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Ecological Appraisal

The Seam, Barnsley

December 2024

One Environments



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Summary

OS Ecology Ltd were commissioned by One Environments in 2024 to undertake an Ecological Impact Assessment of land at The Seam, Barnsley. The site is proposed for the construction of a new building and associated hard and soft landscaping.

Summary Table	
Habitat Assessment	The site comprises an area of carpark which has a small number of trees, grassland and woodland within it or at its peripheries. There is also an older stone built wall forming the part of the western site boundary with a building located partially within the site to the west.
Bats	Based on the survey work completed in 2024 and from previous survey work, the value to local bats is considered to be of no more than local significance with small numbers of common pipistrelle bats known to use the site as a day roost and the areas of woodland and trees providing some opportunities for foraging and commuting. Surveys in 2024 recorded no roosting bats on site, however a common pipistrelle day roost was recorded previously.
Birds	The site provides very limited opportunities for birds with the areas of hardstanding providing very limited opportunities, but with the trees and areas of woodland providing suitable locations for locally common bird species such as wood pigeon and corvids.
Badger	No evidence of badgers was recorded on site. The site is of limited value to the species with the main areas of the site comprising hard standing with limited foraging areas, with those that are present considered to be too small to support a local population given the urban nature of the surrounding area. Overall the value of the site to badger is considered to be low.
Great Crested Newt	The value of the site for great crested newts is considered to be low with the habitats present, considered to be largely sub-optimal for the species and the site severed from the nearest pond, which appears to be a SuDS basin, by a main road to the north. Overall the value of the site to the species is considered to be low.
Other Protected Species	Due to the nature of the site there is the potential for species including common toad and hedgehog to be present, however as the site largely comprises hard standing, the value of the site to these species is considered to be low. Reptiles may be present along the rail corridor, however the habitats on site are considered to be sub-optimal across much of the site comprising hard standing.
Designated Sites	The site is not within any impact risk zones for locally designated sites. The results of a data search for the site are awaited.

Impact Assessment	• Causing disturbance to roosting bats within the adjacent wall. • The loss of small areas of habitat of no more than local ecological value including trees and grassland. • Causing harm to nesting birds should they be present at the time of vegetation clearance. • Causing damage to retained areas of woodland trees and grassland on site. • Causing harm to mammals, reptiles and amphibians which may be on site during construction. • No impacts on designated sites are predicted.
Recommendations	The following avoidance, mitigation and/or compensation measures are recommended: • External lighting that may affect the site's suitability for bats will be avoided. If required this will be limited to low level, avoiding use of high intensity security lighting and away from sensitive areas. • Works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and nests are confirmed to be absent. • Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°. • Retained trees will be protected from damage in line with the recommendations in BS5837:2012. • Works on site will take place under a Construction environmental Management Plan • If there are to be direct or significant indirect impacts (such as lighting) to the bat roost within the site, then a licence from Natural England may be required. The conditions of which will be followed throughout the development process. • Landscape planting shall include berry and fruit bearing species to provide increased foraging opportunities in the local area. • Integrated swift boxes and bat boxes will be incorporated into any new structures on site¹. • The site will provide a Net Gain in Biodiversity, the details of which are provided in a separate report.

¹ Swift boxes have been shown to have good occupancy rates by a range of urban species of conservation concern including swifts, house sparrows, starlings and tits (<https://cieem.net/swift-bricks-the-universal-nest-brick-by-dick-newell/>)

1. Introduction

Site Location

- 1.1 The site is located in the centre of Barnsley at an approximate central grid reference of SE346067. The site location is illustrated within figure 1 in the appendices.

Site Description

- 1.2 The site is 16,604m² in size² and comprises an existing area of car parking with associated greenspace including grassland and woodland.

Objectives of the Study

- 1.3 The objectives of this report are:
- To identify and describe any potential ecological receptors that may be present on site or within an identified zone of influence.
 - To identify and assess whether proposals may impact on the identified receptors.
 - To identify potential mitigation, compensation or enhancement measures if required.
 - To identify and detail further surveys if required.

Development Proposals

- 1.4 The development will comprise alterations to existing car park and provision of new public open space and landscaping.

² Area measurement from One-Environments

2. Methodology

Scope of Study

- 2.1 The site was surveyed to identify whether the following were present for legislative and planning purposes:
- Habitats of Conservation Value
 - Priority Habitats
 - Protected and Priority Species
- 2.2 A summary of relevant legislation is provided within Appendix 2.
- 2.3 The ecological characteristics of the site were reviewed to identify the scope of the assessment, with the zone of influence determined through professional judgement.
- 2.4 The survey area comprised the “site” defined within figure 2 (Appendix 4). The desktop study included a data search covering the site and a 2km buffer zone while habitats within the local area were reviewed via aerial imagery.
- 2.5 Access permitting, all potential bat roosting sites within the survey area were assessed. Guidance regarding the assessment of the suitability of sites for use by bats is provided within Appendix 1.

Planning Policy

- 2.6 Planning policy relevant to this site, specifically the National Planning Policy Framework and the Barnsley Local Plan, can be found within Appendix 2.

Desk Study

- 2.7 Desk study was undertaken to assess the nature of the surrounding habitats and included:
- Assessment of aerial imagery and Ordnance Survey mapping.
 - A search of the MAGIC website³ for statutorily designated sites for nature conservation, habitat listed within the Priority Habitat Inventory or the Ancient Woodland Inventory and European protected species licensing records within 2km of the survey area.
 - A data search request submitted to the Local Record Centre.

³ Multi Agency Geographic Information for the Countryside (www.magic.gov.uk)

Field Survey

Habitats/Protected Species

- 2.8 The site was subject to a walk over, during which habitats were assessed in line with the habitat classifications detailed within the UK Habitat Classification User Manual⁴. Definitions of broad habitat types and commonly recorded habitat types are provided within the appendices.
- 2.9 Mandatory Secondary Codes within the UK Habitat Classification have been used as defined within the User Manual.
- 2.10 During the survey the site was checked for evidence of protected species and habitats were assessed for their potential to support such species.
- 2.11 As per the Guidelines provided by the Bat Conservation Trust⁵, an initial assessment of the suitability of any trees on site for use by roosting bats was undertaken with tree suitability categorised as follows.

Table 2.1: Preliminary Assessment of Tree Suitability for Roosting Bats	
Suitability	Description
NONE	Either no PRFs in the tree or highly unlikely to be any
FAR	Further assessment required to establish if PRFs are present in the tree
PRF	A tree with at least one PRF present

- 2.12 The potential suitability of any structures within the site for use by roosting bats was also assessed as per the Bat Conservation Trust Guidelines as was the suitability of habitats as potential flightpaths or foraging habitat. Suitability was categorised as 'none', 'negligible', 'low', 'moderate' or 'high' as per Table 4.1 of the guidelines, reproduced within the appendices of this report.
- 2.13 Survey was undertaken by James Streets CEcol MCIEEM, an experienced surveyor who holds protected species licences for a range of species including bats and great crested newts.
- 2.14 The following equipment was utilised during survey:
- Samsung Tablet
 - Garmin etrex 10 GPS
- 2.15 The survey was undertaken on the 24th July 2024 in the following weather conditions:

⁴ UKHab Ltd (2023) UK Habitat Classification Version 2.0 (at <http://www.ukhab.org>)

⁵ Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) The Bat Conservation Trust, London

Table 2.2: Survey Conditions				
Date	Temperature	Cloud Cover	Precipitation	Wind Conditions
24 th July 2024	21°C	70%	Dry	F3

Limitations to Survey

2.16 There were considered to be no major constraints to survey.

Bat Activity Survey

2.17 Survey effort has been based on the that provided by the Bat Conservation Trust Good Practice Survey Guidelines⁶.

2.18 Structures and trees within the site and adjacent to the site, were inspected⁷, where access was available, for potential roosting features (PRFs) and to record any field signs, including bats, if present⁸. The results of these initial assessments and surveys are provided in a separate report⁹.

2.19 Assessment follows the Bat Conservation Trust Guidelines¹⁰, which classifies the suitability (negligible, low, moderate or high) of the potential roosting, foraging and commuting habitats within the site. Full details of the classifications are provided within the table in Appendix 1.

2.20 Survey was undertaken by Alex Douglas, Ruby Wharf and Donna Mear.

2.21 The following equipment was utilised during survey:

- Clulite CB2 high powered torch.
- 8x30 binoculars.
- Digital camera.

2.22 The survey was undertaken on the 10th August 2024 in the following weather conditions:

Table 2.3: Daytime Survey Conditions				
Date	Temperature	Cloud Cover	Precipitation	Wind Conditions
10 th August 2024	19-17°C	10%	Dry	F2

⁶ Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). Bat Conservation Trust

⁷ It should be noted that assessment relates entirely on the structure or tree's suitability to support bats and or other protected species. Assessment must in no way be taken as an assessment of the structure's integrity or safety.

