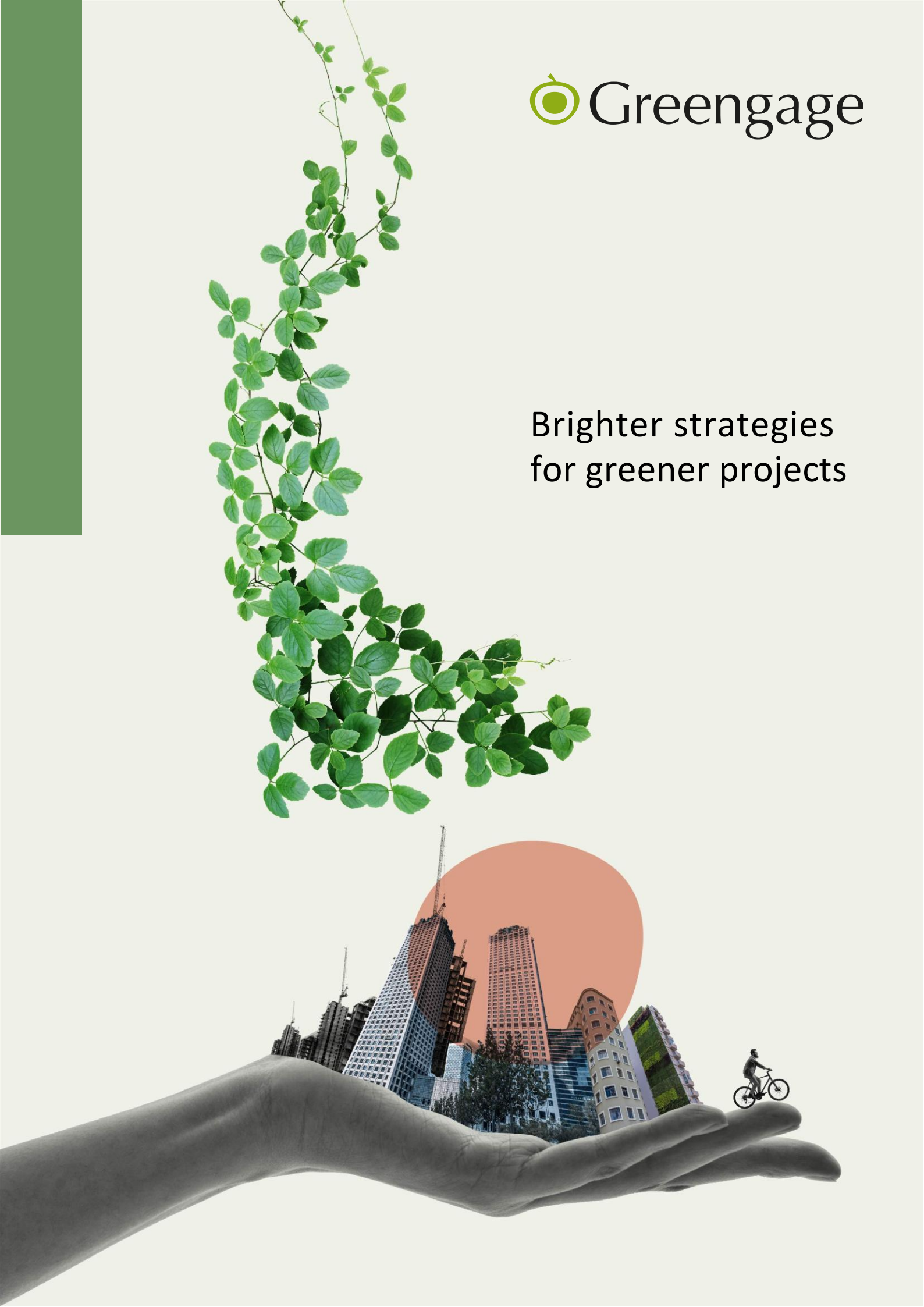




Brighter strategies
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Client: Howarth Contractors Ltd
Project: Codicote Development
Report: Bat Survey Report

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
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1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd (Greengage) was commissioned by Howarth Contractors Ltd in January 2026 to undertake bat emergence surveys at the Codicote Development, located on Codicote Road, Codicote, Hertfordshire hereafter referred to as 'the site', to establish the presence/likely absence of roosting bats.

This document is a report of the bat emergence surveys and has been produced to inform a planning application for the site which seeks the demolition of the former Big Cat Sanctuary site and the construction of 109 new residential dwellings.

A Preliminary Ecological Appraisal (PEA),¹ which incorporated a Preliminary Roost Assessment (PRA), was undertaken by Greengage on 26th January 2026. The findings of the PEA and PRA informed the scope of the subsequent bat emergence surveys. The site comprises several existing buildings, associated hardstanding, modified grassland, other neutral grassland, scrub, hedgerows, woodland and scattered trees.

The PEA, incorporating a PRA, assessed the farm shop (B1) as having **high** suitability to support summer roosting bats due to the presence of multiple Potential Roosting Features (PRFs), including gaps, crevices and damaged features capable of supporting day roosts. The building was also assessed as having negligible suitability to support hibernating bats due to the absence of deep crevices, stable voids or underground features capable of providing suitable cool, humid and thermally stable conditions.

As such, in accordance with the Bat Conservation Trust (BCT) guidelines,² three dusk emergence surveys were carried out in May and June 2026. An additional top-up survey was undertaken in June 2026 to provide sufficient coverage of all Potential Roosting Features associated with B1.

The emergence surveys confirmed the presence of a common pipistrelle *Pipistrellus pipistrellus* day roost used by at least two individuals in Building B1.

Proposals would result in the demolition of the building and therefore the destruction of the confirmed roost. All bats are legally protected and therefore a bat licence from Natural England will be required for these works. Recommended mitigation actions to be implemented under the licence include:

- Erection of temporary alternative roosting space in the form of bat boxes hung from nearby trees prior to demolition;
- Supervised demolition of the roost will be preceded with an endoscope survey by the named licenced ecologist (or their accredited agent);
- The roost features will be dismantled by hand overseen by the named ecologist (or their accredited agent); and,
- Provision of like-for-like compensatory roosting space in newly constructed buildings.

