
Phase 1, The SEAM

Preliminary Ecological Assessment

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1.0 Introduction

1.1 Background

1.1.1 This Preliminary Ecological Assessment has been prepared by BDP on behalf of Barnsley Council, to inform a planning application for the Phase 1, Seam project (hereinafter referred to as the "Site").

1.1.2 The proposed Phase 1, Seam project will comprise:

- Multi-Storey Car Park
- Active Travel Hub
- Public Realm
- Development plots 1 and 2
- Road and services infrastructure to support the above

1.2 Location

1.2.1 The Site is located in Barnsley (grid reference: SE3462806771) bound by County Way to the west, Eldon Street North to the south, Old Mill Lane (A635) to the north and a train line to the east. The site is in an urban setting dominated by car park (hardstanding) and associated amenity grassland, introduced shrub and scattered trees. The wider landscape is dominated by commercial and residential developments with green space, woodland and waterbodies to the edge of the conurbation (ref. Figure 1).



Figure 1. The Phase 1, Seam site

1.3 Planning

1.3.1 Biodiversity is a material consideration to the planning process and consideration must be given to the protection, retention and improvement of existing biodiversity features. As the proposed Phase 1 development will have a significant impact on the existing habitats within the site, consideration should be given to potential protected and notable sites, habitats and species which may be present within and/or adjacent to the site by the planning authority when considering the development proposals.

- 1.3.2 This report will allow the Local Planning Authority (LPA) to assess the impact of the proposed development on any ecological features present within the site.

1.4 Objectives

- 1.4.1 The survey was commissioned to accompany the planning application for the proposed redevelopment of the site. The aim of the survey was to:
- Describe and map the habitats present on the site;
 - Assess any potential impact on protected sites, habitats and/or species;
 - Identify where further surveys may be required; and
 - Provide recommendations to protect and enhance site ecology

2.0 Methodology

2.1 Desktop Study

2.1.1 A desktop study was carried out to obtain and review ecological information held by the Local Records Centre and other publicly accessible online sources. Ecological information for protected and notable sites and species within the site and a 2km radius thereof was provided by Barnsley Biological Records Centre, the biological records centre for the area.

2.1.2 In addition to the consultation process, a review of the local and national planning framework was carried out, including:

National Policy

- National Planning Policy Framework, July 2021
- Habitats and Species of Principal Importance, August 2010

Local Policy

- Barnsley Local Plan, adopted January 2019
- Barnsley Biodiversity Action Plan, 2009

2.1.3 Particular attention was paid to Local Plan Policy BIO1 Biodiversity and Geodiversity, which states:

- a. 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.
- b. 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.
- c. 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).

2.2 Site Survey

- 2.2.1 A site survey was undertaken on the 27 January 2022, in sub-optimal conditions for botanical survey, however, given the habitats present it was determined that an accurate assessment of the site could be made.
- 2.2.2 Anthony Nickson carried out the survey; Anthony is experienced in Phase 1 habitat survey and protected species survey and is also a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

Habitats

- 2.2.3 The site survey was undertaken in accordance with JNCC standards (JNCC, revised 2016). Habitats present on Site were mapped and assigned a Phase 1 category. Botanical nomenclature follows the New Flora of the British Isles (Stace, 2019).

Invasive plants

- 2.2.4 During the site survey particular attention was given to searching for invasive plant species listed under Schedule 9 of The Wildlife and Countryside Act 1981 (as amended).

Protected Species

- 2.2.5 Evidence of, and/or the potential for the presence of protected species was recorded during the site survey. Based on the desktop study and habitat types present on Site, particular attention was paid to the following species:

Bats

- 2.2.6 All British bat species and their roosts are protected under European Law (The Conservation of Habitats and Species Regulations 2017) and UK Law (Wildlife and Countryside Act 1981, as amended). As such it is an offence to undertake the following acts:
- Deliberately capture, injure or kill bats
 - Damage or destroy a breeding or resting place
 - Obstruct access to their resting or sheltering places
 - Intentionally or recklessly disturb a bat while it's in a structure or place of shelter or protection
- 2.2.7 As the proposals for the site will impact existing trees, particular attention was given to bats.

Habitat Suitability Assessment

- 2.2.8 Initially, a review of publicly accessible online mapping systems was undertaken to assess the habitats present on site and in the surrounding area. The review assessed the suitability of the habitats to support and provide connectivity for commuting and foraging bats.

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

Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats 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	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. 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.

Preliminary Roost Assessment

- 2.2.9 In addition, a preliminary roost assessment of the stone wall and existing trees was undertaken. An external inspection of the stone wall and each tree was undertaken to search for, and to assess the potential for, a bat roost to be present.
- 2.2.10 The external inspection of the stone wall primarily focused on looking for gaps within and between the sandstone blockwork and looking for bat droppings in and around these features.
- 2.2.11 The external inspections of the trees involved a visual examination of each tree from the ground using close-focusing binoculars to search the trunk and the canopy for potential roosting features (PRFs). A high-powered torch was used to inspect cavities or shaded areas of the tree. Features of trees commonly used by bats for roosting and shelter, and field signs that may indicate use of trees by bats, were also recorded. Potential roosting features that may be used by bats include:
- woodpecker holes;
 - rot holes;
 - hazard beams;
 - other vertical or horizontal cracks and splits (such as frost cracks) in stems or branches;
 - partially detached platey bark;
 - knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
 - man-made holes (e.g. cavities that have developed from flush cuts) or cavities created by branches tearing out from parent stems;
 - cankers (caused by localised bark death) in which cavities have developed;
 - other hollows or cavities, including butt-rots;
 - double-leaders forming compression forks with included bark and potential cavities;
 - gaps between overlapping stems or branches;

- partially detached ivy with stem diameters in excess of 50mm;
- bat, bird or dormouse boxes.

2.2.12 The stone wall and trees were then assessed in accordance with the guidelines for assessing the potential suitability of proposed development sites for bats (BCT, 2016).

Table 2. Guidelines for assessing the potential suitability of proposed development sites for bats based on the presence of suitable roosting features within a structure

Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.2.13 A pair of close focussing binoculars and a high-powered torch were used (where required) to search for evidence of bats.

2.2.14 Anthony led the preliminary roost assessments. Anthony is an active volunteer and professional bat worker who has held a Natural England Class 2 survey licence (2015-16233-CLS-CLS) for bats since 2013, he has been the named ecologist on several EPSM licences and held and been named on several project licences for bats. His qualifications and experience meet the criteria defined in the Technical Guidance Series Competencies for Species Survey: Bats (CIEEM, April 2013).

Emergence/Re-entry Survey

2.2.15 Following the preliminary roost assessment a dusk emergence and dawn re-entry survey was carried out on the stone wall and a single dawn re-entry survey was carried out on G4 to determine presence/absence as these features had been identified as having suitability to support roosting bats.

2.2.16 The dawn re-entry survey began 90 minutes before sunrise and continued for 15 minutes after sunrise. The dusk emergence survey began 15 minutes before sunset and continued for 1.5 hours following sunset.

2.2.17 For each survey, surveyors were located strategically (ref. Appendix C) to ensure all potential bat access points were accounted for, and the surveyors monitored the features visually to determine whether or not any bats emerged from, or entered, either of the buildings. Further to this, each surveyor used an Anabat Scout bat detector to record the echolocations of any bat activity in full spectrum so that the calls could later be identified to species or at least genus level using Anabat Insight (version 1.9.0) bat acoustic analysis software.

Great Crested Newt

2.2.18 Great Crested Newts (GCN) (*Triturus cristatus*) are protected under European Law (The Conservation of Habitats and Species Regulations 2017) and UK Law (Wildlife and Countryside Act 1981, as amended). As such, it is an offence to deliberately or recklessly undertake the following acts:

- Capturing, killing, disturbing or injuring GCN deliberately
- Damaging or destroying a breeding or resting place
- Obstructing access to their resting or sheltering places (deliberately or by not taking enough care)

Common Reptiles

2.2.19 All British reptiles are protected under UK Law (Wildlife and Countryside Act 1981, as amended). The common species (adder, common lizard, grass snake and slow worm) are protected from intentional killing and injuring.

Badger

2.2.20 Badger (*Meles meles*) and their setts are protected under UK Law (Wildlife and Countryside Act, 1981 as amended, and the Protection of Badgers Act 1992). As such, it is an offence to harm badgers or disturb or damage their setts.

2.2.21 The site walkover involved searching for evidence of badger activity. This included dung pits, latrines, snuffle holes, tracks, hair, prints, scratch marks and sett holes.