⁸ If bats are recorded during appropriate measures are undertaken to limit any potential disturbance

⁹ Preliminary Ecological Appraisal Phase 1, The SEAM; BDP, June 2022

¹⁰ Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). Bat Conservation Trust

Assessment Methodology

- 2.23 Guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) is utilised to provide habitat valuations.
- 2.24 The level of value of specific ecological receptors is assigned using a geographic frame of reference. For, example international value being most important (SACs, SPAs and pSPAs), then national (SSSIs), regional, county (LWS), district (LNR), local and lastly, within the immediate zone of influence of the site only (low).
- 2.25 In terms of species, for example breeding birds, should the population within the site constitute greater than 1% of the geographic population, it would be considered significant at that level. In addition, presence of designated sites, scarce species and or quality¹¹/diversity of habitats are used to guide that valuation.
- 2.26 Assessment methods for bats have been undertaken with reference to Wray et al. (2007)¹², which correlates with the geographic frame of reference. Within which they define the relative rarity of each species based on the known distribution¹³ at the time and the value of the roost type, assuming that roosts such as feeding perches are of lower value that maternity roosts or sites that have a high level of fidelity.
- 2.27 Examples of ecological receptors at various levels of value are provided within Appendix 3.

¹¹ Quality can be subjective and vary in different geographic areas. Reasoned professional judgement is therefore used to inform the assessment.

¹² Wray et al (2007) Valuing Bats in Ecological Impact Assessment. In Practice. Based on a presentation at the Mammal Society – Specific Issues with Bats

¹³ It should be noted that there are regular changes to our understanding of distribution as further studies are undertaken.

3. Results

Desk Study

General Land Use

- 3.1 A review of aerial imagery and Ordnance Survey mapping highlighted that the general land use in the surrounding area is dominated by urban development with a rail line to the east and north of the site.

Designated Sites

- 3.2 A search of the Multi Agency Geographic Information for the Countryside Website¹⁴ indicated that the following designated sites for nature conservation lie within 2km of the site.

Table 3.1: Designated Sites Within 2km			
Designation	Site Name	Reason for Designation	Distance from Survey Area (closest point)
Local Nature Reserve	Dearn valley Park	An area of woodland and wetland	1.5km east

SSSI Impact Risk Zone (IRZ)

- 3.3 The site lies within an identified SSSI Impact Risk Zone relating to designated sites in the wider area, however development of the nature proposed does not meet the identified impact risk triggers.

Priority Habitats

- 3.4 A search of the MAGIC website identified areas of habitat within 2km of the site identified within the Priority Habitat Inventory as the following habitat types:

- Deciduous woodland

Ancient Woodland

- 3.5 The MAGIC website identified no areas of woodland listed within the Ancient Woodland Inventory within 2km of the site.

¹⁴ Multi Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk (Accessed August 2024)

European Protected Species Licensing

3.6 The MAGIC website identified the following granted Natural England European Protected Species licenses within 2km of the site¹⁵.

Table 3.2: Granted Natural England European Protected Species Licences within 2km			
Licence Reference	Species	Licensed Work	Licence Period
EPSM2013-6477	Common pipistrelle	Destruction of a resting place	2013-2014
2019-41299-EPS-MIT	Common pipistrelle	Destruction of a resting place	2019-2029

Data Search

Local Records Centre

3.7 The following table summarises the data search results from Sheffield Local Records Centre. Records were provided for all protected and notable species within 2km of the site, of which key species are listed. The full data search can be provided on request.

Table 3.3: Records from LRC Data Search			
Taxon	Species	No. of Records within Search Area	Records of Particular Note
Amphibians	Common Frog	12	-
	Common Toad	12	-
	Great Crested Newt	10	
	Smooth Newt	12	-
Mammals (excluding bats)	Brown Hare	1	-
	Eurasian Badger	4	-
	Eurasian Otter	5	-
	European Water Vole	3	-
	Harvest Mouse	1	-
Bats	Brown Long-eared Bat	1	-
	Common Pipistrelle	56	-
	Daubenton's Bat	55	-
	Leisler's Bat	2	-
	Myotis Bat species	2	
	Noctule Bat	21	
	Nyctalus Bat species	1	
	Pipistrelle	43	
	Pipistrelle Bat species	1	
	Soprano Pipistrelle	11	

¹⁵ The dataset is noted as having been last updated in January 2022.

Table 3.3: Records from LRC Data Search			
Taxon	Species	No. of Records within Search Area	Records of Particular Note
Butterflies	Dingy Skipper	4	-
	Small Heath	7	-
	Wall	11	-
Birds	A total of 3025 records from 101 species was provided by the local records centre – full details are available on request.		
Reptiles	Common Lizard	2	-

3.8 The records centre also provided information regarding the following Local Wildlife Sites (LWS) which lie within 2km of the site:

- Cliff Wood LWS and Local Nature Reserve
- Old mill Lane LWS
- Barnsley Canal at Wilthorpe LWS

Field Survey

Habitats

Table 3.4: Habitat Descriptions

Overview of habitats

The site comprises an area of carpark which has a small number of trees, grassland and woodland within it or at its peripheries. There is also an older stone built wall forming the part of the western site boundary with a building located partially within the site to the west. A small area of woodland is present to the north of the site on a bank.

The habitats within the site are illustrated within Figure 3.

Habitat Description			Habitat Category
Grassland			<i>Primary Code</i>
The areas of grassland are species poor with some areas managed for amenity purposes and others left unmanaged around the periphery of the parking area.			g3c – Other Neutral Grassland
Species/m ² : <10	Sward Height: 5cm for mown areas 20-40cm for unmanaged areas	Bare ground (%): <1%	<i>Secondary Code</i> 108 - Mown
Species List			
Species recorded within areas to the east of the site comprises the following species:			
Area G1			
Nettle <i>Urtica dioica</i> , white campion <i>Silene alba</i> , Bracken <i>Pteridium aquilinum</i> , Sweet Vernal Grass <i>Anthoxanthum odoratum</i> , cocks-foot <i>Dactylis glomerata</i> , False Oat Grass <i>Arrhenatherum elatius</i> , Ragwort <i>Senecio jacobaea</i> , perforate St John's Wort <i>Hypericum perforatum</i> , Mugwort <i>Artemisia vulgaris</i> , Spear Thistle <i>Cirsium vulgare</i> , Common Mallow <i>Malva sylvestris</i> , Broadleaved Willowherb <i>Epilobium montanum</i> .			
Area G2			
Herb Robert <i>Geranium robertianum</i> , Perennial Ryegrass <i>Lolium perenne subsp. perenne</i> , Ribwort Plantain <i>Plantago lanceolata</i> , Black Medick <i>Medicago lupulina</i> , Sweet Vernal Grass <i>Anthoxanthum odoratum</i> , Yorkshire Fog <i>Holcus lanatus</i> , Daisy <i>Belis perennis</i> , Common Hogweed <i>Heracleum sphondylium</i> , Chickweed <i>Stellaria media agg.</i> , Curled Dock <i>Rumex crispus</i> , Dandelion <i>Taraxacum officinale</i> , Meadow Grass <i>Poa sp.</i> , Spear Thistle <i>Cirsium vulgare</i> , Mugwort <i>Artemisia vulgaris</i> , Cocksfoot <i>Dactylis glomerata</i> , White Clover <i>Trifolium repens</i> .			
Area G3			
Broadleaved Dock <i>Rumex obtusifolius</i> , Yarrow <i>Achillea millefolium</i> , Cranesbill <i>Geranium sp.</i> , Greater Plantain <i>Plantago major</i> , Autumn Hawkbit <i>Leontodon autumnalis</i> , Lime <i>Tilia sp.</i> , Yorkshire Fog <i>Holcus lanatus</i> , Perennial Ryegrass <i>Lolium perenne subsp. perenne</i> , Daisy <i>Bellis perennis</i> , Nettle			

Habitat Description		Habitat Category
<i>Urtica dioica</i> , Ribwort Plantain <i>Plantago lanceolata</i> , Cocksfoot <i>Dactylis glomerata</i> , Cow Parsley <i>Anthriscus sylvestris</i> .		
Schedule 9/Undesirable species present (Y/N): No	Further Survey Needed (Y/N): No	
		
Area G3	Areas G1	

Woodland There is a small area of woodland to the west of the site and a small copse of trees to the north. These areas of woodland are located on the periphery of the site. In addition there are a number of urban trees to the north of the site within the parking areas, which are Italian alder (<i>Alnus cordata</i>).		Primary Code W1g – other broadleaved woodland
Number of Age Classes present: 1-2	Veteran Trees Present (Y/N): No	Secondary Code
Deadwood Present (Y/N): No	Evidence of Disturbance ¹⁶ (Y/N): Yes	
Species List The species list is provided Sycamore <i>Acer pseudoplatanus</i> , Hazel <i>Corylus avellana</i> , Mugwort <i>Artemesia vulgaris</i> , Nettle <i>Urtica dioica</i> , Bramble <i>Rubus fruticosus</i> agg., Dandelion <i>Taraxacum officinale</i> , Ivy <i>Hedera helix</i> , Lesser Burdock <i>Arctium minus</i> , Elder <i>Sambucus nigra</i> , Ash <i>Fraxinus excelsior</i> , Bindweed <i>Calystegia</i> sp..		N/A
Schedule 9/Undesirable species present (Y/N):	Further Survey Needed (Y/N): No	

¹⁶ e.g. significant nutrient enrichment, soil compaction from trampling, machinery or animal poaching, litter



Sealed surfaces and built development

The majority of the site comprises sealed surface and there are areas of building within the western half of the site which will be retained as part of the development.