The emergence surveys confirmed low to high levels of activity, with the highest levels of activity recorded during the third survey and activity particularly associated with B1 and the surrounding trees, scrub and boundary vegetation. Activity was recorded from at least six species, including common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula*, brown long-eared bat *Plecotus auritus* and rare barbastelle *Barbastella barbastellus*

In accordance with planning policy and good practice, measures to mitigate impacts on foraging bats and enhance the site for both roosting and foraging bats are recommended. These measures include:

- Retention of foraging/commuting habitat and compensatory planting where habitat is lost;
- Bat-sensitive lighting regime following guidance from The Institute of Lighting Professionals (ILP) and BCT;²
- Provision of compensatory and additional integrated bat boxes within the fabric of the new buildings, suitable for summer roosting; and
- Wildlife friendly habitat creation to enhance the site as a foraging and commuting resource, including provision of wildflower grassland, native tree and hedgerow planting.

The data collected during the bat emergence surveys is considered valid for 18 months in accordance with Chartered Institute of Ecology and Environmental Management (CIEEM) guidance³ and an updated survey will be required if the works have not started within this timeframe or should site conditions change significantly during this time. This report has been submitted in August 2026.

2.0 INTRODUCTION

Greengage Environmental Ltd (Greengage) was commissioned by Howarth Contractors Ltd in January 2026 to undertake bat emergence surveys at the Codicote Development, located on Codicote Road, Codicote, Hertfordshire hereafter referred to as 'the site', to establish the presence/likely absence of roosting bats.

This document is a report of the bat emergence surveys and has been produced to inform a planning application for the site which seeks the demolition of the former Big Cat Sanctuary site and the construction of 109 new residential dwellings.

2.1 AIMS OF SURVEY

The purpose of the survey was to determine the presence or likely absence of roosting bat species within the farm shop building (B1) on site ahead of the proposed redevelopment of the site, which includes the demolition of B1.

Data collected as part of a previous Preliminary Ecological Appraisal (PEA),¹ which incorporated a Preliminary Roost Assessment (PRA), undertaken in January 2026, was used to support the survey effort. Survey data and previous ecological information were then used to inform the extent of any mitigation or enhancement measures that may be appropriate.

2.2 SITE DESCRIPTION

The site extends to approximately 4.02 hectares (ha) and is centred on Ordnance Survey National Grid Reference (OS NGR): TL 22313 10947, OS Co-ordinates 522313, 210947.

The site comprises land at 'The Codicote Development' on Codicote Road, Codicote, Hertfordshire. This includes urban habitats, which comprise a large main dwelling with an associated farm shop use, smaller residential bungalows, lodges and mobile homes; areas of incomplete construction comprising walls and foundations; hardstanding gravel roads and driveways; and barns, sheds, and other related storage. Due to the site's past use for the keeping of big cats, parts of the site also contain rows of open-air, square, brick-built enclosures, planted with non-native species, now also overgrown with native scrub species such as bramble *Rubus fruticosus* and nettle *Urtica dioica*. The site also consists of extensive green space, comprising areas of unmanaged scrub, deciduous and mixed woodlands, rough grassland, and individual trees, as well as managed grasslands in the form of modified grassland lawns, and small fenced pastures.

Although much of the site is undisturbed, some areas are subject to ongoing human activity, with occupied mobile homes, bungalows and lodges present within the site, and areas of disturbance associated with storage, household waste, and derelict structures. Vegetation across the site reflects limited management, with scrub and tall unmanaged grassland dominating outside the built footprint, alongside localised areas of bare ground and debris.

The site is located within a rural settlement-edge on the outskirts of Codicote, with surrounding land use comprising a mix of residential properties, roads, agricultural land, and semi-natural habitats. Danesbury Park Local Nature Reserve (LNR) lies to the southeast of the site, while Singlers Marsh LNR lies to the south, associated with the River Mimram corridor, with the river running 30 meters (m) south of the site.

Beyond the immediate site, the wider landscape comprises a mosaic of farmland, woodland, river corridor habitats, and settlement typical of north Hertfordshire, with several locally designated sites forming a connected ecological network.

2.3 ECOLOGICAL CONTEXT

Previous ecological information used to inform the bat emergence surveys comprised a PEA,¹ incorporating a PRA, undertaken by Greengage on 26th January 2026, together with biological records obtained from Hertfordshire Environmental Records Centre (HERC) and a review of available mapping and DEFRA's MAGIC database.

Desk study records identified common pipistrelle *Pipistrellus pipistrellus*, noctule *Nyctalus noctula*, Natterer's bat *Myotis nattereri* and brown long-eared bat *Plecotus auritus* within 2km of the site. The MAGIC database also identified one European Protected Species (EPS) licence relating to the destruction of a resting place used by brown long-eared bats, located 800m north of the site.

The PEA/PRA included an external, ground-level inspection of B1 to assess its suitability to support roosting bats. A number of PRFs were identified across the building and its attached wooden structures, including lifted and missing roof coverings, gaps beneath the eaves, damaged soffits and fascias, cracked render, broken or boarded openings, weathered timber cladding and gaps at junctions between building materials. No direct evidence of bat activity was identified. Overall, B1 was assessed as having '**high**' suitability to support summer roosting bats and, in accordance with BCT guidance,² three dusk emergence surveys were recommended.

The building was also assessed as having negligible suitability to support hibernating bats, due to the absence of deep crevices, stable voids or underground features capable of providing suitable cool, humid and thermally stable conditions. No further hibernation survey effort was therefore required in accordance with BCT guidance.²

All other buildings were assessed as '**negligible**' suitability for roosting bats.

3.0 METHODOLOGY

3.1 EMERGENCE SURVEY

As the earlier PEA,¹ incorporating a PRA, assessed B1 as having high suitability to support roosting bats, emergence surveys were undertaken on 5th May and 27th May, 11th June and 17th June 2026.

Each survey was undertaken in suitable weather conditions, in accordance with the Bat Conservation Trust (BCT) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines³ and the Bat Workers Manual (2004).⁴ Auxiliary survey data, including weather conditions for each survey, are provided in Appendix C.

Emergence surveys commenced 15 minutes prior to sunset and continued for 90 minutes after sunset. Each survey was conducted by three surveyors to ensure all PRFs with suitability to support roosting bats and aspects of the building could be assessed. Surveyor locations are mapped in Appendix B.

Each surveyor was equipped with an Echo Meter Touch bat detector to detect, visualise and record the calls of any bats present in the area. Additionally, Night Visual Aids (NVA) comprising infrared Canon XA11 cameras alongside Light Emitting Diodes (LED) Infra-Red (IR) lights, were used to visually monitor PRFs and assist in confirming any bat emergences under low-light conditions. Stills from the darkest point of the survey from each surveyor location have been provided in Appendix D.