Birds

2.2.22 All birds, their nests and eggs are protected at the nest under UK Law (Wildlife and Countryside Act 1981, as amended). As such it is an offence to intentionally undertake the following acts:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built
- Take or destroy the egg of any wild bird
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

3.0 Results

3.1 Desktop Study

Protected Sites

3.1.1 Barnsley Biological Records Centre provided the following ecological information for the site and a 2km radius:

- Statutory and Non-Statutory Sites
- Protected and other Notable Species

3.1.2 See Appendix A for summary of ecological data search records.

3.1.3 The full list of protected and notable species identified from the data search was analysed, and the relevant issues have been detailed below. It should be noted that although the information provided by the local record centre is based on current records, it does not represent an exhaustive list of all records.

International/National Protected Sites

3.1.4 The desktop study confirmed that there are no sites with European or National statutory designations within a 2km radius of the site.

Local Nature Reserves

3.1.5 The desktop study confirmed that there is one Local Nature Reserve within the 2km search area; Dearne Valley Park, approximately 915m east of the site boundary.

Local Wildlife Sites

3.1.6 The desktop study confirmed that there is three Local Wildlife Sites within the 2km search area, as follows:

- Old Mill Lane, approximately 550m north-east of the site boundary.
- Cliff Wood, approximately 550m north-east of the site boundary.
- Barnsley Canal at Wilthorpe, approximately 990m north of the site boundary

Protected Species

Bats

3.1.7 The local record centre provided 200 bat records within a 2km radius of the site. See Table 3 for details.

Table 3. Summary of HERC's bat records

Species	Roost Records	General Records	Closest Record
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	12	97	The closest roost is a maternity roost at Western Street, approximately 485m west of the site boundary. The closest record is of a 2 no. bats recorded adjacent to the site at County Way.
Myotis species (<i>Myotis</i> spp.)	0	3	The closest record is of a bat detector record from a transect survey of Land west of Wakefield Road, New Lodge, approximately 1870m north of the site.
Daubenton's bat (<i>Myotis daubentonii</i>)	1	54	The roost record is from the River Dearne, Old Mill Lane, approximately 595m north-east of the site boundary. The closest general record is from the River Dearne, Burton Road, approximately 410m north-east of the site boundary.
Nyctalus species (<i>Nyctalus</i> spp.)	0	1	The general record is from Locke Park, approximately 1168m south-west of the site boundary.
Noctule bat (<i>Nyctalus noctula</i>)	0	24	The closest record is from the Former District Council Offices, Berneslai Close, approximately 350m west of the site boundary.
Pipistrelle species (<i>Pipistrellus</i> spp.)	1	0	The maternity roost is from Roy Hall Cash and Carry, approximately 800m north-east of the site boundary.
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	0	7	The closest record is from the Former District Council Offices, Berneslai Close, approximately 350m west of the site boundary.

Great Crested Newt

3.1.8 The local record centre provided seventeen GCN records within the 2km search area. The nearest record is approximately 1690m north of the site.

3.1.9 A search of accessible online maps suggest that there are no suitable waterbodies for GCN within a 500m radius of the site boundary.

Common Lizard

3.1.10 The local record centre provide 2 common lizard records, the closest is from land to east of the Metrodome Leisure Complex, approximately 475m east of the site boundary. The records were provided by volunteers from the community allotment project who regularly see the lizards.

Grass Snake

3.1.11 The local record centre provide a single grass snake record, the record is from Barnsley Main Colliery, approximately 1950m east of the site boundary.

Badger

3.1.12 The local record centre have provided badger records within a 5km search area from the site. The exact location of the records are confidential.

Birds

- 3.1.13 The local record centre provided 3885 bird records within 2km of the search area; including species which are known to nest in the type of habitats present within the site such as tree sparrow (*Passer montanus*), dunnock (*Prunella modularis*), and bullfinch (*Pyrrhula pyrrhula*).

3.2 Site Survey

Habitat Description

- 3.2.1 The site is approximately 2.0ha and comprises predominately of hardstanding (car park) with amenity grassland, broad-leaved trees and built structures also present. Please see Appendix B for Phase 1 Habitat map.

Amenity grassland

- 3.2.2 There are areas of short mown amenity grassland (ref. plates 1-4) located close to the existing car parking bays along the south eastern boundary of the site, a central strip between parking bays in the southern half of the car park and a mound at the north end of the site.
- 3.2.3 Grass species found in the amenity grassland sward included; Yorkshire fog (*Holcus lanatus*), annual meadow-grass (*Poa annua*), common bent (*Agrostis capillaris*), perennial rye-grass (*Lolium perenne*), smooth meadow-grass (*Poa pratensis*), meadow foxtail (*Alopecurus pratensis*) and fescue species (*Festuca* spp.).
- 3.2.4 The amenity grassland contains several forbs such as; daisy (*Bellis Perennis*), dandelion (*Taraxacum officinale* agg.), ribwort plantain (*Plantago lanceolata*), broad-leaved dock (*Rumex obtusifolius*), groundsel (*Senecio vulgaris*), herb-Robert (*Geranium robertianum*), ivy (*Hedera helix*), common nettle (*Urtica dioica*), shepherd's-purse (*Capsella bursa-pastoris*), selfheal (*Prunella vulgaris*), common field speedwell (*Veronica persica*), great willowherb (*Epilobium hirsutum*), common mouse-ear (*Cerastium fontanum*), creeping buttercup (*Ranunculus repens*), cuckooflower (*Cardamine pratensis*), common bird's foot trefoil (*Lotus corniculatus*), white clover (*Trifolium repens*), creeping cinquefoil (*Potentilla reptans*), bristly oxtongue (*Picris echioides*), dove's-foot crane's-bill (*Geranium molle*), rough hawk's-beard (*Crepis biennis*), hogweed (*Heracleum sphondylium*), greater plantain (*Plantago major*), common ragwort (*Senecio jacobaea*), germander speedwell (*Veronica chamaedrys*), petty spurge (*Euphorbia peplus*), ground-ivy (*Glechoma hederacea*), white dead-nettle (*Lamium album*), creeping thistle (*Cirsium arvense*), smooth sow-thistle (*Sonchus oleraceus*), hop trefoil (*Trifolium campestre*), lesser celandine (*Ranunculus ficaria*), cow parsley (*Anthriscus sylvestris*), bracken (*Pteridium aquilinum*), white comfrey (*Symphytum orientale*), wild teasel (*Dipsacus fullonum*) and locally abundant areas of yarrow (*Achillea millefolium*).

Broad-leaved Trees

- 3.2.5 There are 25 single trees (ref. plates 5-29) and 4 groups of trees (ref. plates 30-38) within the site. The species include ash (*Fraxinus excelsior*), cherry (*Prunus* sp.), false acacia (*Robinia pseudoacacia*), field maple (*Acer campestre*), hazel (*Corylus avellana*), Italian alder (*Alnus cordata*), London plane (*Platanus x hispanica*), Norway maple (*Acer platanoides*), rowan (*Sorbus aucuparia*), silver maple (*Acer saccharinum*) and sycamore (*Acer pseudoplatanus*).

Hardstanding

- 3.2.6 The dominant habitat within the site is tarmacadam car park (ref. plate 39) hardstanding which covers the majority of the ground. Areas of stone flags are also present. The market square is well maintained, and no vegetation is present within the hardstanding.

Built Structures

- 3.2.7 Along the western boundary of the site is a heavily weathered stone wall (ref. plates 40-42), approximately 8m high with a series of archways. The sandstone blocks have mortar missing suitable for roosting bats to enter the cavity the stone and the block-work is set back in places forming a ledge which would be suitable for nesting birds. Ferns and other plants have colonised the wall and below the archways including; butterfly bush (*Buddleja davidii*), common ragwort, great willowherb, hedge mustard (*Sisymbrium officinale*) and tutsan (*Hypericum androsaemum*). Ferns included wall rue (*Asplenium ruta-muraria*), maidenhair spleenwort (*Asplenium trichomanes*) and hart's-tongue (*Phyllitis scolopendrium*).
- 3.2.8 To the north of the site there is a Covid-19 Walk-through Testing site (ref. plates 43-46). The secure compound contains temporary marquees, temporary portacabin accommodation and shipping containers.

Protected Species

Bats

- 3.2.9 Throughout the year, all British bat species (notably pipistrelle bats which have been recorded within 2km of the site) use buildings or trees to roost, they favour areas that tend to be dark, sheltered and undisturbed.
- 3.2.10 The stone wall and broad-leaved trees within the site may provide roosting potential for bats, in particular, pipistrelle species which favour crevice roosting locations within buildings and trees such as between gaps in stonework and within vertical or horizontal cracks and splits in trees.