Primary Code

u1b – Developed
Land, Sealed
Surface

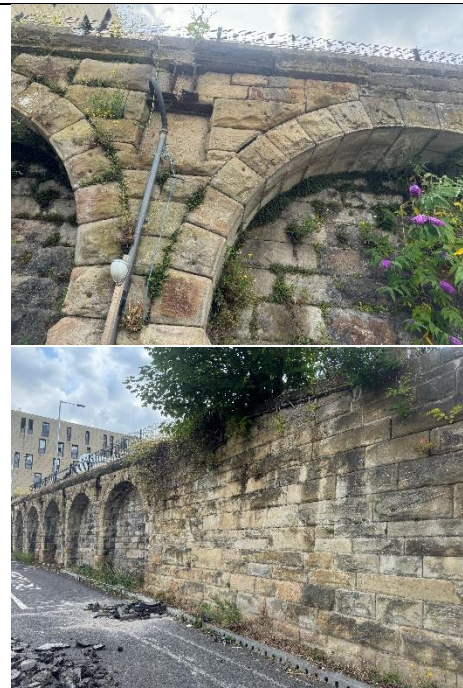


Target Notes

Table 3.5: Target Notes

Target Note 1

An area of stone wall where previous survey work has recorded a common pipistrelle day roost¹⁷. The stone work is in relatively good condition in most areas however small numbers of nesting birds were recorded within gaps in the mortar.



Protected Species

Bats

- 3.9 Trees within the site were assessed as per the guidelines provided by the Bat Conservation Trust¹⁸. All of the trees on site and to be impacted by the works were identified as having no suitability for use by roosting bats.
- 3.10 The wall is considered to have the potential to support roosting bats, with previous survey work completed in 2023 confirming the presence of a common pipistrelle day roost¹⁹.
- 3.11 Further survey work of the wall completed in 2024 recorded no bats emerging from the wall, suggesting that the day roost is used infrequently. Common pipistrelle bats were recorded within the wider area however. Details of the survey work are provided in the appendices.

¹⁷ BDP, Phase 1, The SEAM, June 2022

¹⁸ Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) The Bat Conservation Trust, London

¹⁹ BDP, Phase 1, The SEAM, June 2022

Birds

- 3.12 The site provides some limited opportunities for birds, however these are limited to nesting locations within the trees and woodland around the periphery of the site within the wall present to the west of the site. Ground nesting species are likely to be absent. During survey only jackdaw, wood pigeon and house sparrow were recorded.

Great Crested Newts

- 3.13 There is a single pond approximately 150m to the north of the site, however it is severed from the site by a main road immediately north of the site and a rail line although the rail corridor may provide some connectivity. The pond appears to have an outfall into it and is therefore likely to be a SuDs pond of limited suitability.

Badger

- 3.14 No evidence of badger was recorded on site with the habitats present considered to be too small and disturbed for the species given the urban environment.

Other protected species

- 3.15 No other protected species were recorded on site. The site has the potential to support species including hedgehog, however given the dominance of hardstanding on site the value of the site to the species is considered to be low.
- 3.16 Given the small areas of habitat present with limited larval food species the value of the site to invertebrates is considered likely to be low, similarly given the sealed nature of the site and the short grassland present the value of the site to reptiles is considered to be low.
- 3.17 No evidence of reptiles was recorded on site, and the habitats present are considered suboptimal for the species.

4. Site Assessment

Assessment of Survey Findings

Habitats

- 4.1 Habitats on site are considered to be of no more than local value, being dominated by hard standing but with small numbers of trees and woodland within the site which are rare within the local area which is dominated by urban development.

Bats

- 4.2 The site was the subject of additional bat surveys in 2024, which recorded no additional evidence of bat roosts from within the wall on site. Based on this survey work and on previous survey work, the value to local bats is considered to be of no more than local significance with small numbers of common pipistrelle bats known to use the site as a day roost and the areas of woodland and trees providing some opportunities for foraging and commuting.

Birds

- 4.3 The site provides very limited opportunities for birds with the areas of hardstanding providing very limited opportunities, but with the trees, retaining wall and areas of woodland providing suitable locations for locally common bird species such as wood pigeon and corvids.

Badger

- 4.4 No evidence of badgers was recorded on site. The site is of limited value to the species with the main areas of the site comprising hard standing with limited foraging areas, with those that are present considered to be too small to support a local population given the urban nature of the surrounding area. Overall the value of the site to badger is considered to be low.

Great Crested Newts

- 4.5 The value of the site for great crested newts is considered to be low with the habitats present, considered to be largely sub-optimal for the species. In addition the site is severed from the nearest pond, which appears to be a SuDS basin, by a main road to the north. Overall the value of the site to the species is considered to be low.

Other Protected Species

- 4.6 Due to the nature of the site there is the potential for species including common toad and hedgehog to be present, however as the site largely comprises hard standing, the value of the site to these species is considered to be low.

- 4.7 Reptiles may be present along the rail corridor, however there are only 2 records of common lizard within 2km of the site and as such the value of the site is considered to be limited.

5. Impact Assessment

- 5.1 The following impact assessment is based on the understanding that the Client wishes to construct a new building on site with associated landscaping and hardstanding.
- 5.2 As a result of the assessment completed and the nature of the proposed works, the likely impacts, without appropriate avoidance measures, mitigation and/or compensation scheme, are anticipated to be:
- Causing disturbance to roosting bats within the adjacent wall.
 - The loss of small areas of habitat of no more than local ecological value including trees and grassland.
 - Causing harm to nesting birds should they be present at the time of vegetation clearance.
 - Causing damage to retained areas of woodland trees and grassland on site.
 - Causing harm to mammals, reptiles and amphibians which may be on site during construction.
 - No impacts on designated sites are predicted.

6. Recommendations

Further Survey

6.1 Based on the nature of the site, no additional survey work is proposed.

Avoidance Measures

6.2 The following measures should be incorporated into the design of the scheme to avoid impacts on wildlife:

- External lighting that may affect the site's suitability for bats will be avoided. If required this will be limited to low level, avoiding use of high intensity security lighting and away from sensitive areas.
- Works will not be undertaken during the nesting bird season (March to August inclusive) unless the site is checked by an appropriately experienced ecologist and nests are confirmed to be absent.
- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- Retained trees will be protected from damage in line with the recommendations in BS5837:2012.

Mitigation Strategy

6.3 The following is recommended:

- Works on site will take place under a Construction environmental Management Plan to mitigate for the impacts to small mammals, amphibians and reptiles.
- If there are to be direct or significant indirect impacts (such as lighting) to the bat roost within the site, then a licence from Natural England may be required. The conditions of which will be followed throughout the development process.

Compensation Scheme

6.4 The following is recommended:

- Landscape planting shall include berry and fruit bearing species to provide increased foraging opportunities in the local area.

- Integrated swift boxes and bat boxes will be incorporated into any new structures on site²⁰ and three bird boxes suitable, for house sparrows, to be install in trees on site as shown within the plans in the appendices.
- The site will provide a Net Gain in Biodiversity, the details of which are provided in a separate report.

²⁰ Swift boxes have been shown to have good occupancy rates by a range of urban species of conservation concern including swifts, house sparrows, starlings and tits (<https://cieem.net/swift-bricks-the-universal-nest-brick-by-dick-newell/>)

Appendix 1 – Bat Suitability and Survey Effort

Classifications of suitability of structures and habitats within the site are based on those provided within the Bat Conservation Trust Good Practice Survey Guidelines²¹, as detailed within the extract below, Table 4.1 reproduced from page 44 of the guidelines.

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

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

^a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

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

^c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2016 and Jansen *et al.*, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

²¹ Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) The Bat Conservation Trust, London

The classification of the suitability of structures and habitats relates to the level of further survey likely to be recommended. The following recommendations are extracted from the Bat Conservation Trust Guidelines²².