Following the survey, the video footage and bat calls were analysed in-office using specialist computer software Kaleidoscope, to confirm species present and assess ambiguous sightings/calls.

3.2 SURVEYORS

BCT guidance outlines the different levels of competency to undertake professional bat work which aligns with CIEEM definitions.⁴

The first survey was led by Oliver Hamilton, Assistant Consultant, who has a degree in Zoology (BSc Hons) and 2 years' experience in ecological surveying. Oliver assists in a variety of field surveys and related reports such as preliminary Ecological Appraisals and Protected Species Reports, providing recommendations on biodiversity enhancements.

The first survey was assisted by Freya Ellis and James Manuli.

The second survey was led by Mary Haine, Assistant Consultant, who has a BSc (Hons) in Ecology and Conservation, and is a Qualifying member of CIEEM, with over two years' experience in ecological survey and assessment. Mary has experience in conducting and assisting with protected species surveys, data analysis, and reporting including PEAs, and Biodiversity Net Gain (BNG).

The second survey was assisted by Emilia Mizielska, Joe Jackson, Katherine Manners, Mathew Granger, and Navin Ramnani.

The third survey was led by Maxine Hendy, Senior Consultant, has a BSc (Hons) degree in Biological Sciences, and an MSc in Environmental Diagnosis and Management. Maxine has been working in environmental consultancy for 5 years, with a focus in Biodiversity Net Gain, GIS, and habitat management. She has worked across large and small projects, including transport, urban redevelopments, residential new construction, and natural habitats enhanced for biodiversity.

The third survey was assisted by Charlie Cooke, Freya Ellis, Joe Jackson, Megan Widling, and Navin Ramnani.

The fourth survey was led by Kelsey Marratt, Consultant, has an undergraduate degree in Zoology (BSc Hons) and a Master's degree in Conservation Biology. She holds a Natural England Level 2 (CL18) class licence for bats and Natural England Class Licence for dormice (CL10a), is a Level 3 botanist as accredited by FISC and is a qualifying member of CIEEM. Kelsey has five years' experience in the commercial sector.

The fourth survey was assisted by James Manuli.

This report was written by Emer Heffernan, Consultant, who has a BA (Hons) in Geography and Information Science, an MSc in Environmental Resource Management and over five years' experience in ecological survey and assessment. Emer's experience spans PEAs, Biodiversity Net Gain (BNG) and species-specific surveying, with ornithology being a particular interest.

Maxine Hendy, Senior Consultant, has a BSc (Hons) degree in Biological Sciences, and an MSc in Environmental Diagnosis and Management. Maxine has been working in environmental consultancy for 5 years, with a focus in Biodiversity Net Gain, GIS, and habitat management. She has worked across large and small projects, including transport, urban redevelopments, residential new construction, and natural habitats enhanced for biodiversity.

Paul White, Associate Consultant, has a Bachelor's degree in Marine Biology (BSc Hons), a Natural England Great Crested Newt Licence and Dormouse Licence, and is an Associate member of CIEEM. Paul has over 16 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

This report was written by Emer Heffernan and reviewed by Maxine Hendy and verified by Paul White who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

3.3 CONSTRAINTS

There were no significant limitations to the bat surveys. The surveys were undertaken at a suitable time of year and in suitable weather conditions.

The first survey did not provide sufficient coverage of all PRFs associated with B1 due to the initial surveyor and camera layout. A fourth survey was therefore undertaken as a top-up survey to cover the areas of the building that had not been adequately observed during the first survey. Following completion of the top-up survey, the overall survey effort was considered sufficient to determine the presence or likely absence of roosting bats within B1.

The effectiveness of any presence or likely-absence analysis requires that all species, including elusive or rarer species, are recorded and correctly identified during post-collection analysis. As such, the following considerations should be made for the species detected at B1:

- Average number of registrations for common pipistrelle and the soprano pipistrelle may be over/underestimated as echolocation of these species often tends to overlap, especially around the 50kHz; and,
- It is sometimes difficult to differentiate between the Leisler and serotine bats in areas of high clutter as their frequency bandwidth often overlaps. This is also true of the noctule and Leisler bats at lower frequencies, depending on the type of call they emit.

4.0 RESULTS

The locations of bat activity recorded during both surveys, in addition to the surveyor locations, are shown at Appendix B with results detailed below.

4.1 EMERGENCE SURVEYS

First Survey - 5th May

The first emergence survey was undertaken on 5th May 2026. Sunset during the survey was at 20:31, and the survey commenced at 20:16, continuing until 22:01.

No bats were observed emerging from or re-entering B1 during the survey from any of the surveyor positions or the unmanned camera position.

Low levels of bat activity were recorded during the survey, predominantly comprising common pipistrelle activity. Common pipistrelles were recorded commuting around the site, with a brief period of foraging activity recorded along the southern aspect of B1 at 21:04. At 21:23, two common pipistrelles were recorded interacting and social calling before flying south.

Soprano pipistrelle, noctule and rarely occurring barbastelle *Barbastella barbastellus* activity was also recorded, although at substantially lower levels than common pipistrelle activity.

Overall, bat activity was considered low and was dominated by common pipistrelle commuting, with limited foraging and social activity around B1 and the surrounding vegetation. No behaviour indicative of a roost within B1 was confirmed during the survey.

Top-up Survey – 11th June

The top-up survey was undertaken on 11th June 2026. Sunset was at 21:17, and the survey commenced at 21:02, continuing until 22:47.

No bats were observed emerging from or re-entering B1 during the survey from either surveyor position.

Moderate levels of bat activity were recorded during the top-up survey, predominantly comprising common pipistrelle activity. Common pipistrelles were first recorded commuting across the site at 21:47, followed by frequent foraging activity around B1 from 21:48. At least two common pipistrelles were observed repeatedly foraging around the building and adjacent vegetation, with activity continuing until 22:29. Soprano pipistrelle activity was also recorded, although at substantially lower levels than common pipistrelle activity.

Overall, activity during the top-up survey was considered moderate and was dominated by sustained common pipistrelle foraging around B1 and the surrounding vegetation. No behaviour indicative of a roost within B1 was confirmed during the survey.

Second Survey - 27th May

The second emergence survey was undertaken on 27th May 2026. Sunset during the survey was at 21:04, and the survey commenced at 20:49, continuing until 22:34.