Habitat Suitability Assessment

- 3.2.11 The broad-leaved trees within the site provide suitable foraging habitat for small numbers of bats which are tolerant to the urban environment, in particular, the commoner pipistrelle species. The site is adjacent to the railway line which provides a linear corridor for bats to move into and out of the site and into the wider landscape.

Preliminary Roost Assessment

- 3.2.12 The stone wall is heavily weathered with mortar missing in several areas providing roosting opportunities for small numbers of crevice dwelling bats.
- 3.2.13 The temporary buildings within the Covid-19 Walk-through Testing site have negligible suitability to support roosting bats.
- 3.2.14 Table 4 outlines the results of the PRF inspection survey of the trees within/adjacent to the site which could be impacted by the proposed development.

Table 4. Summary of the preliminary roost assessment of trees.

Tree Ref.	Species	Suitability to support roosting bats	Notes
T1	Silver maple	Negligible Suitability	No potential roosting features.
T2	Norway maple	Negligible Suitability	No potential roosting features.
T3	Italian alder	Low Suitability	Dense Ivy to 10m, no obvious potential roosting features.
T4	Italian alder	Negligible Suitability	No potential roosting features.
T5	Italian alder	Negligible Suitability	No potential roosting features.
T6	Italian alder	Negligible Suitability	No potential roosting features.
T7	Italian alder	Negligible Suitability	No potential roosting features.
T8	Italian alder	Negligible Suitability	No potential roosting features, wood pigeon nest.
T9	Italian alder	Negligible Suitability	No potential roosting features.
T10	Italian alder	Negligible Suitability	No potential roosting features.
T11	Italian alder	Negligible Suitability	No potential roosting features.
T12	Italian alder	Negligible Suitability	No potential roosting features, 2 no. bird nests.

T13	Italian alder	Negligible Suitability	No potential roosting features.
T14	Italian alder	Negligible Suitability	No potential roosting features, birds nest.
T15	Italian alder	Negligible Suitability	No potential roosting features.
T16	Italian alder	Negligible Suitability	No potential roosting features.
T17	Italian alder	Negligible Suitability	No potential roosting features.
T18	Italian alder	Negligible Suitability	No potential roosting features.
T19	Italian alder	Negligible Suitability	No potential roosting features, birds nest.
T20	Sycamore	Negligible Suitability	No potential roosting features, loose ivy covering to 6m.
T21	Sycamore	Negligible Suitability	No potential roosting features.
T22	Rowan	Negligible Suitability	No potential roosting features.
T23	Ash	Negligible Suitability	No potential roosting features.
T24	Cherry	Negligible Suitability	No potential roosting features.
T25	Sycamore	Low Suitability	No potential roosting features, dense ivy to 12m.
G1	3 no. sycamore	Negligible Suitability	No potential roosting features.
G2	2 no. London plane, 1 no. sea buckthorn and 1 no. willow.	Negligible Suitability	No potential roosting features.
G3	22 no. Sycamore	Negligible Suitability	No potential roosting features.
G4	18 no. false acacia, 11 no. field maple, 7 no. hazel and 7 no. sycamore.	Negligible, low and moderate suitability	Generally the trees are of negligible and low ecological value but a few specimens were identified within the group with frost cracks and rip outs which could provide moderate suitability for roosting bats.

Emergence/Re-entry Survey

3.2.15 The results of the nocturnal bat emergence/re-entry surveys were as follows:

Table 5. Stone wall dusk emergence survey

Date:	Sunset Time:	Start/End Times:	Surveyors	Environmental Conditions:
06 June 2022	21:30	21:00 - 23:00	- Baptiste Chadeyron - Richard Lowe - Olivia Leversedge	- 12°C (start temp) - 11°C (end temp) - Dry (precipitation) - 1-2 (beaufort scale)
Notes / Observations:				
<ul style="list-style-type: none"> - The first bat recorded was a common pipistrelle bat at 21:54. - <u>A single common pipistrelle bat emerged from a gap in the wall at 21:58.</u> - Common pipistrelle bat contacts were recorded at 22:11, 22:14, 22:18 and 22:52. The bats were either seen flying along the wall or heard but not seen. - Prior to dusk sand martin (<i>Riparia riparia</i>) were identified using the wall as a nest site. 				

Table 6. G4 dawn re-entry survey

Date:	Sunrise Time:	Start/End Times:	Surveyors	Environmental Conditions:
07 June 2022	04:36	02:30 – 04:51	- Anthony Nickson - Baptiste Chadeyron - Richard Lowe - Olivia Leversedge	- 12°C (previous dusk temp) - 9°C (start temp) - 9°C (end temp) - Dry (precipitation) - 0-1 (beaufort scale)
Notes / Observations:				
<ul style="list-style-type: none"> - No bats were identified re-entering any trees within the tree belt and no pre-entry swarming behaviour was observed. - A small number of common pipistrelle bats passes were recorded while surveying the G4 tree line at 03:08, 03:18, 03:52 and 03:53 				

Table 7. Stone wall dawn re-entry survey

Date:	Sunrise Time:	Start/End Times:	Surveyors	Environmental Conditions:
21 June 2022	04:36	02:30 – 04:55	- Anthony Nickson - Richard Lowe	- 11°C (start temp) - 10°C (end temp) - Dry (precipitation) - 0-1 (beaufort scale)
Notes / Observations:				
<ul style="list-style-type: none"> - No bats were identified re-entering the stone wall and no pre-entry swarming behaviour was observed. - A small number of common pipistrelle bats passes were recorded while surveying the stone wall at 02:32, 02:52, 02:57, 03:10 and 03:24. 				

3.2.16 A single common pipistrelle day roost has been identified within the stone wall.

Great Crested Newt

3.2.17 The habitats on site comprise predominately hardstanding in an urban setting, which is a sub-optimal habitat for GCN. There are limited opportunities for refuge across the site given the built environment. The site habitats provide unfavourable habitat for GCN and there are no suitable breeding ponds within a 500m radius of the site.

3.2.18 GCN is not considered any further within this report.

Common Reptiles

3.2.19 The habitats on site comprise predominately hardstanding in an urban setting, which is a sub-optimal habitat for common reptiles. There are negligible opportunities for basking and foraging across the site given the large areas of hardstanding and highly disturbed and managed habitats present.

3.2.20 Common reptiles are not considered any further within this report.

Badger

3.2.21 The site is predominately hardstanding which provide negligible foraging habitat for badgers. The amenity grassland provides limited foraging habitat and the bank to the western boundary of the site which supports a belt of broad-leaved trees provides suitable habitats for badgers to construct setts. No evidence of badger activity was identified within the site and it is unlikely that badgers are present within the site.

3.2.22 Badger is not considered any further within this report.

Birds

3.2.23 The broad-leaved trees and stone wall provide suitable habitat for nesting birds during the nesting season (March to September). During the site visits a sand martin colony was identified using the stone wall as a nesting site.

4.0 Evaluation

4.1 Desktop Study

International/National Protected Sites

4.1.1 There are no international/national protected sites within a 2km radius of the Site.

Regional/Local Protected Sites

4.1.2 There is one statutory protected Local Nature Reserve within 2km of the Site, Dearne Valley Park, approximately 915m east of the site boundary.

Local Wildlife Sites

4.1.3 There are three local wildlife sites within 2km of the site, the closest are Old Mill Lane and Cliff Wood both approximately 550m north-east of the site boundary.

4.1.4 The regionally protected and local designated sites identified within the 2km search area are not connected to the site through any habitat linkages. The proposals will have a negligible impact on the designated sites within the 2km search area.

4.2 Site Survey

Habitats

4.2.1 The Phase 1 habitats within the site are common throughout the UK and no nationally rare or locally rare plant species were located during the site survey (Preston et al, 2002).

Non-native invasive plants

4.2.2 No plants recognised under Schedule 9 of the Wildlife and Countryside Act (1981, as amended) as non-native invasive plant species are present within the site.

Protected Species

Bats

4.2.3 The bat surveys have confirmed that the stone wall supports a bat roost. Table 8 presents a summary of the findings and impacts of the proposed works on the bat roost.