Recommended Survey Effort and Timing for Presence/Absence Surveys – To Give Confidence in a Negative Result for Structures			
(also recommended for trees where other methods such as aerial inspection of potential roost features is not possible, however unlikely to give confidence in a negative result due to dynamic nature of tree roosts)			
(Tables 7.1-7.2 in the BCT Guidelines)			
	Low roost suitability or PRF-I	Moderate roost suitability	High roost suitability or PRF-M
Survey Effort	One dusk emergence survey (structures). No further survey required (trees)	Two separate dusk emergence survey visits.	Three separate dusk emergence survey visits.
Timings	May-August (structures) No further survey required (trees)	May to September, with at least one survey between May and August. Multiple survey visits should be spaced at last three weeks apart, preferably more.	May to September with at least two surveys between May and August. Multiple survey visits should be spaced at least three weeks apart, preferably more.
If bats are recorded	If the presence of a bat roost(s) is established, the next stage of the process is to carry out roost characterisation surveys. Additional surveys may be required to obtain sufficient information regarding the nature of the roost to carry out an impact assessment and design an appropriate mitigation, enhancement and mitigation strategy.		
PRF-I – A potential roost feature within a tree suitable for use by individual bats or very small numbers of bats. PRF-M – A potential roost feature within a tree suitable for multiple bats that may therefore be used by a maternity colony.			

Minimum Recommended Number of Repeats for Activity Surveys (Habitats)			
(Tables 8.3 in the BCT Guidelines)			
Survey Type	Low suitability habitat for bats	Moderate suitability habitat for bats	High suitability habitat for bats
Nighttime Bat Walkover Survey	One survey visit per season (spring-April/May, summer – June/July/August, autumn – September/October). Further surveys may be required if these visits or the results of static detector surveys, reveal activity of interest that requires more observation on site.		
Automated/Static Bat Detector Surveys	Data to be collected for a minimum of five consecutive nights per season in appropriate (or the best available) weather conditions for bats.	Data to be collected for a minimum of five consecutive nights per month (April to October) in appropriate (or the best available) weather conditions for bats.	
Note: Multiple survey visits should be separated by at least three weeks, preferably longer, to observe temporal changes in activity.			

²² Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) The Bat Conservation Trust, London

Appendix 2 – Policy and Legislation

Planning Policy

National Planning Policy Framework (NPPF)²³

The revised National Planning Policy Framework (December 2024) sets out the government's planning policies for England and how these are expected to be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. Planning law requires that applications for planning permission be determined in accordance with the development plan. The key paragraphs from the relating to the natural environment are detailed below.

Ecologically Relevant Paragraphs of the NPPF (December 2024)	
Paragraph	Statement
8	Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives): a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure; b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and c) an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.
187	Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

²³ National Planning Policy Framework December 2024

<https://assets.publishing.service.gov.uk/media/675abd214cbda57cacd3476e/NPPF-December-2024.pdf>

Ecologically Relevant Paragraphs of the NPPF (December 2024)	
Paragraph	Statement
	c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate
188	Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.
192	To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.
193	When determining planning applications, local planning authorities should apply the following principles: a) 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; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

Ecologically Relevant Paragraphs of the NPPF (December 2024)	
Paragraph	Statement
	c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.
194	The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.
195	The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

Local Planning Policy

The following table details the ecologically relevant policies of the local plan relevant to this site.

Ecologically Relevant Policies of the Barnsley Local Plan ²⁴	
Policy No.	Policy
G11	Green Infrastructure We will protect, maintain, enhance and create an integrated network of connected and multi functional Green Infrastructure assets that: • Provides attractive environments where people want to live, work, learn, play, visit and invest; • Meets the environmental, social and economic needs of communities across the borough and the wider City Regions; • Enhances the quality of life for present and future residents and visitors; • Helps to meet the challenge of climate change; • Enhances biodiversity and landscape character; • Improves opportunities for recreation and tourism; Respects local distinctiveness and historical and cultural heritage; • Maximises potential economic and social benefits; and • Secures and improves linkages between green and blue spaces; At a strategic level Barnsley's Green Infrastructure network includes the following corridors which are shown on the Green Infrastructure Diagram: • River Dearne Valley Corridor. • River Dove Valley Corridor. • River Don Valley Corridor.

²⁴ Barnsley Local Plan, Barnsley Metropolitan Borough Council, Adopted January 2019

Ecologically Relevant Policies of the Barnsley Local Plan ²⁴	
Policy No.	Policy
	• Dearne Valley Green Heart Corridor. • Historic Landscape Corridor. The network of Green Infrastructure will be secured by protecting open space, creating new open spaces as part of new development, and by using developer contributions to create and improve Green Infrastructure. We have produced a Green Infrastructure Strategy for Barnsley which is informed by the Leeds City Region and South Yorkshire Green Infrastructure Strategies.
BIO1	Biodiversity and Geodiversity Development will be expected to conserve and enhance the biodiversity and geological features of the borough by: • Protecting and improving habitats, species, sites of ecological value and sites of geological value with particular regard to designated wildlife and geological sites of international, national and local significance, ancient woodland and species and habitats of principal importance identified via Section 41 of the Natural Environment & Rural Communities Act 2006 (for list of the species and habitats of principal importance) and in the Barnsley Biodiversity Action Plan. • Maximising biodiversity and geodiversity opportunities in and around new developments. • Conserving and enhancing the form, local character and distinctiveness of the boroughs natural assets such as the river corridors of the Don, the Dearne and Dove as natural floodplains and important strategic wildlife corridors. • Proposals will be expected to have followed the national mitigation hierarchy (avoid, mitigate, compensate) which is used to evaluate the impacts of a development on biodiversity interest. • Protecting ancient and veteran trees where identified. • Encouraging provision of biodiversity enhancements. Development which may harm a biodiversity or geological feature or habitat, including ancient woodland and aged or veteran trees found outside ancient woodland, will not be permitted unless effective mitigation and/or compensatory measures can be ensured. Development which adversely effects a European Site will not be permitted unless there is no alternative option and there are imperative reasons of overriding public interest (IROPI).

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation²⁵ (England only)

This Circular provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England.

Part IV - Conservation of Species protected by Law details that the presence of a protected species is a material consideration when considering a development proposal that may result in harm to the species or its habitat and that planning authorities must have regard to species protected under the Habitat Regulations.

²⁵ODPM Circular 06/2005 Office of the Deputy Prime Minister Eland House, Bressenden Place, London SW1E 5DU
Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System

It goes on to say that: *it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted.*

Natural Environment and Rural Communities (NERC) Act 2006^{26 27}

Section 40 – To conserve biodiversity

This section puts a duty on public authorities to conserve biodiversity when undertaking its duties and functions.

Section 41 – Biodiversity list and Action

Requires the Secretary of State to *publish a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. They must also take such steps as appear to the Secretary of State to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section or promote the taking by others of such steps.*

The 2007 lists were superseded by the UK Post-2010 Biodiversity Framework.

UK Priority Habitats (excl. marine habitats)²⁸	
UK BAP Broad Habitat	UK BAP Priority Habitat
Rivers and Streams	• Rivers
Standing Open Waters and Canals	• Oligotrophic and Dystrophic Lakes • Eutrophic Standing Waters • Ponds • Aquifer Fed Naturally Fluctuating Water Bodies • Mesotrophic Lakes
Arable and Horticultural	• Arable Field Margins
Boundary and Linear Features	• Hedgerows
Broadleaved, Mixed and Yew Woodland	• Traditional Orchards • Upland Mixed Ashwoods • Wood-Pasture and Parkland • Wet Woodland • Upland Oakwood • Lowland Mixed Deciduous Woodland • Lowland Beech and Yew Woodland • Upland Birchwoods
Coniferous Woodland	• Native Pine Woodlands
Acid Grassland	• Lowland Dry Acid Grassland
Calcareous Grassland	• Lowland Calcareous Grassland • Upland Calcareous Grassland

²⁶ <https://www.legislation.gov.uk/ukpga/2006/16/section/40>

²⁷ <https://www.legislation.gov.uk/ukpga/2006/16/section/41>

²⁸ <http://jncc.defra.gov.uk/page-5706>

UK Priority Habitats (excl. marine habitats)²⁸	
UK BAP Broad Habitat	UK BAP Priority Habitat
Neutral Grassland	• Lowland Meadows • Upland Hay Meadows
Improved Grassland	• Coastal and Floodplain Grazing Marsh
Dwarf Shrub Heath	• Lowland Heathland • Upland Heathland
Fen, Marsh and Swamp	• Upland Flushes, Fens and Swamps • Purple Moor Grass and Rush Pastures • Lowland Fens • Reedbeds
Bogs	• Lowland Raised Bog • Blanket Bog
Montane Habitats	• Mountain Heaths and Willow Scrub
Inland Rock	• Inland Rock Outcrop and Scree Habitats • Calaminarian Grasslands • Open Mosaic Habitats on Previously Developed Land • Limestone Pavements
Supralittoral Rock	• Maritime Cliff and Slopes
Supralittoral Sediment	• Coastal Vegetated Shingle • Machair • Coastal Sand Dunes

Protected Species Legislation

European Protected Species

European Protected Species (EPS) are species of plants and animals (other than birds) protected by law throughout the European Union. They are listed in Annexes II and IV of the European Habitats Directive and receive full protection under The Conservation of Species and Habitats Regulations 2017 (as amended). This make it an offence to:

- deliberately capture, injure or kill any European Protected Species (EPS)
- deliberately disturb any European Protected Species (EPS);
- damage or destroy a breeding site or place of rest or shelter used by any European Protected Species (EPS).