No bats were observed emerging from or re-entering B1 during the survey from any of the surveyor positions. Review of the infrared footage also confirmed that no emergences were recorded. One bat was observed flying from the direction of the corner of the building at 21:54

and 21:56. However, the camera position was too distant to determine its exact origin, and no evidence of emergence was identified.

Moderate levels of bat activity were recorded during the survey, predominantly comprising common pipistrelle. Common pipistrelles were recorded commuting and foraging around B1 and the surrounding vegetation from 21:33, with repeated passes continuing throughout the remainder of the survey. Several bats were observed circling and foraging close to the building, particularly along the southern and eastern aspects and around adjacent trees and scrub.

Soprano pipistrelle, noctule and brown long-eared bat activity was also recorded, although at substantially lower levels than common pipistrelle activity.

Overall, bat activity was considered moderate and was dominated by common pipistrelle commuting and foraging around B1 and the surrounding vegetation. No behaviour indicative of a roost within B1 was confirmed during the survey.

Third Survey - 17th June

The third emergence survey was undertaken on 17th June 2026. Sunset during the survey was at 21:20, and the survey commenced at 21:05, continuing until 22:50.

Review of the infrared footage confirmed at least **eight emergence** events and **four re-entries** associated with B1, involving at least two common pipistrelles. Emergence and re-entry activity was recorded from several features on the building between 22:09 and 22:30, including gaps around the large entrance, the roof covering and the corner of the roof.

Two common pipistrelles were recorded emerging at 22:09. Further emergence events were recorded at 22:15, 22:18 and 22:30, while re-entries were recorded at 22:14, 22:16 and 22:19. The footage showed repeated use of several features rather than a single discrete access point.

High levels of bat activity were recorded during the survey, predominantly comprising common pipistrelle activity. Multiple bats were observed simultaneously commuting and foraging around B1 and the surrounding vegetation, with sustained activity recorded throughout much of the survey.

Soprano pipistrelle, noctule, Nathusius' pipistrelle and rarely occurring barbastelle activity was also recorded, although at lower levels than common pipistrelle activity.

Overall, bat activity was considered high and was dominated by common pipistrelle foraging and commuting around B1. The confirmed emergence and re-entry activity demonstrates that B1 supports a common pipistrelle roost used by at least two bats, with several access features identified across the building.

5.0 RECOMMENDATIONS AND CONCLUSIONS

5.1 SUMMARY OF EMERGENCE SURVEYS

The survey results confirmed the presence of roosting bats within B1. Review of the infrared footage from the survey undertaken on 17th June 2026 identified at least eight emergence events and four re-entries involving at least two common pipistrelles. Bats were recorded using several access features associated with the large entrance, roof covering and corner of the roof.

The development proposals include the demolition of B1 and will therefore result in the loss of the confirmed common pipistrelle roost.

All UK bat species are protected by UK legislation (see full context at Appendix A), under which it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time); and,
- Intentionally or recklessly obstruct access to a bat roost.

A bat licence from Natural England will therefore be required prior to the demolition of B1, as the proposed works would result in the destruction of a confirmed bat roost. Mitigation measures secured through the licence will be required to minimise the risk of harm to individual bats and to maintain suitable roosting opportunities at the site. These measures are likely to include the supervision of works by a suitably licensed ecologist, the sensitive removal of identified roost features and the provision of compensatory roosting features within the proposed development.

Low to high levels of bat foraging and commuting activity were recorded across the surveys, with the highest levels recorded during the survey undertaken on 17th June 2026. Species recorded comprised common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule, brown long-eared bat and barbastelle. Activity was predominantly associated with B1 and the surrounding trees, scrub and other boundary vegetation. These habitats therefore provide foraging and commuting resources for bats within the local area.

Whilst foraging and commuting resources for bats are not formally protected by law, their protection is a material consideration within the planning process. Suitable best practice mitigation and enhancement recommendations are detailed below.

5.2 LOSS OF ROOST

Bat Licence

Further details relating to the proposed mitigation approach should be detailed in the bat licence with Natural England where appropriate.

This application should include a Method Statement and Licence Application Form and supporting plans and figures. A Reasoned Statement is not anticipated to be required in this instance, as the proposals relate to a residential development affecting a small common pipistrelle roost of local importance. This should be confirmed at the time of the licence application.

With respect to planning, it is recommended that further details relating to the mitigation approach are secured through condition.

A detailed application has not been produced at this time; however, mitigation and compensation actions have been considered and are provided below, roughly following the format of Natural England's Method Statement Template.

Status of Species roosting on site

A common pipistrelle day roost, used by at least two individuals, was found at the site. At least eight emergence events and four re-entries were recorded from several features associated with B1. However, these observations included repeat use by the same bats and do not represent eight individual bats.

This form of roost is considered to be of low conservation interest in the context of the site. No evidence of a maternity, hibernation or other higher conservation status roost was identified. The potential impacts are therefore considered to result in a low impact upon local conservation status, in accordance with the CIEEM EcIA Guidelines and the Bat Mitigation Guidelines.⁵

Predicted impacts in absence of mitigation and compensation

Initial impacts

Ultimately, the proposals will involve the permanent loss and destruction of the confirmed common pipistrelle roost within B1, causing a major negative impact at site level. Small day roosts used by common pipistrelle are likely to form part of a wider network of similar roosting opportunities used by individual bats, and therefore the loss is considered likely to result in a low negative impact at a local level.

Without consideration, works may stand to directly disturb the roost through human presence, noise from internal and external construction works, vibration from internal works and external works such as piling, dust creation, lighting or obstruction through scaffolding, all resulting in moderate negative impacts at a site level.

Albeit unlikely, proposals may directly stand to impact bats through crushing during removal of roofing elements, cladding or tiling, or repairs to cracks in timber beams. This would result in the death of bats, considered a major negative impact at a site level.

Bats may also be prevented from using the roost through lighting, changes to site conditions or obstruction, causing disturbance to the roost and bats themselves, resulting in low negative impacts at a local scale.

Long term impacts

Without consideration, proposals may prevent continued use of the site by common pipistrelle. The proposals may therefore stand to result in the long-term destruction and loss of a low conservation value roost of a common bat species, resulting in permanent low to moderate negative impacts at a local scale.

Proposals are not predicted to result in significant fragmentation or isolation impacts, although increased lighting and reduction of surrounding foraging and commuting resources within the wider site may stand to result in disturbance, resulting in low to moderate negative impacts at a local scale.