Table 8. Summary of Town Hall survey results, impacts and further actions required

Roost Characterisation	Maximum bats recorded during one survey	Conservation Significance	Effect of development	Duration of effect	Mitigation Required
Common pipistrelle day roost	1	Low	Restoration and repair work could lead to loss of roost	Permanent	Provision of new roost facilities. Need not be exactly like-for-like, but should be suitable, based on species' requirements.

4.2.4 The Seam Masterplan could result in the loss or at very least disturbance of a common pipistrelle day roost. A European Protected Species (EPS) mitigation licence from Natural England may therefore be required before any work could proceed on the stone wall or any works that would cause disturbance. An EPS mitigation licence will permit the destruction/disturbance etc of the bat roost, which would otherwise be an unlawful activity.

4.2.5 The broad-leaved trees within the site provides limited foraging habitat for the local bat populations and permeability across the site for bats.

4.2.6 Given the equivalent and better habitats within the wider landscape the foraging habitat is of value to bats at a site level only, however, the design should retain as much of the existing tree belts and scattered trees as possible to maintain the value of these features for bats within the site.

Birds

4.2.7 The broad-leaved trees and stone wall within the site provide nesting suitable habitat for breeding birds during the nesting season. In particular the stone wall provides a valuable nesting feature for a local sand martin colony.

5.0 Recommendations

Bats

- 5.1.1 The 2022 bat surveys have confirmed the stone wall supports a common pipistrelle day roost (non-breeding) within a crack between the stone wall blocks (ref. Appendix C) (grid reference: SE34620666).
- 5.1.1 The proposed masterplan works could result in the loss of the common pipistrelle day roost. Prior to the commencement of any works to the stone wall which is likely to cause harm / disturbance etc the local planning authority must be provided with:
- a) a license issued by Natural England pursuant to Regulation 55, of the Conservation of Habitats and Species Regulations 2017 authorising the specified activity/development go ahead: or
 - b) a statement in writing from Natural England or LPA to the effect that it does not consider that the specified development will require a license
- 5.1.2 The bat mitigation strategy provided in Appendix E outlines how the work will be progressed.

Birds

- 5.1.3 All bird species are protected at their nest under the Wildlife and Countryside Act. Although limited on site, suitable nesting habitat (broad-leaved trees and stone wall) is present. It is recommended that site works that will impact any of these suitable habitats takes place outside the peak bird breeding season (March to September).
- 5.1.4 If site works to these habitats are to be undertaken within the nesting season, then an appropriately qualified ecologist will be required to undertake a site walkover to visually assess suitable habitat for active nests. If active nests are discovered, then site works around the active nest must cease until the nest is deemed inactive.
- 5.1.5 Any works to the stone wall must retain and/or provide at least 20 no. nesting features for sand martins to allow their continued use of this feature.

Biodiversity Enhancement

- 5.1.6 In line with the National and Local Planning Policy the planning system should contribute to and enhance the natural and local environment by incorporating the good practice principles for biodiversity net gain, to deliver environmental net gain wherever possible. In order to comply with National Planning Policy Framework the following ecological measures should be incorporated into the development:
- Using appropriate native tree species and other vegetation planting around the site will provide recognisable fruit and nectar sources for local birds, small mammals and invertebrates; trees will enhance the long-term biodiversity of the development.
 - Areas of biodiverse planting should be provided within any designated soft landscaping to provide a source of food for local fauna while softening the hard landscaping within the site.
 - The increased structural integrity of modern developments reduces the potential for birds and bats to utilise modern buildings for nesting and roosting therefore any new developments integrate a variety of bird and/or bat boxes.

External Lighting

- 5.1.7 The impact of light to biodiversity within the site, and in particular bats and flying invertebrates is present within the site prior to the areas redevelopment. The nocturnal value of the site could be enhanced through the implementation of a sensitive lighting strategy.
- 5.1.8 The stone wall and broad-leaved trees within the site are considered to be vulnerable to the effects of light pollution as these trees could provide suitable foraging and commuting habitat for the local bat populations. No lighting should be specified near these features. Lighting in the vicinity of these features should use downward directed lighting with a tightly controlled distribution to limit unwanted backwards spill to minimise the impact of light spill in accordance with best practice guidelines.
- 5.1.9 As numerous flying insects are attracted to ultraviolet light the external lighting should use LED lighting sources which are UV filtered to limit the amount of UV light produced, this will minimise the attraction to insect from adjacent habitats and feeding areas and minimise unnatural behaviour stimulated by the lighting.

6.0 References

Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition, The Bat Conservation Trust, 2016

Bats and Artificial Lighting in the UK Guidance Note 8 Bats and artificial lighting, Institution of Lighting Professionals, 2018

Countryside and Wildlife Act, 1981

Data search for the Seam (Barnsley), Barnsley Biological Records Centre, 07 January 2022

EU Habitats Directive, 1994

Guidelines for Preliminary Ecological Appraisal, 2nd Edition, CIEEM, December 2017

Habitats and Species of Principal Importance, JNCC, August 2010

Handbook for Phase 1 habitat survey: A technique for environmental audit, JNCC, Revised 2016

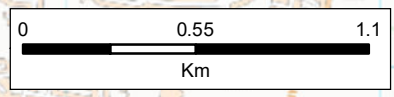
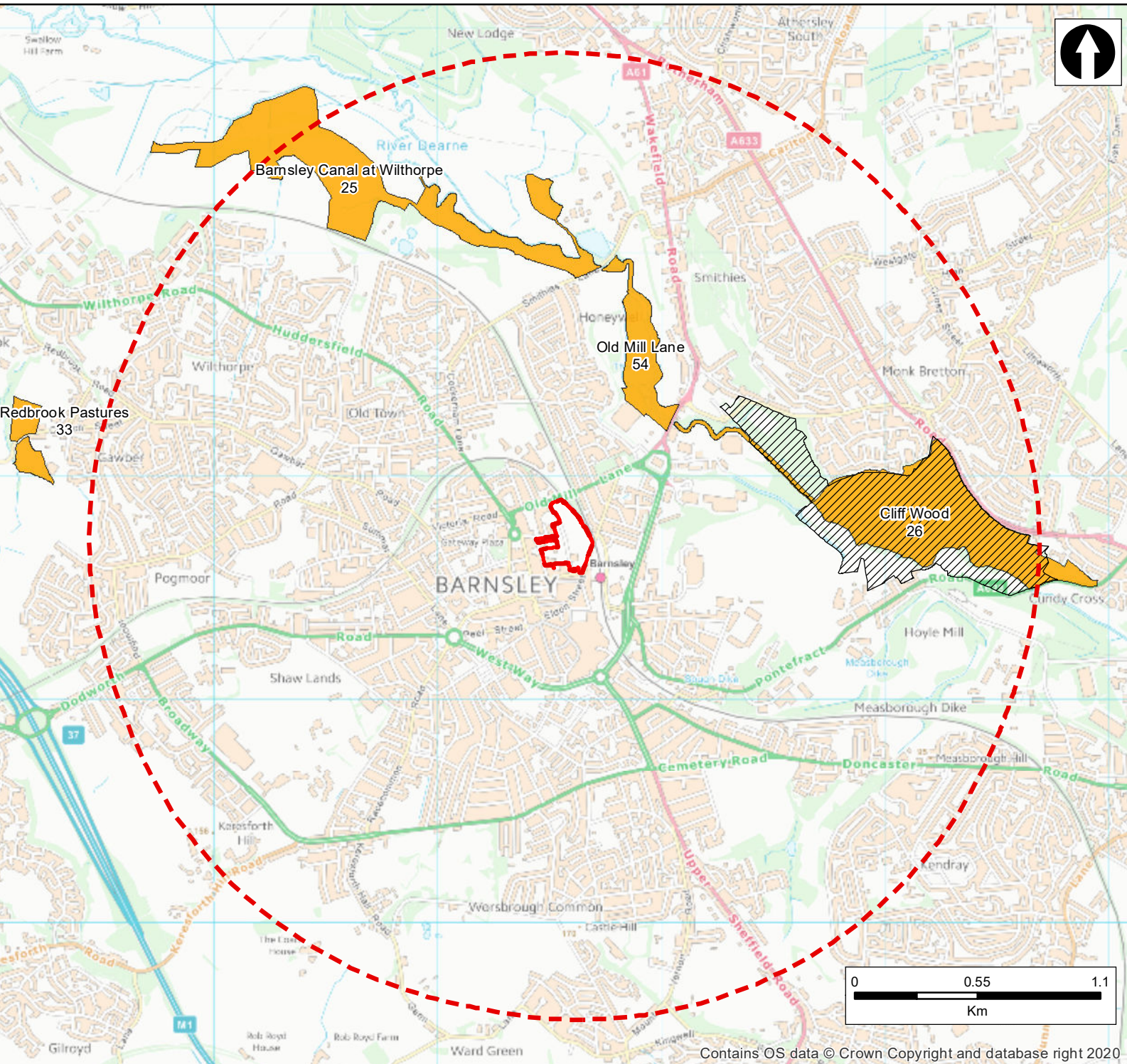
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New Atlas of the British and Irish Flora. Oxford University Press, Preston, C.D., Pearman, D. & Dines, T. 2002