The Wildlife and Countryside Act 1981 (as amended) adds further protection by making it an offence to intentionally or recklessly²⁹ disturb an EPS while it is occupying a structure or place which it uses for shelter or protection, or to obstruct access to any structure or place the species uses for shelter or protection.

²⁹ Under the Countryside and Rights of Way Act 2000 (CROW Act) extended the protection to cover reckless damage or disturbance

European Protected Species Relevant to the UK			
Animals		Plants	
All bat species	Great Crested Newt	Yellow marsh saxifrage	Creeping marshwort
Large blue butterfly	Otter	Shore dock	Slender naiad
Wild cat	Smooth snake	Killarney fern	Fen Orchid
Dolphins, porpoises and whales (all species)	Sturgeon fish	Early gentian	Floating-leaved water plantain
Dormouse	Natterjack toad	Lady's slipper	
Sand lizard	Pool Frog		
Fisher's Estuarine Moth	Snail, Lesser Whirlpool Ram's-horn		
Marine turtles			

Other Protected Species

Other Protected Species Legislation		
Species	Legislation	Level of Protection
Birds	Wildlife and Countryside Act 1981 (as amended)	Under the Wildlife and Countryside Act (1981) it is an offence if any person: - intentionally kills, injures or takes any wild bird - intentionally takes, damages or destroys the nest of any wild bird whilst that nest is in use of being built; - intentionally takes, damages or destroys eggs of any wild bird; Wild birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are protected from: - intentional or reckless disturbance whilst it is building a nest or is in, on or near a nest containing eggs or young; - disturbance of dependent young
Badger	Protection of Badgers Act 1992 Wild Mammals (Protection) Act 1996	The Protection of Badgers Act (1992) makes it an offence to wilfully or attempt to: - kill or injure a badger - possesses a dead badger or any part of, or anything derived from a dead badger; - digs for badgers; - damages a badger sett or any part of it; - destroys a badger sett - obstructs access to, or any entrance of, a badger sett; - causes a dog to enter a badger sett; - disturbs a badger whilst it is occupying a badger sett. Under the Wild Mammals (Protection) Act, badgers are protected from unnecessary suffering by a number of methods.

Other Protected Species Legislation		
Species	Legislation	Level of Protection
Slow-worm Adder Grass Snake Common Lizard	Wildlife and Countryside Act 1981 (as amended)	Under the Wildlife and Countryside Act (1981) it is an offence if any person: - intentionally kill or injures these slow-worms, adders, grass snakes or common lizards - sells, offers or exposes for sale, or has in his possession or transports for the purpose of sale, any live or dead slow-worm, adder, grass snake or common lizard or any part of, or anything derived from, such an animal

Appendix 3 – UK Habitat Classification

UK Habitat Classification Habitat Definitions (Broad Habitats) ³⁰	
Broad Habitat	Definition
Grassland (g)	Total vegetation cover variable from 25-100% - not on waterlogged soils. Vegetation is >75% herbaceous (grasses, sedges, rushes, ferns and forbs) rather than woody, with halophytic species absent or occasional.
Woodland and Forest (w)	Land with <u>more than 25% cover of trees more than 5m in height</u> . Includes recently felled woodland (but not clear-felled forestry plantations unless re-planted), coppice, coppice-with-standards, lines of trees (but not hedgerows), wet woodland and bog woodland.
Heathland and Shrub (h)	Vegetation with <u>more than 25% cover of dwarf shrub species <1.5metres high or woody species up to 5m high</u> . Includes hedgerows of any height. Excludes lines of trees and scattered scrub (secondary code (s.c.)10).
Wetland (f)	A vegetated habitat that is waterlogged or inundated. Excludes wet woodland (w1d), wet habitats where the water table is always within 40cm of the surface and the soil contains free water for most of the year and seasonally wet habitats, inundated for part of the year but becoming mesic in the summer.
Cropland (c)	Agricultural or horticultural land that has been cultivated or cropped within the current or previous year or left as fallow as part of an active arable rotation. Includes ploughed land, intensive orchards, short rotation coppice and Christmas tree and other tree nurseries.
Urban (u)	Constructed, industrial and other artificial habitats. Includes constructed, industrial and other artificial habitats in rural areas. Excludes other ecosystems within cities, towns and villages including grasslands, woodlands, heathlands, wetlands, rivers, lakes, sparsely vegetated land and urban common land.
Sparsely Vegetated Land (s)	Unvegetated, disturbed (regularly or drastically periodically) or sparsely vegetated habitats (permanently or periodically naturally unvegetated areas) inhabited by stress tolerating vegetation with cover <50%. Includes sparsely vegetated natural or extracted rock or soil surfaces. Includes inland rock, supralittoral rock (sea cliffs) supralittoral sediment (mud, sand and shingle) and coastal habitats (including dunes). Excludes sparsely vegetated constructed surfaces (see u1f).
Rivers and Lakes (r)	Inland surface waters (freshwater ecosystems)
Marine Inlets and Transitional Waters (t)	Intertidal habitats on various substrates and with water of variable salinity between Mean High Water Mark and Mean Low Water Mark around the UK coast. Excludes the sublittoral.

³⁰ UK Hab Ltd (2023). UK Habitat Classification Version 2.0 (at <https://www.ukhab.org>)

UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types) ³⁰	
Habitat Type	Definition
Grassland (g)	
g1c Bracken	Land with bracken <i>Pteridium aquilinum</i> at >95% canopy cover at the height of the growing season. Excludes scattered patches of bracken or patches of bracken <0.04ha which are included in the broad habitat type with which they are associated.
g3c Other Neutral Grassland	Neutral grassland that does not meet the definition of either g3a (Lowland Meadow) or g3b (Upland Hay Meadow) <u>AND</u> that meets at least three of these four criteria: >20% cover of broadleaved herbs and sedges >8 species per m² (including forbs, grasses, sedges and rushes, and excluding bryophytes) >1 grass species that is not generally sown for intensive agricultural production (i.e. Rye-grasses <i>Lolium</i> spp, Timothy <i>Phleum pratense</i>, Cock's-foot <i>Dactylis glomerata</i>, Meadow fescue <i>Festuca pratensis</i>) is at least abundant - Cover of rye-grasses <i>Lolium</i> spp. and white clover <i>Trifolium repens</i>, where present, is <30% Separately from the criteria above, a neutral grassland that meets the criteria for waxcap grassland. Excludes grasslands <2 years old on land formerly cropped.
g4 Modified Grassland	Species poor vegetation (<9 species per m ²) dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance of rye grasses <i>Lolium</i> spp. and white clover <i>trifolium repens</i> . Most broadleaved species present will be associated with high fertility.
Woodland (w)	
w1 Broadleaved and Mixed Woodland	Vegetation dominated by trees that are <u>more than 5m high</u> when mature, which form a distinct although sometimes open canopy with a <u>canopy cover of greater than 25%</u> . Includes stands of both native and non-native broadleaved tree species and Yew <i>Taxus baccata</i> , where the <u>percentage cover of these trees in the stand exceeds 20% of the total cover</u> of the trees present.
w1d Wet Woodland	Wet woodland occurs on poorly drained or seasonally wet soils, usually with Alder <i>alnus glutinosa</i> , birch <i>Betula</i> spp. and willows <i>Salix</i> spp. as the predominant tree species, but sometimes including ash <i>Fraxinus excelsior</i> , oak <i>Quercus</i> spp., Scots pine, <i>Pinus sylvestris</i> and beech <i>Fagus sylvatica</i> on the drier riparian areas.
w1f Lowland Mixed Deciduous Woodland	Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions, from very acidic to base-rich. Occurs largely within enclosed landscapes, usually on sites with well defined boundaries, at relatively low altitudes, although altitude is not a defining feature.
w1g Other Broadleaved Woodland	Broadleaved and mixed woodland that does not meet the definitions of w1a-w1f. Includes stands of non-native broadleaved tree species and woodlands of non-native species or Sycamore <i>Acer pseudoplatanus</i> that have developed through recent succession, typically on verges or alongside railway lines.
w1h Other Woodland - Mixed	A mixture of broadleaved and coniferous trees in which neither make up more than 80% of the tree cover.
w2 Coniferous Woodland	Vegetation dominated by trees that are <u>more than 5m high</u> when mature, which form a distinct, although sometimes open canopy which has a <u>cover of greater than 25%</u> . Includes stands of both native and non-native coniferous trees species (with the exception of yew <i>Taxus baccata</i>) where the <u>percentage cover of these trees in the stand exceeds 80% of the total cover</u> of the trees present.
Heathland and Shrub (h)	
h2 Hedgerows	Lines of shrubs that have the base of their leafy canopies <2m in height from the ground, so that the woody linear feature as a whole appears as a 'shrubby' hedgerow, even though some of the woody species in it are capable of growing into trees. Hedges in good condition have the base of their leafy canopies <0.5m from the ground.