Proposed mitigation strategy

Actions taken at the site should follow the mitigation hierarchy:

- Proposals should first avoid impacts through design and approach;
- If not possible then proposals should seek to minimise impacts;
- Next, proposals should incorporate on-site compensatory actions; and,
- Failing this, proposals should provide off site compensation for unavoidable residual impacts (offsetting).

Actions for this scheme will therefore first seek to mitigate impacts directly through avoidance (e.g. through changing designs or specifying timing) then compensate for unavoidable impacts (e.g. through provision of alternative roosting space where it is not possible to directly mitigate through avoidance) before seeking to provide enhancements which result in residual net gains.

The structures are not in a suitable structural condition to be retained, and delivery of the required housing quota would require demolition of these structures. As such, it will not be possible to retain the common pipistrelle roost within B1, which is the preferred option detailed in the Bat Mitigation Guidelines.⁵ Mitigation actions will therefore be required during construction works and compensatory roost spaces must be provided in the fabric of the newly constructed buildings.

The overall objectives of the actions outlined below are to minimise disruption to bats during works and to provide new roosting sites through the incorporation of bat boxes, thus avoiding impacts on existing bat individuals and increasing the value of the site for local bat populations.

Timing

As set out in the Bat Mitigation Guidelines,⁵ the most common and effective way of avoiding disturbance of a roost is to complete works outside of the time or season when bats are likely to be using the roost. This varies between species and roost types.

With regard to the roost within B1, observations suggest it is likely to be used as a day roost by a small number of common pipistrelles during the active season. Accordingly, works that will affect the roost should ideally be undertaken during spring or autumn, generally March to April or September to October, when bats are active and able to respond to disturbance but the risk of affecting maternity or hibernating bats is reduced. The final timing and working methods should be confirmed through the Natural England licence.

Works affecting confirmed roosting features should be undertaken under the supervision of a suitably licensed ecologist and in accordance with an approved precautionary working method. Roofing materials, cladding, soffits, fascias and other identified roosting features should be removed carefully by hand or using controlled tools, as directed by the supervising ecologist.

Care should be taken to reduce general disturbance during the summer months, including timing works in daylight hours when bats are inactive, and keeping noise disturbance to a minimum. No additional artificial lighting should be left on overnight. As such, light, noise and general disturbance through construction activity will be limited to within hours that bats are not active.

Method of Works

Compensatory Roosting Opportunities

Five 2F Schwegler Bat Boxes (General Purpose), or similar, as shown in [Figure 5.1](#), should be erected on suitable retained mature trees close to B1 prior to any works. These boxes should be placed approximately 5m from the ground on a range of aspects between southeast and southwest and away from artificial lighting. These can be used for alternative shelter in the event that a bat is found while features are being removed.

Exact locations would be specified by the appointed ecologist; however, a general recommendation is that boxes should be placed approximately 5m from the ground in locations close to the existing roost locations and connected to retained foraging and commuting habitats.

The suitability and final number of temporary boxes should be confirmed within the Natural England licence application.

Figure 5.1 2F Schwegler Bat Box (General Purpose)



Role of the Ecological Clerk of Works

Prior to any work commencing, on-site workers should be briefed by the named ecologist or an accredited agent under the permission of the licensed ecologist or an accredited agent in an Ecological Clerk of Works (ECoW) role during a 'toolbox talk' on the mitigation strategy and legislation relating to bats.

The ECoW should undertake a detailed internal inspection and endoscope survey where possible immediately prior to the works taking place.

The ECoW should be present during sensitive activities, including works affecting the confirmed roosting features and associated roof coverings, timber cladding, soffits, fascias and openings. If bats are encountered during any works, the licence holder should be contacted and a licensed bat handler should capture the bat with thin gloved hands or a hand net, place the bat in a drawstring cloth bag and release it or place it within one of the pre-installed bat boxes in accordance with the approved licence method statement and at the direction of the Named Ecologist.

Injured bats should be immediately taken into care. Details of a local well experienced 'bat hospital' should be known by the bat handler and provided to site managers.

Soft Strip

The removal of roof coverings, soffits, fascias, timber cladding, boarded openings and other confirmed or PRFs should be undertaken by hand under the supervision of the ECoW.

The features identified as supporting emergence and re-entry activity, including those associated with the large entrance, roof covering and corner of the roof, should be subject to particular care. Materials should be lifted carefully and removed sequentially to allow any concealed bats to be detected and safely captured.

A raised platform may be required to enable the ECoW to check the features immediately prior to dismantling.

A copy of this document and the licence should remain available on site at all times, and a summary sheet of guidance should be given to each of the builders and contractors working on the structures.

Compensatory Features post development

To compensate for the loss of the existing common pipistrelle day roost within B1, permanent bat roosting features should be incorporated into the fabric of the new buildings at the site as compensatory roosting space. The exact number and specification should be agreed through the Natural England licence once the proposed elevations are available.

These should mirror the specifications of the existing roost as far as possible, being of a similar height and providing crevice-type roosting conditions on elevations close to retained trees, scrub and other commuting and foraging habitat. However, given the abundance of opportunities within the new buildings, a variety of conditions should be provided to offer options for bats.

Compensatory features should include suitable integrated bat boxes, bricks or tubes for crevice dwelling species, such as Schwegler 1FR, Ibstock integrated bat boxes or similar. Features should be installed at suitable heights on a range of aspects and positioned away from windows, doors and areas subject to direct artificial lighting.

Where practicable, several features should be grouped on the same building or adjoining elevations to reflect the use of multiple roost access features across B1. Replacement roosting features should be installed as early as possible during construction and be available before the temporary tree mounted boxes are removed.

Examples of bat boxes and bat tiles that can be seamlessly incorporated into the design of the new building are shown in [Figure 5.2](#).

Figure 5.2 *Habibat 003 bat boxes⁶ (left) and bat access tiles⁷ (right)*



5.3 FORAGING/COMMUTING HABITAT

Retention of Foraging/Commuting Habitat

To minimise impacts upon local bat populations identified at the site, the most valuable on site habitat will be retained within the proposed scheme.¹¹ This includes the retention, protection, and enhancement of the entire northern area, with woodland, mature trees, scrub, hedgerows and other boundary vegetation, particularly where these features provide connectivity with habitats in the wider landscape. Retention and enhancement of the onsite woodland, in particular, will enhance the entire landscape by providing a more varied shelter, foraging, and commuting habitat, as a part of the wider semi - rural landscape.

Any unavoidable loss of foraging habitat will be compensated for through new planting of native trees, shrubs and wildflowers. New planting seeks to maintain and strengthen habitat connectivity across the site and between retained woodland, scrub and boundary features.