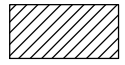


New Flora of the British Isles, 4th Edition, Stace, February 2019

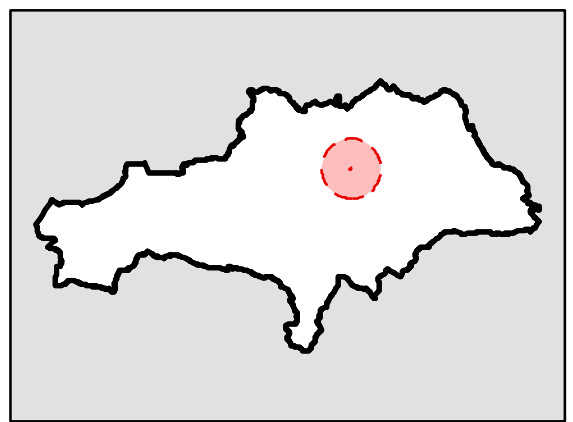
Appendix A - Ecological Data Search

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



The Seam Barnsley

-  2km radius
-  Boundary
-  LNR_NE
-  Barnsley LWS
-  Barnsley Boundary



Contains OS data © Crown Copyright and database right 2020

Appendix B - Phase 1 Habitat Map



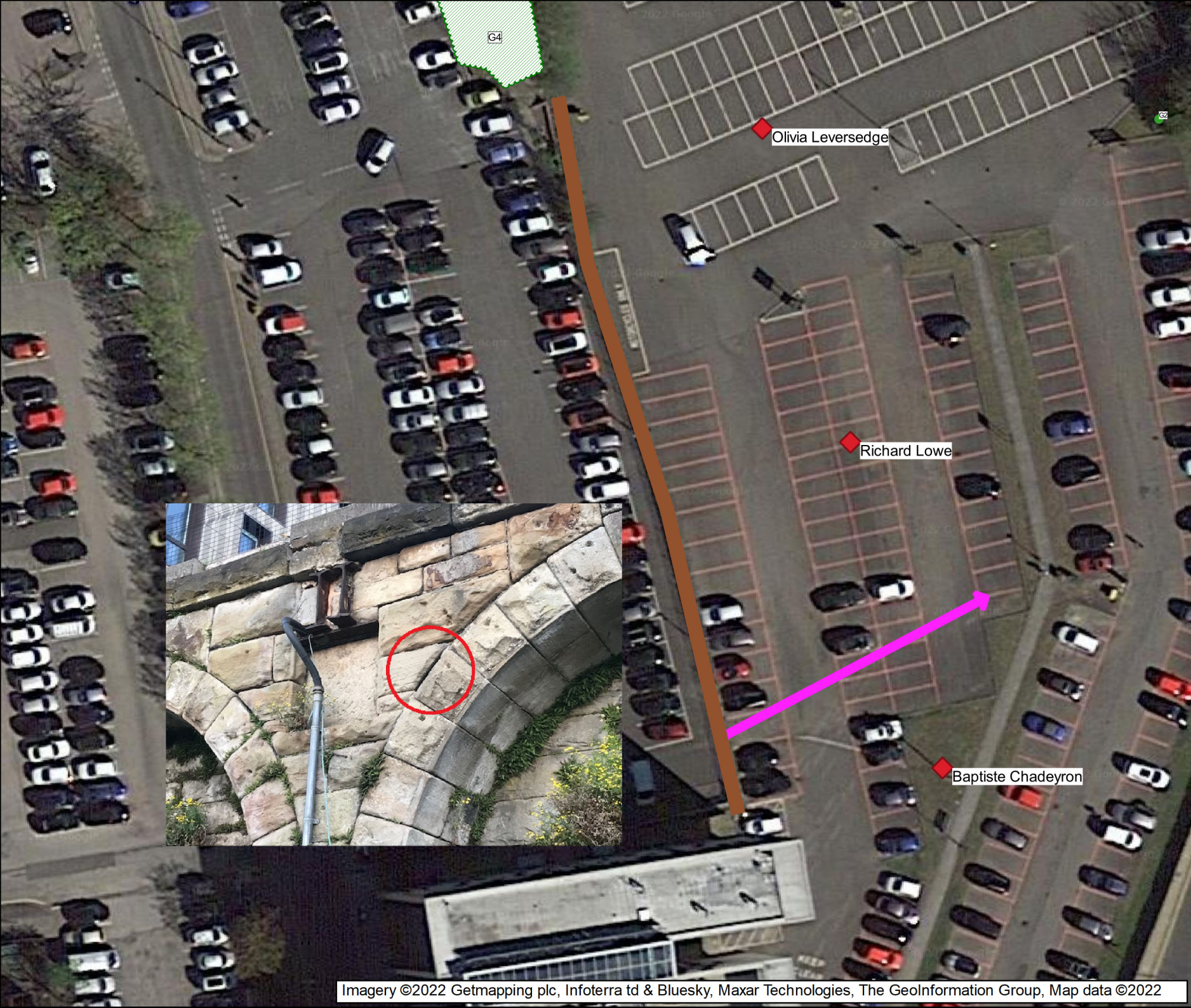
- Legend**
- Amenity grassland
0.3674 ha
 - Broadleaved plantation
0.1356 ha
 - Buildings
0.0453 ha
 - Scattered trees
0.8984 ha
 - Hardstanding
1.4852 ha
 - Site boundary

Project:
The SEAM, Barnsley

Drawing Title:
A-1 Site Habitat Baseline

Date: 15/06/2022	Revision: 01
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Appendix C - Nocturnal Bat Survey Surveyor Locations



G4

G2

Olivia Leversedge

Richard Lowe

Baptiste Chadeyron



Legend

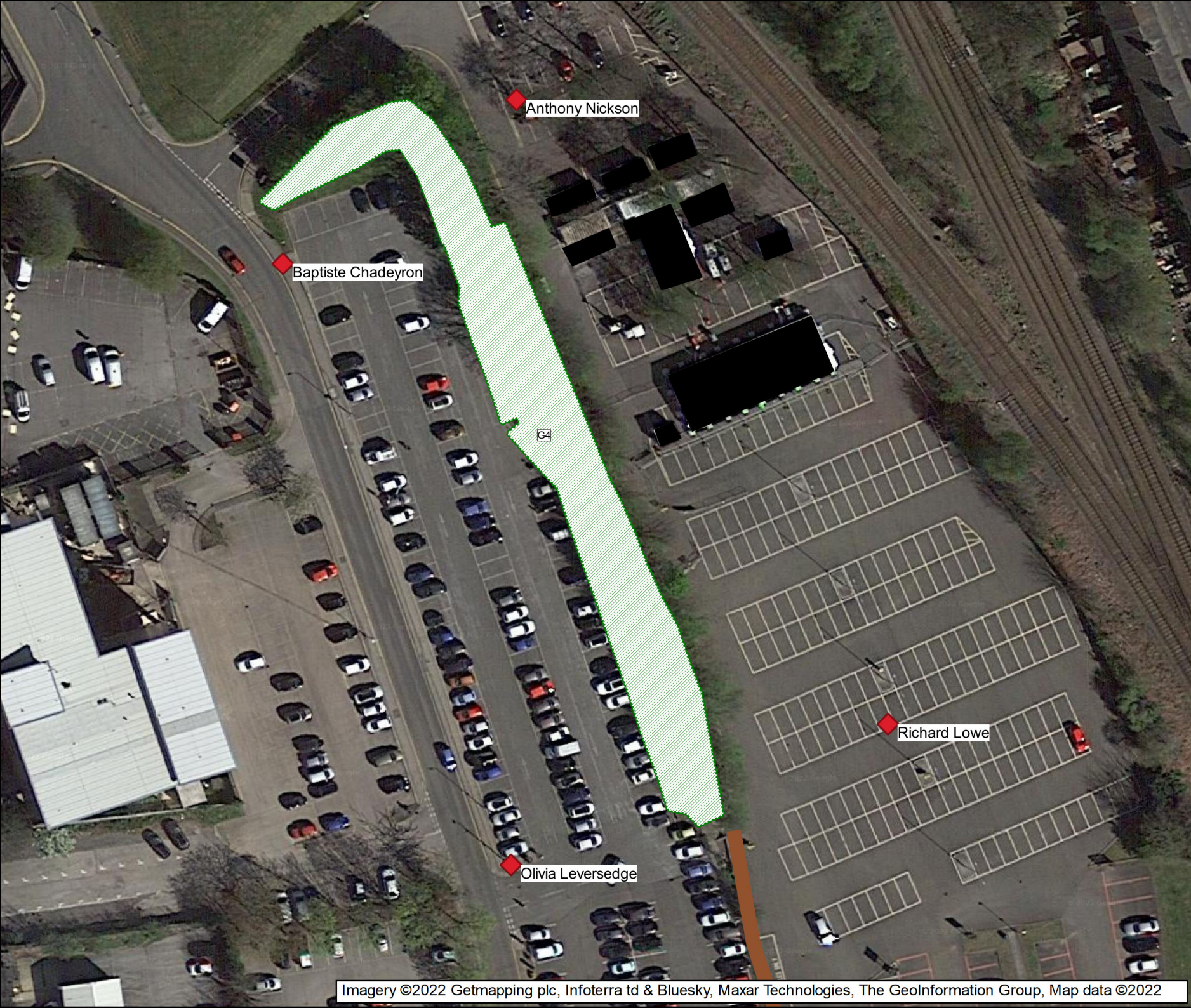
- ◆ Surveyor locations
- ➔ Bat emergence point