UK Habitat Classification Habitat Definitions (Commonly Recorded Habitat Types)³⁰	
Habitat Type	Definition
	Includes any bank, wall, ditch, tree or herbaceous vegetation that is <2m from the hedgerow centre. Includes gaps between trees and shrubs that are <20m. Includes tall lines of connected shrubs that remain in a management cycle and allowed to grow tall before being laid. Excludes shrubby components that are >5m wide at the base and woody linear features comprising trees without a shrub layer. Excludes habitat features of trees that are collectively >5m wide at the base.
h2a Native Hedgerow (Priority Habitat)	A hedgerow with >80% canopy cover of UK native or archaeophyte woody species.
h2a5 Species-rich Native Hedgerow	Native hedgerows with 5 or more (or 4 or more in northern and eastern England, upland Wales and Scotland) UK native or archaeophyte woody species in a 30m section.
h2a6 Other Native Hedgerow	Native hedgerows with 4 or less (or 3 or less in northern and eastern England, upland Wales and Scotland) UK native or archaeophyte woody species in a 30m section.
h2b Non-native and Ornamental Hedgerow	A hedgerow with >20% canopy cover of UK non-native woody species. Includes ornamental beech hedgerows and garden varieties or ornamental native species.
h3 Dense Scrub	Patches of shrubs less than 5 metres tall with continuous (>75%) cover. Includes patches with occasional trees more than 5 metres tall and tree species less than 5m tall.
Wetland (f)	
f2e Reedbeds	Wetlands that are dominated by >5m wide stands of the Common Reed <i>Phragmites australis</i> and where the water table is at or above ground level for most of the year.
Cropland (c)	
c1a Arable Field Margins	Herbaceous strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. The arable field must be in a crop rotation that includes an arable crop, even if in certain years the field is in temporary grass, set-aside or fallow. Usually sited on the outer 2-12m margin of the arable field.
c1c Cereal Crops	Crops in the cereal group of domesticated grasses: wheat, barley, oats and maize.
c1d Non-Cereal Crops	Crops other than those defined in c1c.
Urban (u)	
u1b Developed Land - Sealed Surface	Soil surface sealed with impervious materials as a result of urban development and infrastructure construction.
u1b5 Buildings	A relatively permanent enclosed construction over a plot of land, having a roof and usually windows and often more than one level, used for any of a wide variety of activity, as living, entertaining or manufacturing.
u1c Artificial Unvegetated - Unsealed Surface	Land that has no or very low (<10% cover of vegetation through direct or indirect human activity and the soil surface is not sealed with impervious materials.
u1d Suburban/Mosaic of Developed and Natural Surface	Small-scale mosaic of developed and natural surfaces, as in housing and gardens in suburban areas.
u1e Built Linear Features	Roads, railways, walls, fences, surfaced paths.
Rivers and Lakes (r)	
r1 Standing Open Water and Canals	Natural systems such as lakes, meres and pools, as well as human-made waters such as reservoirs, canals, drainage ditches, ponds and gravel pits.
r2 Rivers and Streams	Rivers and streams from bank top to bank top. Where there are no distinctive banks or banks are never overtopped, it includes the extent of the mean annual floor. Includes, the open channel, water fringe vegetation and exposed sediments and shingle banks.

Appendix 4 - Receptor Valuation

The importance of ecological features is considered within a defined geographic context, examples of which are provided within the table below. The valuation of features is a complex process and, in many cases, requires the application of expert judgement. Valuation considers a range of factors including statutory designations, national biodiversity lists, biodiversity action plan lists and lists of declining, rare or legally protected species. Other factors to be considered include the 'naturalness' of habitats, the functional importance of features and whether habitats are irreplaceable.

Examples of Importance of Ecological Features (Geographic Context)³¹			
Importance	Designated Site	Habitat	Species
International and European	Special Protection Area/Proposed Special Protection Area	A significant area of a Priority Habitat listed on Annex 1 of the Habitats Directive or a smaller area of such habitat that is thought to be functionally linked to a significant area of such habitat	An area that is functionally important to a species listed on Annexes II, IV or V of the Habitats Directive or Annex I of the Birds Directive which is present in internationally significant numbers (>1% of the biogeographic population)
	Special Area of Conservation/Proposed Special Area of Conservation		
	Ramsar Site		
National	Site of Special Scientific Interest	A significant area of a Priority Habitat listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 or a smaller area of such habitat that is thought to be functionally linked to a significant area of such habitat	An area that is functionally important to a species listed as a species of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006, which is present in nationally significant numbers (>1% of the national population)
Regional	-	An area of a Priority Habitat listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 which is not significant enough in extent to be considered of national importance but is considered to be of greater than metropolitan or county value.	An area that is functionally important to a species which is present in regionally significant numbers (>1% of the regional population)
Metropolitan area or County	Local Wildlife Site designated at a metropolitan area or county level	A significant area of a Priority Habitat listed within the relevant local Biodiversity Action Plan or a smaller area	An area that is functionally important to a species listed as a Priority Species within the relevant local Biodiversity

³¹ Based on information provided within Guidelines for Ecological Impact Assessment in the UK and Ireland (2018) CIEEM

Examples of Importance of Ecological Features (Geographic Context)³¹			
Importance	Designated Site	Habitat	Species
Local (District/ Borough of Parish)	Local Wildlife Site designated at a district or borough level	of such habitat that is thought to be functionally linked to a significant area of such habitat	Action Plan, which is present in significant numbers within the geographic context.
Low	-	Habitats that are unexceptional in a local context and do not meet the above criteria.	Species populations that are unexceptional in a local context and do not meet the above criteria.

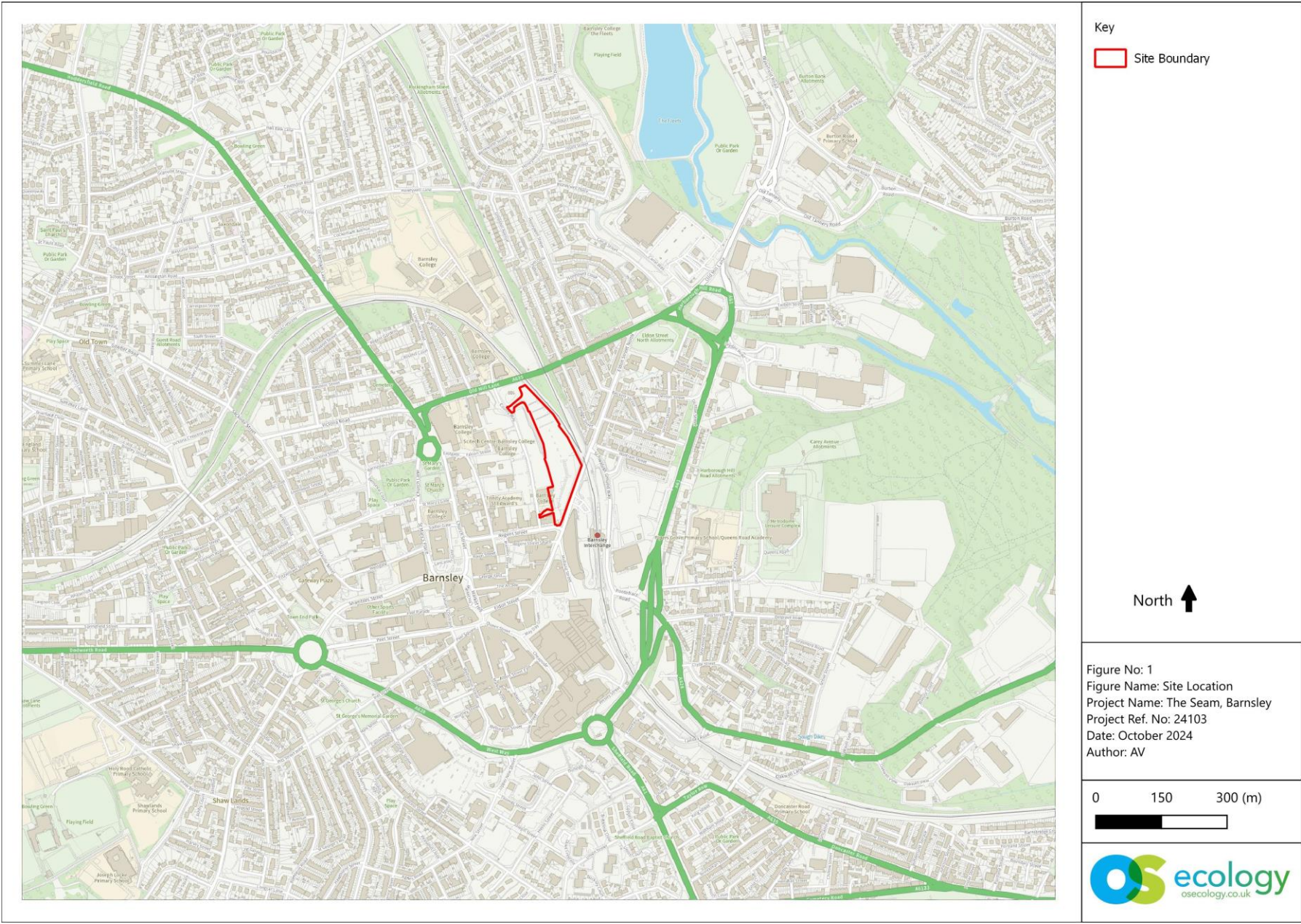
Appendix 5 – Detailed Bat Survey Results