Compensatory areas of wildlife-friendly landscaping are planned¹¹ and species include shrubs such as *Choisya ternata*; climbers such as *Jasminum officinale*; trees such as *Prunus avium*, *Tilia cordata*, and *Quercus robur*; native hedge mixes that include *Prunus spinosa*, *Rosa canina* and *Prunus cerasifera*; and, plant mixes that include flowering *Viburnum* species, *Rosa* species and further *Prunus* species. These will support a greater range of and larger populations of invertebrate species, enhancing the site for foraging bats and continuing to provide a clear commuting route following the site boundary.

The PEA¹ assessed the grassland, scrub and woodland-edge habitats as having moderate suitability for foraging and commuting bats. It also identified the retention of the northern part of the site as important in limiting impacts upon these resources.

Further to the above recommendations, and provided that valuable foraging and commuting habitat is retained where possible and unavoidable habitat losses are adequately compensated through new planting, it is considered unlikely that there will be a significant adverse impact on

bat foraging and commuting habitat in the local surrounding area. The residual impact on foraging and commuting bats is therefore predicted to be negligible at the local level.

5.4 MITIGATION FOR CHANGES TO LIGHTING NEAR ROOST

Artificial lighting can cause disturbance to bat species' roosting, foraging and commuting activity. Proposals should therefore impose measures to limit additional light disturbance at site following development. Bat-sensitive lighting should be incorporated into the scheme to minimise any potential impacts of increased lighting levels on foraging, commuting and socialising bats. Lighting design should follow guidance provided by the Institute of Lighting Professionals (ILP) and BCT, specifically:

- Will avoid use of metal halide and fluorescent light sources;
- Warmth' of luminaires. Any external areas will incorporate light at a <2700K where possible, with peak wavelengths higher than 550nm;
- Use of screens/hoods to make any external lighting as directional as possible, avoiding light spill on any natural features including woodland, trees, scrub, hedgerows and compensatory bat roosting features;
- Where possible, external lights will be as low to the ground as possible and use of bollard lighting should be avoided;
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered. Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt;
- Lighting controls in place where appropriate to minimise the duration lights are illuminated; this could be for example instated through motion sensor lighting or subject to curfews. Lighting associated with existing or created greenspace should be prohibited during the active bat season (April-October, inclusive);
- Dark corridors should be maintained along retained woodland, hedgerows, tree lines and other important commuting routes, with lighting designed to avoid measurable spill onto these features wherever practicable;
- Confirmed replacement roosting features should not be directly illuminated, and their access points and immediate flight lines should remain dark;
- Measures should be taken in internal light placement to reduce risk of light spill from windows; and,
- Lighting at site should be modelled to confirm predicted intensity and spill which should be reviewed by a Suitably Qualified Ecologist (SQE).

By providing compensatory foraging habitat through landscaping proposals, and minimising the impacts of external lighting, impacts upon foraging and commuting bats will be sufficiently minimised.

5.5 PRECAUTIONARY WORKING METHOD STATEMENT

No further survey is required for B1, which was assessed as having negligible suitability for hibernating bats, as the features present are not considered suitable to support hibernating bats.

However, a Precautionary Method of Working Method Statement (PWMS) should be implemented following best practice mitigation and could be secured through condition. The works should also be undertaken in accordance with the Natural England bat licence and associated Method Statement. The works should take place only when:

- Alternative roosting locations in the form of bat boxes have been installed nearby;
- A toolbox talk by a SQE has been delivered to contractors;
- Weather is dry/calm; and
- The confirmed roosting features are dismantled under the supervision of the ECoW and in accordance with the timing and working methods specified within the bat licence.

If during the works, a bat or evidence of bats is identified, the works will cease and the Named Ecologist or licence holder will be contacted immediately for further advice.

The proposed mitigation strategy is considered to adequately avoid the risk of disturbing or harming bats during works affecting the confirmed common pipistrelle roost. No additional mitigation specifically relating to hibernating bats is considered necessary due to the negligible hibernation suitability of B1.

5.6 ENHANCEMENT

In addition to the above best practice mitigation and compensation, the following enhancement measures are also recommended due to the suitability for bats at the site.

Bat boxes

Most species of bats will use bat boxes at various times of year but in particular they are favoured by pipistrelles, Leisler's, noctule, brown long eared and Myotis species⁸. Common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule, brown long-eared bat and barbastelle were identified during the surveys and are known to occur in the wider area.

It is recommended that a minimum of 15 additional bat boxes are incorporated into the proposed development, installed on the new buildings, either integrated into the fabric of the buildings or externally mounted. These should be provided in addition to the compensatory roosting features required under Section 5.2.

Bat boxes should be positioned in sunny locations, most suitably on the southern and western façades of the building. Bat boxes should be placed away from doors, windows and street lighting, ideally at 3-5m from ground level, with the entrance free from obstruction. The behaviour of bats varies between species however, generally they will use a number of different roosts of varying climate conditions. Therefore, it is advisable to integrate several boxes with varying locations and aspects across the site.

Greengage does not endorse specific products, but the products shown in [Figure 5.3](#) or similar would be suitable.

Given the findings of the surveys and the nature of the proposed works, and provided that the above enhancement measures are delivered in addition to the required mitigation and compensation, the scheme is considered to have a positive impact on bats using the site and the surrounding area.

Figure 5.3 Integrated Habitat Bat Box 003 - Blended Facing⁹ (top left); Vivara Pro low profile woodstone bat box¹⁰ suitable for mounting on buildings (top right)



Wildlife friendly habitat creation

By increasing the diversity of habitats on site the scheme will be increasing the diversity of bat invertebrate prey species. The following habitat types should be considered for incorporation into the landscaping plans:

- Wildlife friendly landscaping is planned across the site. Hedgerow, shrub and tree planting will provide higher provision of wildflowers and nectar sources for invertebrate prey. Introduced shrub includes some native shrubs or perennials and non native but flowering species that will support a wide range of invertebrates, and thrive year round, in a variety of weather conditions.
- Tree lines and hedges are retained where possible and new planting provided to create linear features for commuting bats. New planting should include a diverse mix of native species such as those planned in the soft landscape proposals¹¹ **Error! Reference source not found.;**

The development presents the opportunity to benefit a range of taxa through incorporation of ecological features and provision of new habitats that would encourage species to the site.