Project:
The SEAM, Barnsley

Drawing Title:
Surveyor Locations
06 June 2022

Date:
24/06/2022

Revision:
01



Legend

◆ Surveyor locations

Anthony Nickson

Baptiste Chadeyron

G4

Richard Lowe

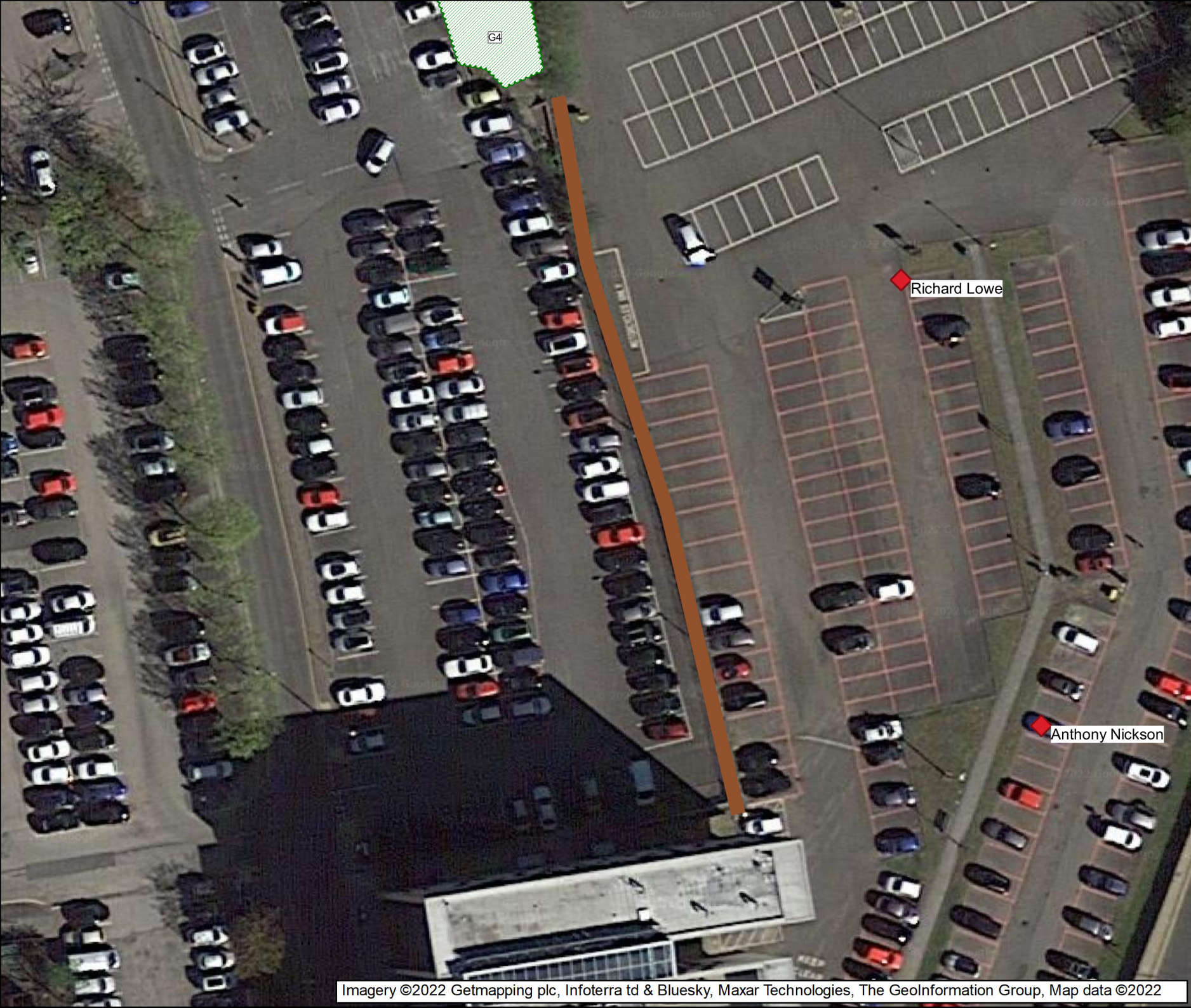
Olivia Leversedge

Project:
The SEAM, Barnsley

Drawing Title:
Surveyor Locations
07 June 2022

Date:
24/06/2022

Revision:
01



Legend

◆ Surveyor locations

G4

◆ Richard Lowe

◆ Anthony Nickson

Project:
The SEAM, Barnsley

Drawing Title:
Surveyor Locations
21 June 2022

Date:
24/06/2022

Revision:
01

Appendix D - Photograph Plates

Plate 1. Amenity grassland



Plate 2. Amenity grassland



Plate 3. Amenity grassland



Plate 4. Amenity grassland



Plate 5. T1 Silver maple



Plate 6. T2 Norway maple

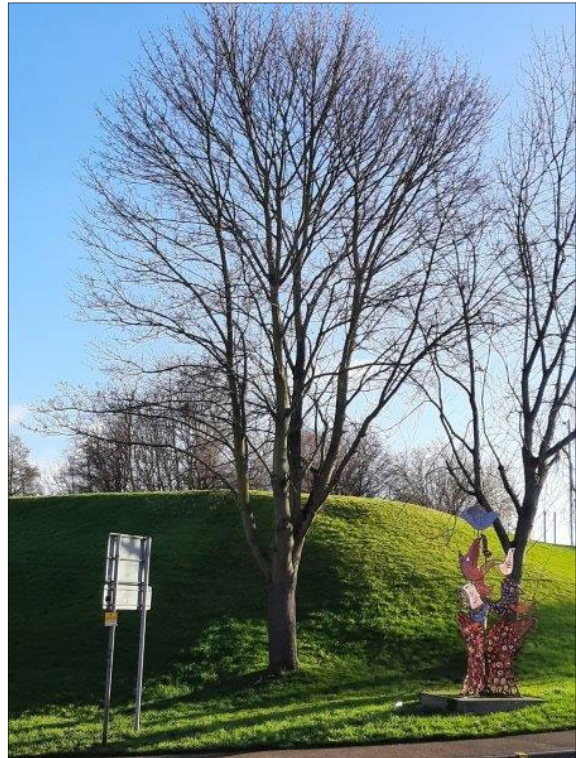


Plate 7. T3 Italian alder



Plate 8. T4 Italian alder



Plate 9. T5 Italian alder



Plate 10. T6 Italian alder



Plate 11. T7 Italian alder



Plate 12. T8 Italian alder



Plate 13. T9 Italian alder



Plate 14. T10 Italian alder



Plate 15. T11 Italian alder



Plate 16. T12 Italian alder



Plate 17. T13 Italian alder



Plate 18. T14 Italian alder

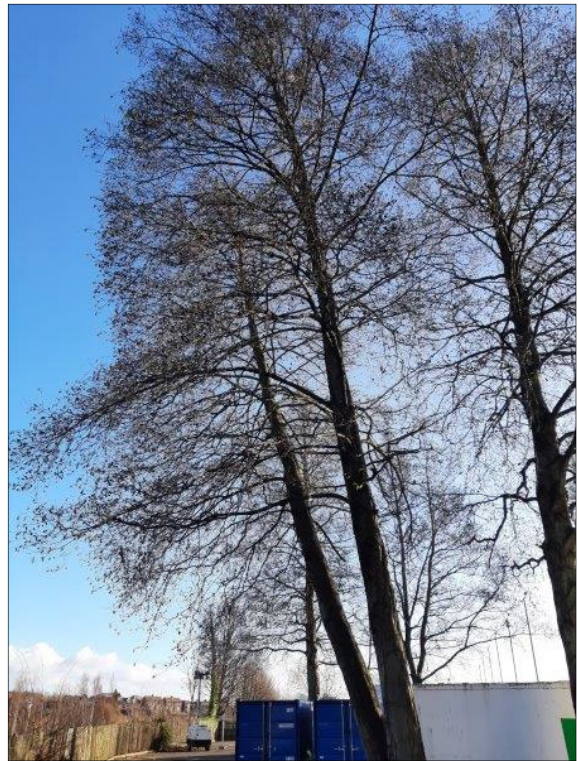


Plate 19. T15 Italian alder



Plate 20. T16 Italian alder



Plate 21. T17 Italian alder

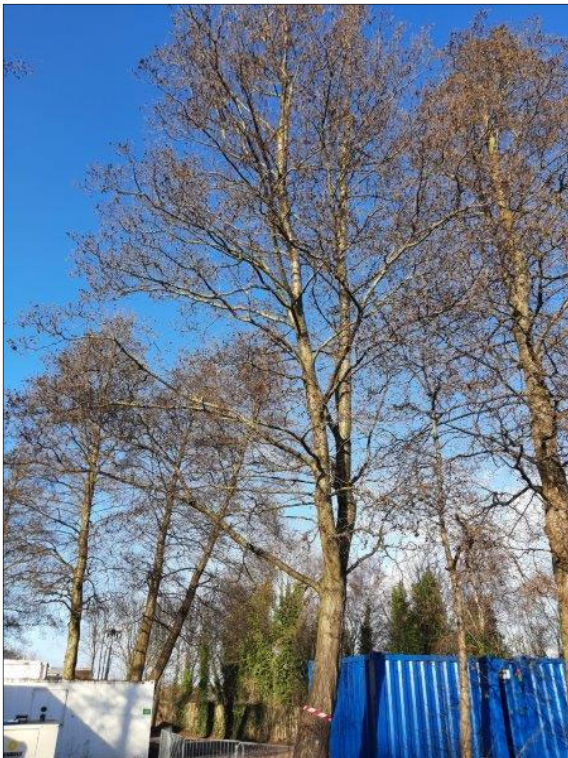


Plate 22. T18 Italian alder

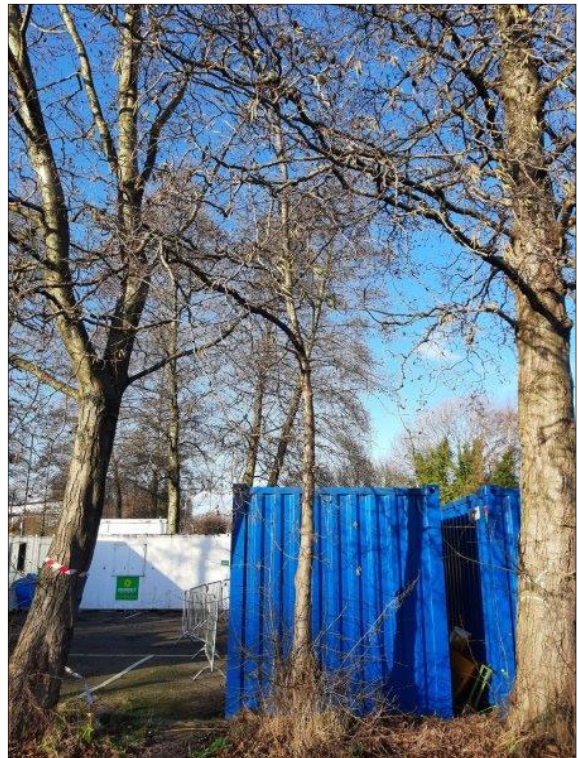


Plate 23. T19 Italian alder



Plate 24. T20 Sycamore



Plate 25. T21 Sycamore



Plate 26. T22 Rowan

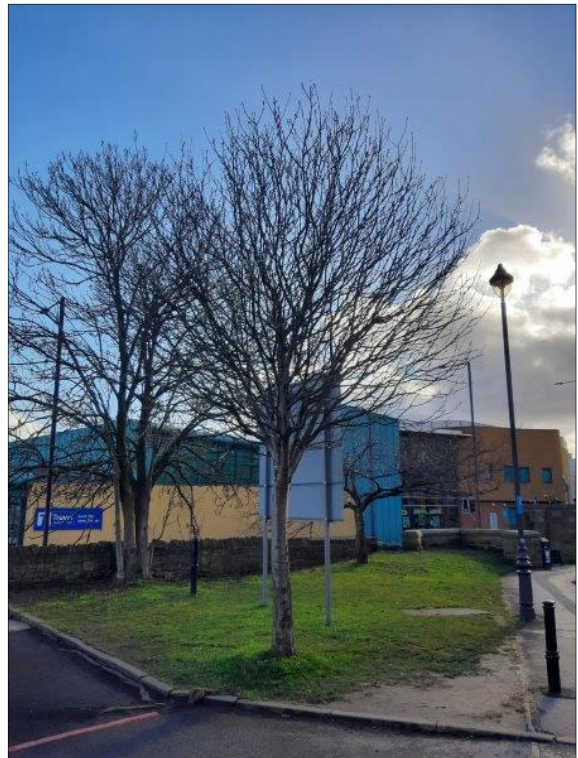


Plate 27. T23 Ash



Plate 28. T24 Cherry

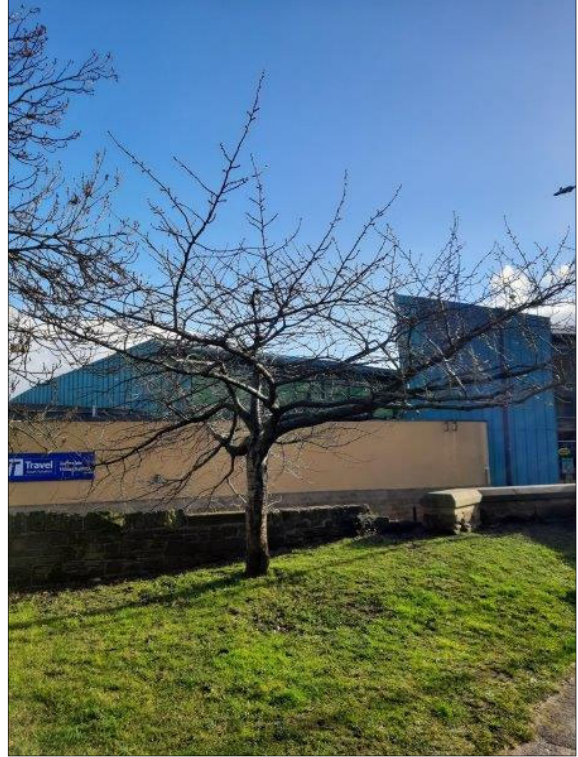


Plate 29. T25 Sycamore



Plate 30. G1 3 no. Sycamore

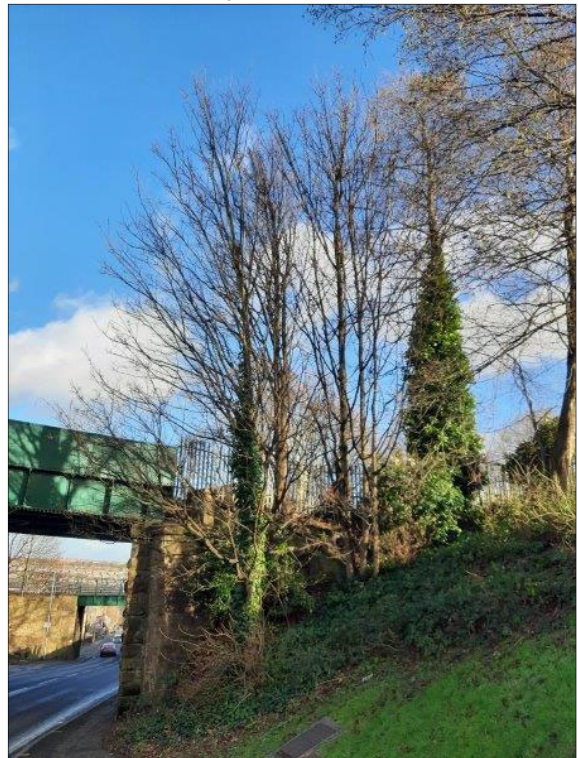


Plate 31. G2 London plane



Plate 32. G2 London plane

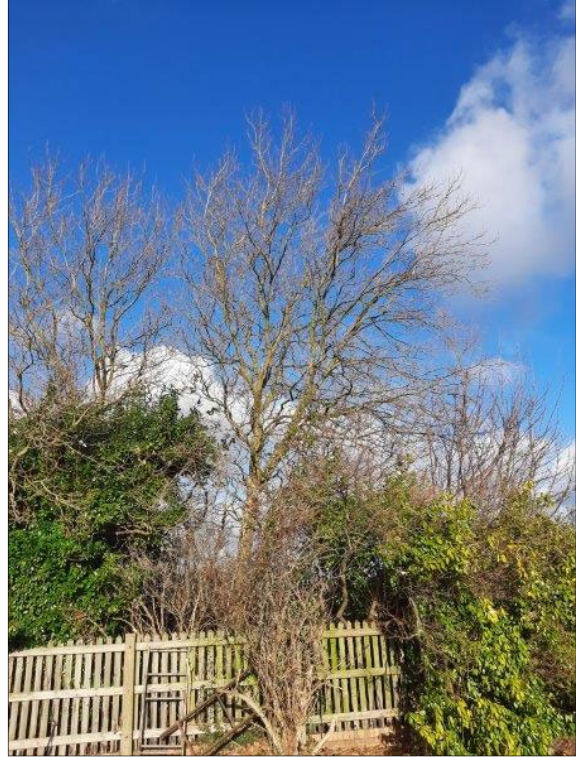


Plate 33. G3 22 no. Sycamore

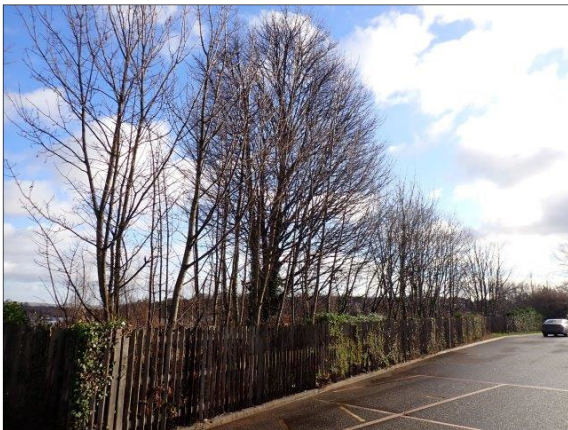


Plate 34. G4 Broad-leaved belt (western boundary)

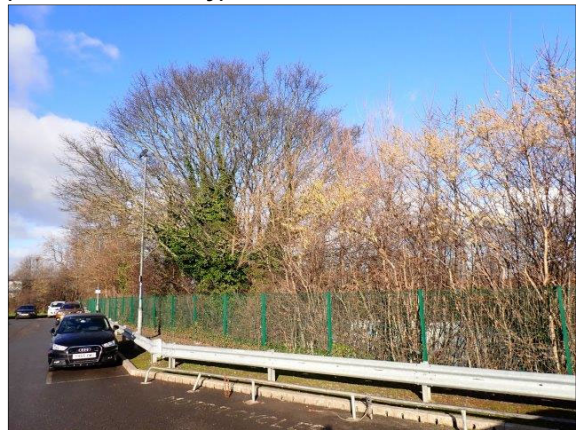


Plate 35. G4 Broad-leaved belt (western boundary)



Plate 36. G4 Frost crack

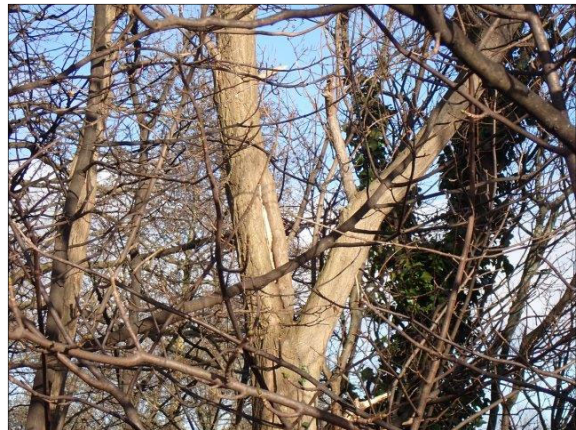


Plate 37. G4 Cavity



Plate 38. G4 Dense ivy covering



Plate 39. Car Park



Plate 40. Stone Wall



Plate 41. Stone Wall



Plate 42. Stone Wall



Plate 43. Covid-19 Walk-through Testing site