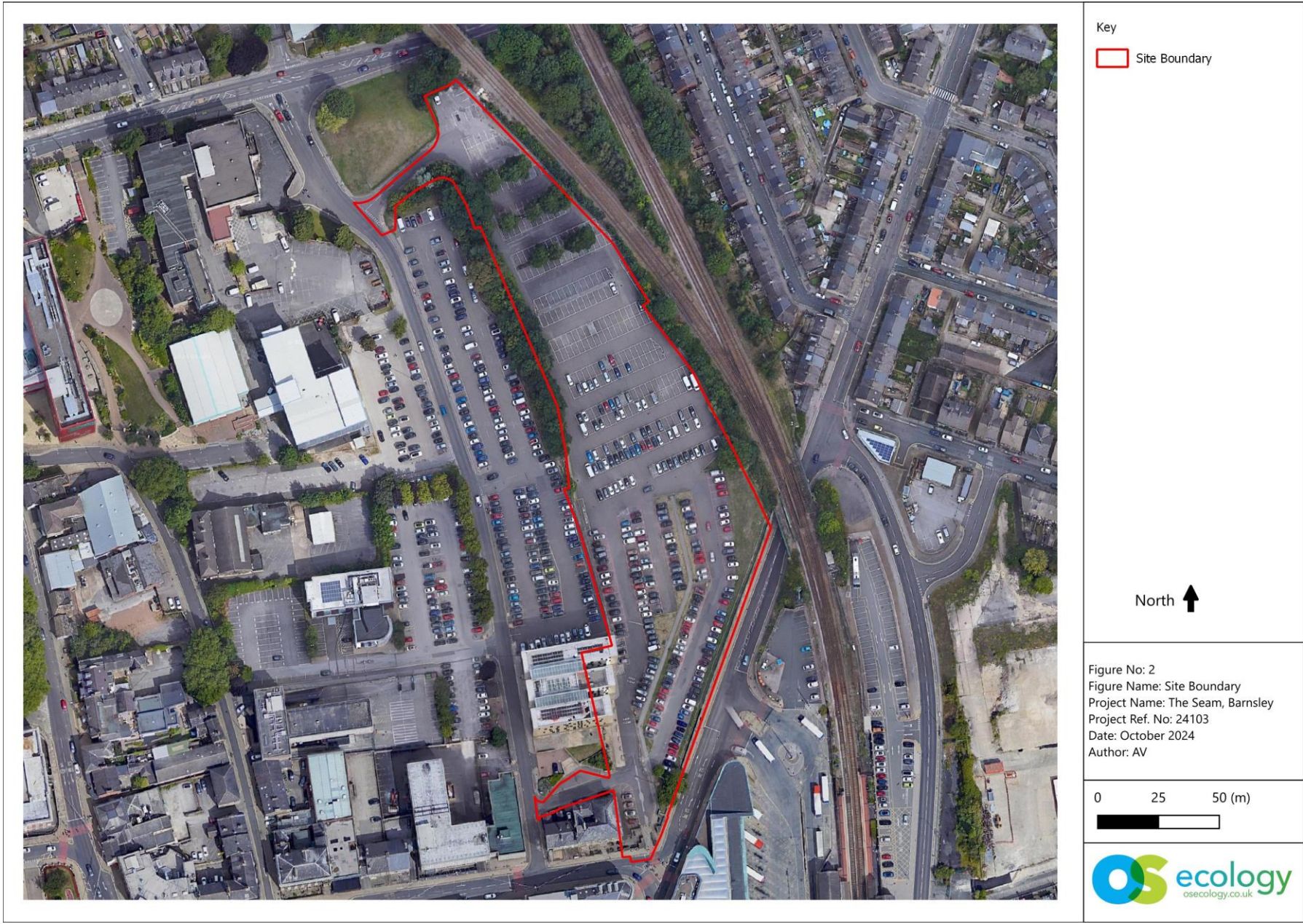
Date		10th August 2024		Sunset		20:44	
Start Time		20:29		End Time		22:14	
Time	Surveyor 1 Alex Douglas		Surveyor 2 Ruby Wharf		Surveyor 3 Donna Mear		
20:25:00					No Activity		
20:30:00							
20:35:00							
20:40:00							
20:45:00							
20:50:00							
20:55:00							
21:00:00							
21:05:00							
21:10:00							
21:15:00							
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21:40:00							
21:45:00							
21:50:00							
21:55:00							
22:00:00	22:03:48 45 HNS		22:03:48 45 HNS				
22:05:00							
22:10:00							
	Flight Activity	Species					
	Potential Emergence	39 = Nathusius' pipistrelle		Myo = Myotis sp.			
	Confirmed Emergence	45 = Common pipistrelle		55 = Soprano pipistrelle			
HNS	Heard Not Seen	50 pip = Common/Soprano pipistrelle					
SNH	Seen Not Heard	Noc = Noctule		BLE = Brown long-eared bat			

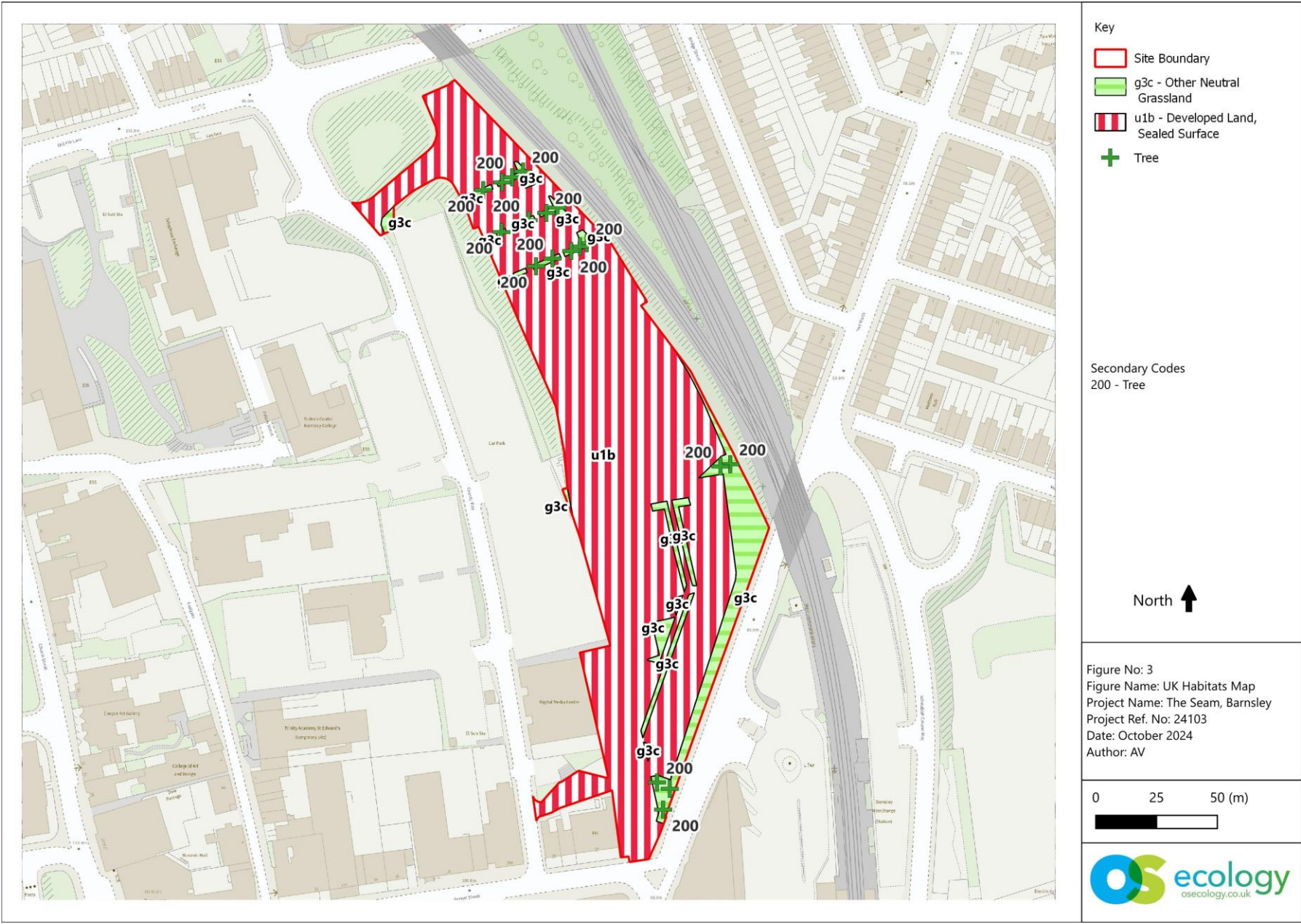


Indicative image of the thermal cameras on site.