Assuming appropriate mitigation and compensation actions are followed, alongside enhancements described above it should be possible to deliver an increase in value for local bat populations.

6.0 SUMMARY AND CONCLUSION

Greengage was commissioned by Howarth Contractors Ltd to undertake bat emergence surveys at the Codicote Development, located on Codicote Road, Codicote, Hertfordshire, to establish the presence/likely absence of roosting bats within Building B1.

A Preliminary Ecological Appraisal (PEA)¹ and Preliminary Roost Assessment (PRA) undertaken by Greengage in January 2026 involved a detailed systematic assessment of the site's suitability to support bats.

The PRA included a daytime external and, where possible, internal inspection and identified high suitability for roosting bats within Building B1. Moderate suitability habitat for commuting and foraging bats was also noted, associated with the grassland, scrub, woodland edge, trees, hedgerow and boundary vegetation.

As such, in accordance with the BCT guidelines,² three dusk emergence surveys were carried out in May and June 2026, with an additional top-up survey undertaken in June 2026 to provide sufficient coverage of all potential roosting features.

The emergence surveys confirmed the presence of a common pipistrelle day roost used by at least two individuals within Building B1.

The proposal would result in the demolition of Building B1 and therefore the destruction of the confirmed roost. All bats are protected by UK legislation, and therefore a bat licence from Natural England will be required for these works.

Appropriate and proportionate mitigation and compensation measures have been recommended, which include the installation of alternative roosting features prior to demolition, ecological supervision of sensitive works, provision of permanent compensatory roosting features within the proposed development, retention of existing foraging and commuting habitat, compensatory planting, the provision of bat-sensitive lighting and wildlife-friendly habitat creation, which address the potential impacts of development upon bats.

Enhancement measures for bats have been recommended to increase the biodiversity value of the proposed development and include the provision of additional bat boxes and wildlife-friendly habitat creation. These enhancements include the provision of bat boxes to provide additional roosting opportunities and further foraging resources. Assuming these mitigation, compensation and enhancement measures are implemented, the development is considered capable of maintaining the favourable conservation status of common pipistrelle and other species, and delivering an increase in value for local bat populations.

APPENDIX A LEGISLATION AND POLICY

A.1 LEGISLATION

All UK bats and their roosts are protected by law. Since the first legislation was introduced in 1981, which gave strong legal protection to all bat species and their roosts in England, Scotland and Wales, additional legislation and amendments have been implemented throughout the UK.

Six of the 18 British species of bat have Biodiversity Action Plans (BAPs) assigned to them, which highlights the importance of specific habitats to species, details of the threats they face and proposes measures to aid in the reduction of population declines.

The Wildlife & Countryside Act 1981 (WCA)¹² was the first legislation to provide protection for all bats and their roosts in England, Scotland and Wales (earlier legislation gave protection to horseshoe bats only.)

All eighteen British bat species are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 and under Annex IV of the Habitats Directive¹³, 1992 as a European protected species. They are therefore fully protected under Section 9 of the 1981 Act and under Regulation 43 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019¹⁴, which transposes the Habitats Directive into UK law. Consequently, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

This legislation applies to all bat life stages.

The implications of the above in relation to the proposals are that where it is necessary during construction to remove trees, buildings or structures in which bats roost, it must first be determined that work is compulsory and if so, appropriate licenses must be obtained from Natural England. Additionally, although habitats that are important for bats are not legally protected, care should be taken when dealing with the modification or development of an area if aspects of it are deemed important to bats such as flight corridors and foraging areas.

A.2 PLANNING POLICY

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) 2025¹⁵ sets out the Government's planning policies for England, including how plans and decisions are expected to apply a presumption in favour of sustainable development. Chapter 15 of the NPPF focuses on conservation and enhancement of the natural environment, stating plans should 'identify and pursue opportunities for securing measurable net gains for biodiversity'.

It goes on to state: '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'. Alongside this,

it acknowledges that planning should be refused where irreplaceable habitats such as ancient woodland are lost.

Local

The site falls within the jurisdiction of North Hertfordshire District Council and is therefore subject to the North Hertfordshire Local Plan 2011–2031.¹⁶

Key policies of relevance include:

- Policy NE1: Landscape – seeks to conserve and enhance the natural and scenic qualities of the district’s landscapes.
- Policy NE4: Green Infrastructure – requires development to protect and enhance green infrastructure networks and ecological connectivity.
- Policy NE5: Biodiversity and Geological Sites – requires development to minimise impacts on biodiversity, protect designated sites and priority habitats/species, and deliver biodiversity net gain.

These policies support the protection of ecological features on site and require appropriate mitigation, enhancement and compensation measures where impacts cannot be avoided.