Plate 44. Covid-19 Walk-through Testing site



Plate 45. Covid-19 Walk-through Testing site



Plate 46. Covid-19 Walk-through Testing site



Appendix E - Bat Mitigation Strategy

Legal Protection

In England, all bat species and their roosts are protected under European Law (The Conservation of Habitats and Species Regulations 2017) and considered to be European Protected Species, and UK Law (Wildlife and Countryside Act 1981, as amended).

A bat roost is defined as being 'any structure or place that is used for shelter or protection', and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

European Protected Species and Planning

Where a European protected species might be affected by a development, planning authorities need to have regard to the Conservation of Habitats and Species Regulations 2017 which requires a system of "strict protection" for European Protected Species, and prohibits certain activities. This requires the planning system to effectively prevent harm to such protected wild animals.

The Conservation of Habitats and Species Regulations 2017 does, though, provide a derogation for developments that satisfy the following three tests:

- a) There are no feasible alternative solutions to the development that are less damaging.
- b) There are "imperative reasons of overriding public interest" (IROPI) for the development to proceed.
- c) The proposal will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range.

The prohibited activities are made criminal offences by the Conservation of Habitats and Species Regulations 2017. It is, however, a defence for a person prosecuted to provide evidence that they are in receipt of a derogation licence.

Where the harm is liable to come directly from the development itself (e.g. disturbance from construction noise or destruction of a bat roost), the planning authority may grant permission only if it considers that the derogation tests (three tests) are satisfied such that it is likely the applicant will be issued with an EPS licence by the relevant licensing body.

Does the Project Satisfy the *Three Tests*?

No feasible alternative solutions

With regards to the any proposed works to the stone wall, there is 'no satisfactory alternative' as the failure to complete repair and restoration works could lead to the decline of the integrity of the retaining wall.