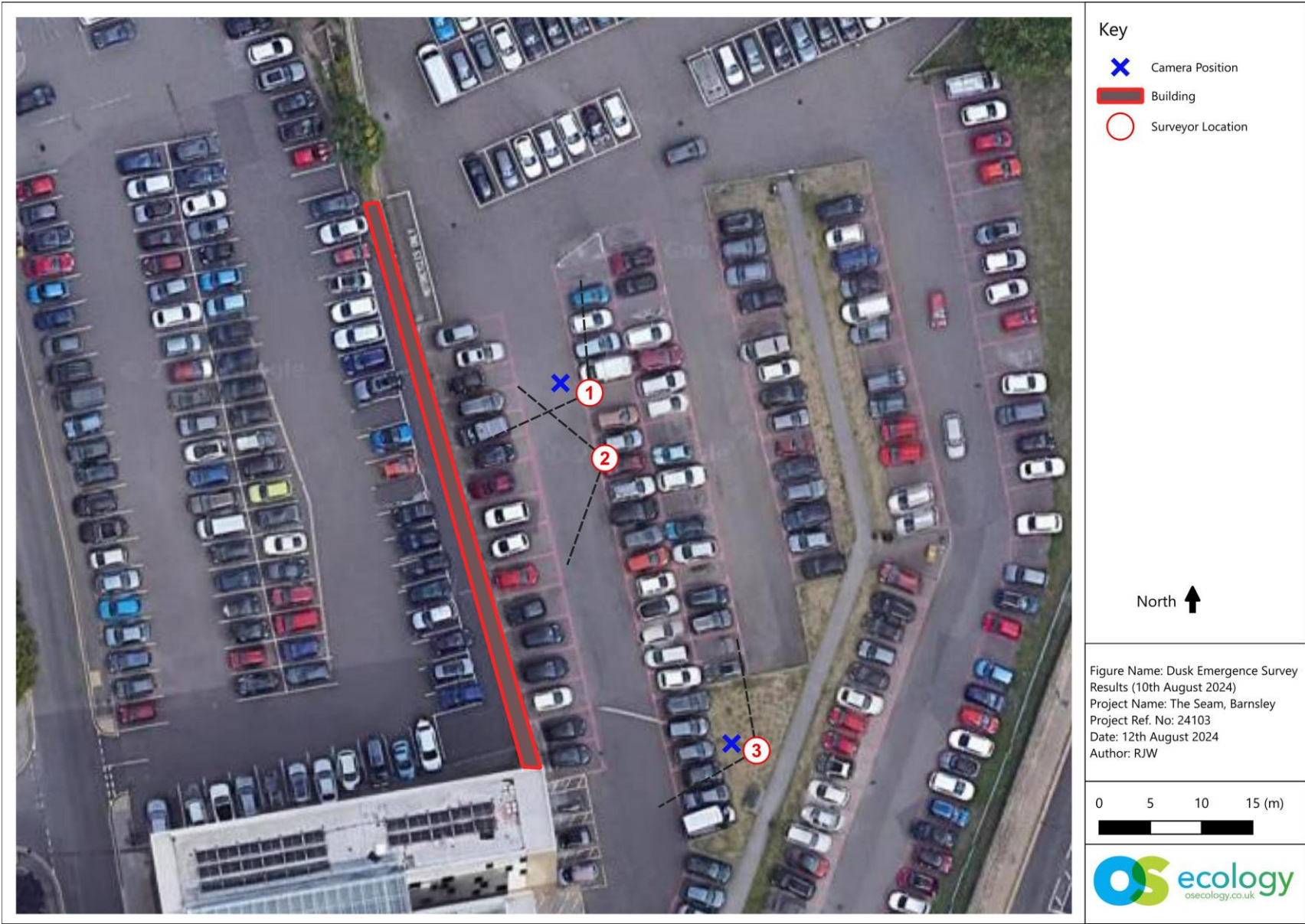
Appendix 6– Figures





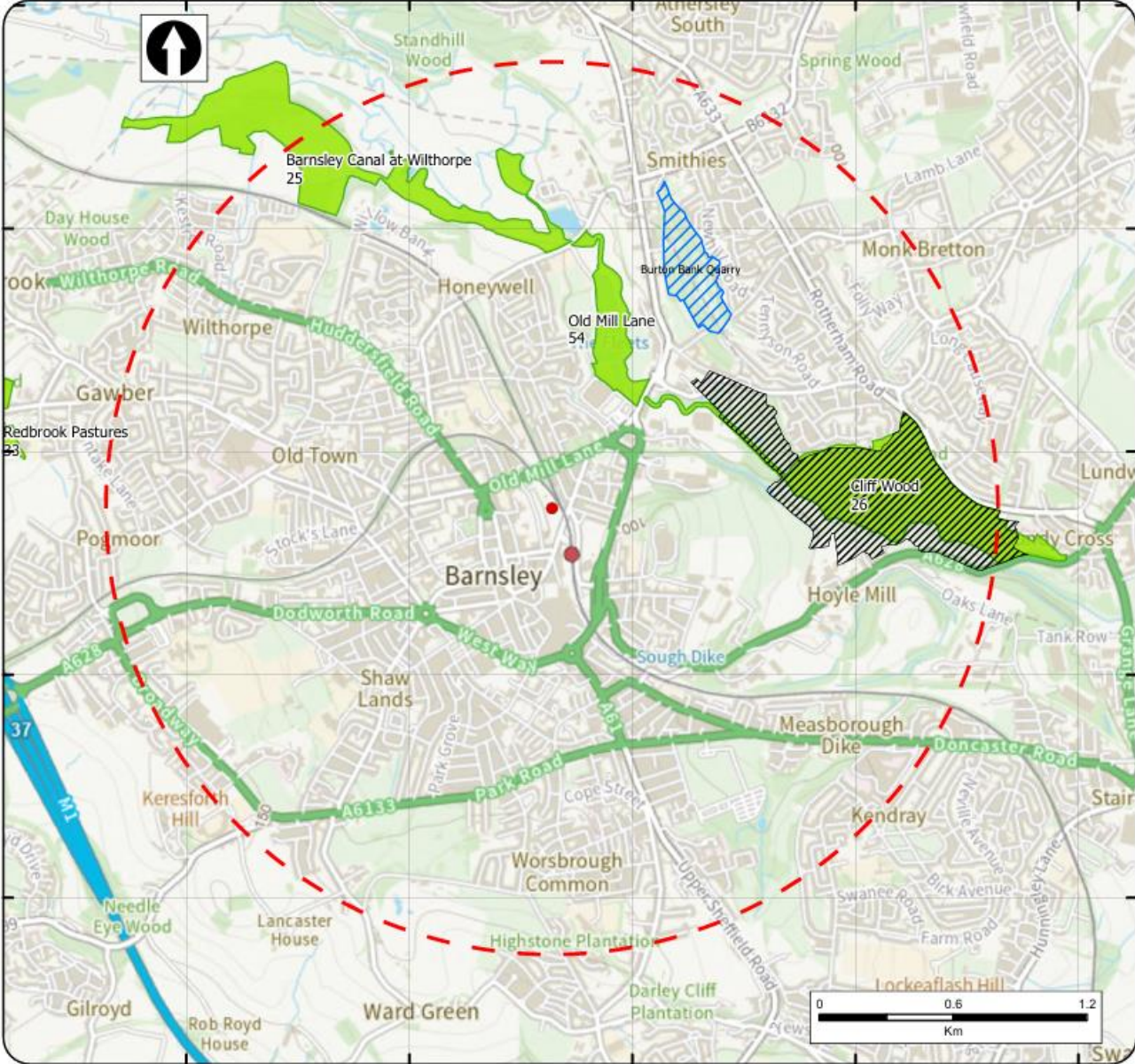








Boundaries of Statutory and Local Wildlife Sites (non-statutory) Within the Search Area



**The Seam
Barnsley**

- Local Wildlife Sites - Barnsley
- RIGS - Barnsley
- LNR NEngland
- Centre of Search Area
- Barnsley Boundary
- 2km radius