APPENDIX B SURVEYOR LOCATIONS AND BAT SURVEY RESULTS

553944 CODICOTE
BAT SURVEYOR
LOCATIONS

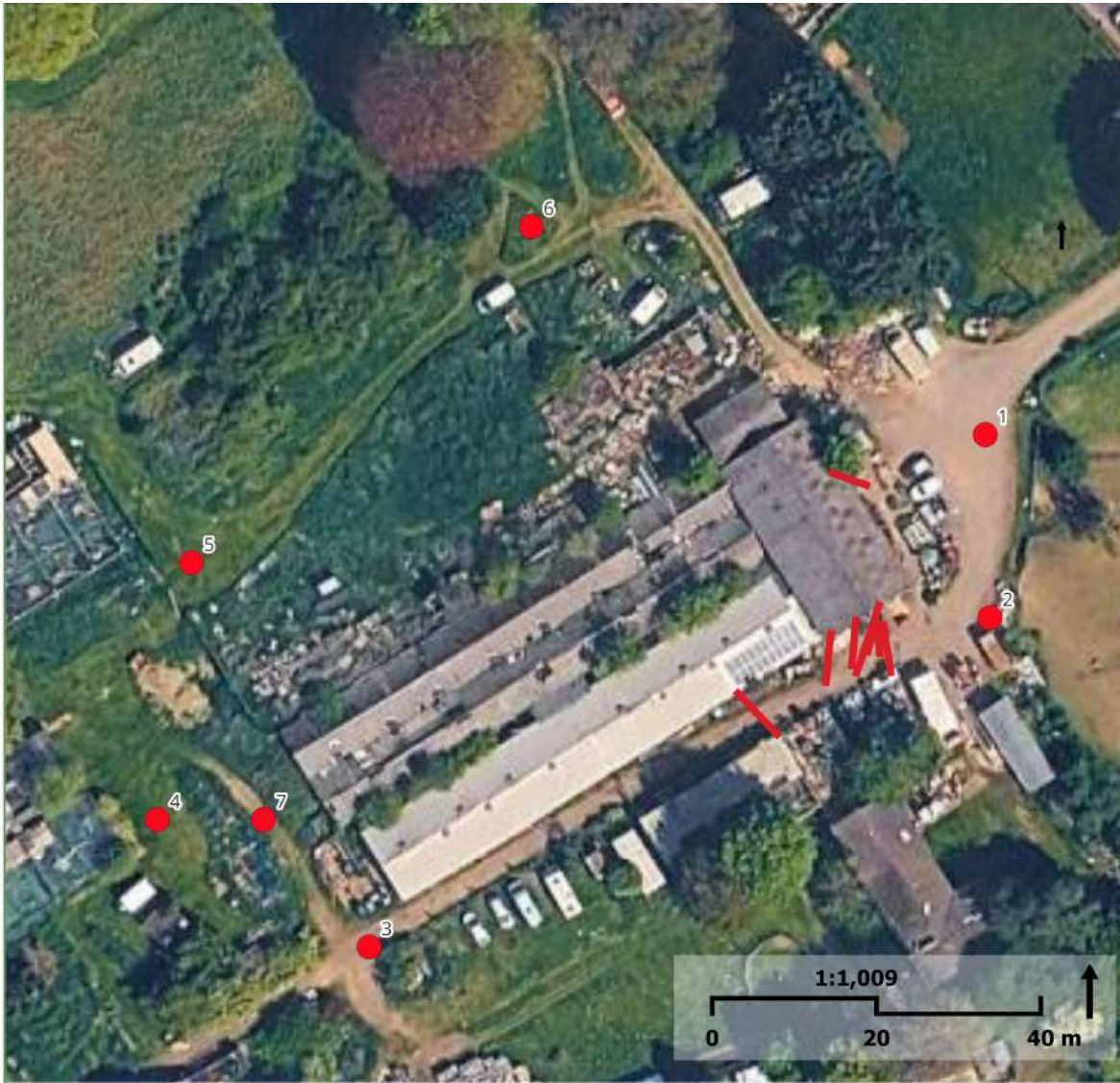
Legend
● Bat Surveyor Locations

Figure B: Surveyor Locations for bat surveys

Drawn by: MH
Date: 06/08/2026

Reviewed by: PW
Date: 07/08/2026

Project number: 553944
Sources: Google Satellite Imagery



553944 CODICOTE
BAT EMERGENCES
WITH SURVEYOR
LOCATIONS

- Legend
- Bat emergencies
 - Bat Surveyor Locations

Figure B.2: Surveyor Locations and bat emergencies for bat surveys

Drawn by: MH
Date: 07/08/2026

Reviewed by: PW
Date: 07/08/2026

Project number: 553944
Sources: Google Satellite Imagery



APPENDIX C AUXILIARY SURVEY DATA

Table C.1 Auxiliary survey data

Survey type	Date	Survey times	Sunset	Weather conditions
First emergence survey	5th May 2026	20:16-22:01	20:31	Start 13°C End 11°C Clear sky Wind Low
Second emergence survey	27th May 2026	20:49-22:34	21:04	Start 18°C End 15°C Overcast Wind Low
Top-up emergence survey	11th June 2026	21:02-22:47	21:17	Start 15°C End 15°C Overcast Wind moderate
Third emergence survey	17th June 2026	21:05-22:50	21:20	Start 20°C End 19°C Clear sky No wind

APPENDIX D STILLS FROM NVA AT THE DARKEST POINT OF SURVEY

Table D.1 Stills from NVAs during the darkest point of survey

Date	Survey Location reference	Still
05/05/2026	7 (unique to first survey)	
05/05/2026	5	

Date	Survey Location reference	Still
05/05/2026	2	
05/05/2026	1	
27/05/2026	5	

Date	Survey Location reference	Still
27/05/2026	2	
27/05/2026	4	
27/05/2026	1	
27/05/2026	3	Location 3 SD card was damaged and data lost.

Date	Survey Location reference	Still
27/05/2026	6	
17/06/2026	1	
17/06/2026	2	

Date	Survey Location reference	Still
17/06/2026	3	
17/06/2026	4	
17/06/2026	5	

Date	Survey Location reference	Still
17/06/2026	6	
11/06/2026	6	
11/06/2026	4	

REFERENCES

- ¹ Greengage Environmental Limited (2026). Codicote Development: Preliminary Ecological Appraisal. Final Version 02, July 2026. Report reference 553944eh20Jan26_FV02.
- ² Institution of Lighting Professionals and Bat Conservation Trust (2023), *Bats and Artificial Lighting in the UK; Bats and the Built Environment Series*.
- ³ Chartered Institute of Ecological and Environmental Management (CIEEM) (2019) *On the Lifespan of Ecological Reports & Surveys*
- ⁴ Chartered Institute of Ecological and Environmental Management (CIEEM) (2021) *Competency Framework /*
- ⁵ Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.1.* Chartered Institute of Ecology and Environmental Management, Ampfield.
- ⁶ Habibat 003 Bat Box. Available from: <https://www.habibat.co.uk/bat-boxes>
- ⁷ Habibat 3 Piece Clay Access Tiles. Available from: <https://www.habibat.co.uk/bat-boxes>
- ⁸ The Vincent Wildlife Trust (2006) *An analysis of the usage of bat boxes in England, Wales and Ireland*
- ⁹ Habibat Bat Box 003 - Blended Facing. Available from: [Integrated Bat Boxes | NHBS Practical Conservation Equipment](#)
- ¹⁰ Vivara Pro low profile woodstone bat box. Available from: [For Crevice Species | NHBS Practical Conservation Equipment](#)
- ¹¹ Arthian, (2026) *Illustrative Soft Landscape Proposals, Codicote Road, Welwyn.* Produced for Howarth Contractors Limited.
- ¹² HM Government, (1981); *Part I and Part II of Wildlife and Countryside Act (as amended)*. HMSO
- ¹³ CEC (Council of the European Communities), (1992); *Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora*
- ¹⁴ HM Government, (2019); *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.* Statutory Instrument 2019 no. 579
- ¹⁵ GOV.UK. (2025). *National Planning Policy Framework.* [online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- ¹⁶ North Hertfordshire District Council (2018) *North Hertfordshire Local Plan 2011–2031.* Letchworth Garden City: North Hertfordshire District Council.