Imperative reasons of overriding public interest (IROPI)

It is likely that any proposed works to the stone wall will satisfy the need in terms of a 'social and economic basis'. The project will ensure the long term integrity of the stone wall.

Maintenance of favourable conservation status (FCS)

The survey has identified 1 no. common pipistrelle day roosts within the stone wall. The method statement will ensure bat roosting features are maintained throughout and on completion of the proposed works. This outline mitigation strategy will ensure that the favourable conservation status of the existing bat roosts is maintained.

Method Statement

Any proposed works to the stone wall, will follow a strict method statement whereby sensitive stages of the works are carried out by hand and are overseen by the Named Ecologist on the EPSL.

Prior to the start of works on site, a 'toolbox talk' should be given to the site contractors identifying the locations where bats are likely to be encountered, their responsibilities under UK Legislation and the EPSL method statement; plus, what they should do if any bats are encountered during works.

Works to gaps where bat roosts maybe present will be overseen by the Ecological Consultant (or appropriately experienced bat worker) with the work carried out in suitable weather conditions, i.e. dry, with low wind.

Handling of bats during development

A temporary woodcrete bat box will be mounted on an appropriate location within the site to house any bats that may be found during the works.

Any bats found during searches will be held temporarily in cotton tie-string bags or other suitable containers and will be placed in the temporary bat boxes immediately after capture.

If any bats are to be released at dusk, the Ecological Consultant will be responsible for making all necessary decisions about the time and position of release of bats.

If bats are discovered during the works when the licensed bat worker is not present, all workers must withdraw from the area and the bat worker must be contacted for guidance.

Compensation Roosts

Artificial/bespoke bat roosting features will be integrated into the stone wall to provide compensatory roost for the common pipistrelle day roost.