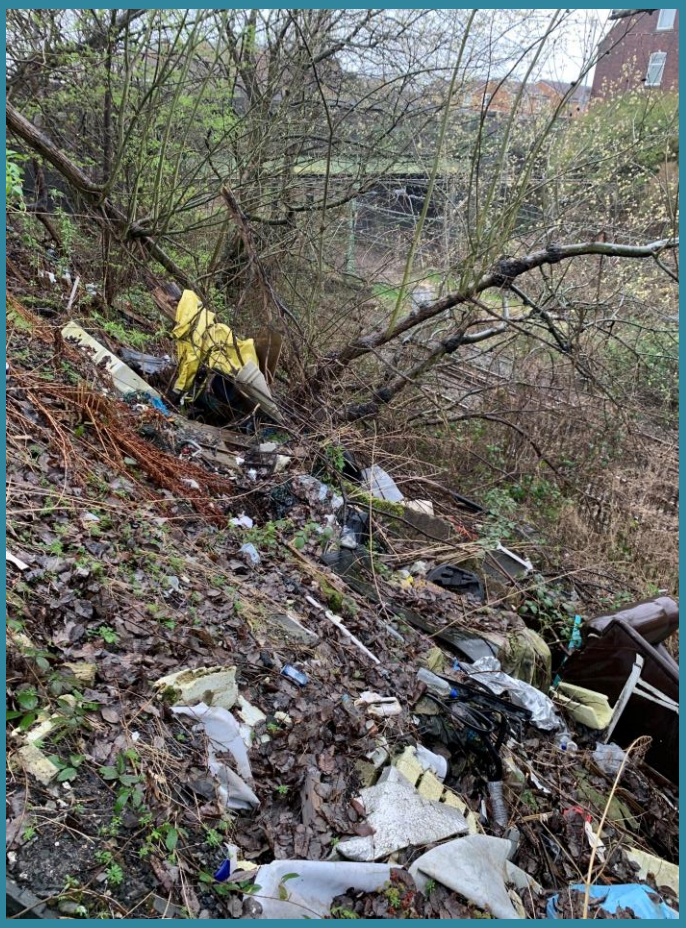

Preliminary Bat Roost Appraisal And Update Badger Survey Report

Land off Vine Street, Gorton, Manchester

Prepared on behalf of
Kirkland Developments (Gorton) Ltd

CIEEM REGISTERED PRACTICE 2022-2023

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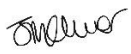
Proofed by:	**Jenny Oliver** BSc(Hons), Managing Director	**Signature:**	

This report has been prepared with all reasonable skill, care and diligence, within the terms of the contract with the client. This report is confidential to the Client. Biora Ltd accepts no responsibility of whatever nature to third parties to whom this report may be made known.

This report is based on survey data gathered in 2020 and in March 2023 at this site at land off Vine Street, Gorton, Manchester M11 1LL.

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1.0 SUMMARY

1.1 Biora was re-commissioned by Mike Stewart Architecture on behalf of Kirkland Developments (Gorton) Ltd to carry out a Bat Root Appraisal and an Update Badger Survey of land off Vine Street, Gorton, Manchester.

1.2 Preliminary Ecological Appraisal Survey had previously been carried out by Biora for this site to support a planning application in 2020 to re-develop this site for residential use, creating 25 x two-storey houses, with associated access and landscaping (Ref: 128864/OO/2020). This update survey was commissioned to discharge reserved matters for the application.

1.3 Badger and Bat Roost Assessment surveys were conducted on 28th March 2023 by Dr David Hackett (Director) and Lydia Clarke (Graduate Biodiversity Consultant), following best-practice methodologies for each survey type.

1.4 Field survey found no evidence of Badger *Meles meles* setts on or immediately adjacent to the site, no evidence of Badger foraging on the site.

1.5 Field survey found no evidence for bat roosting on or immediately adjacent to the site. There are no buildings or suitably mature trees on site to support bat roosts. It is likely, however, given the nature of the vegetation on the site, that bats forage at this location and commute along the vegetation on the banks of the adjacent railway cutting.

1.6 While there is no requirement for licencing in relation to these protected species, recommendations are made to minimise potential disturbance of foraging bats, in relation to installed lighting in particular.

1.7 For further information on this survey report, contact Dr D. Hackett d.hackett@bioragroup.com

2.0 INTRODUCTION

2.1 Background and Scope of Survey

2.1.1 Biora was re-commissioned by Mike Stewart Architecture on behalf of Kirkland Developments (Gorton) Ltd to carry out a Bat Root Appraisal and an Update Badger Survey of land off Vine Street, Gorton, Manchester. Preliminary Ecological Appraisal survey had previously been carried out by Biora for this site to support a planning application in 2020 to re-develop this site for residential use. This update survey was commissioned to discharge reserved matters for the application. This report should be read in conjunction with Biora's "Land off Vine Street Gorton – PEA" report, Ref: SE0920-01, Dated 7th December 2020.

2.2 Proposed Development Works

2.2.1 The proposed development is for creation of 25 x two-storey houses, with associated access and landscaping (Ref: 128864/OO/2020). The proposed development is illustrated in ***Plan 3***.

2.3 Aims of the Survey

2.3.1 These surveys aimed to:

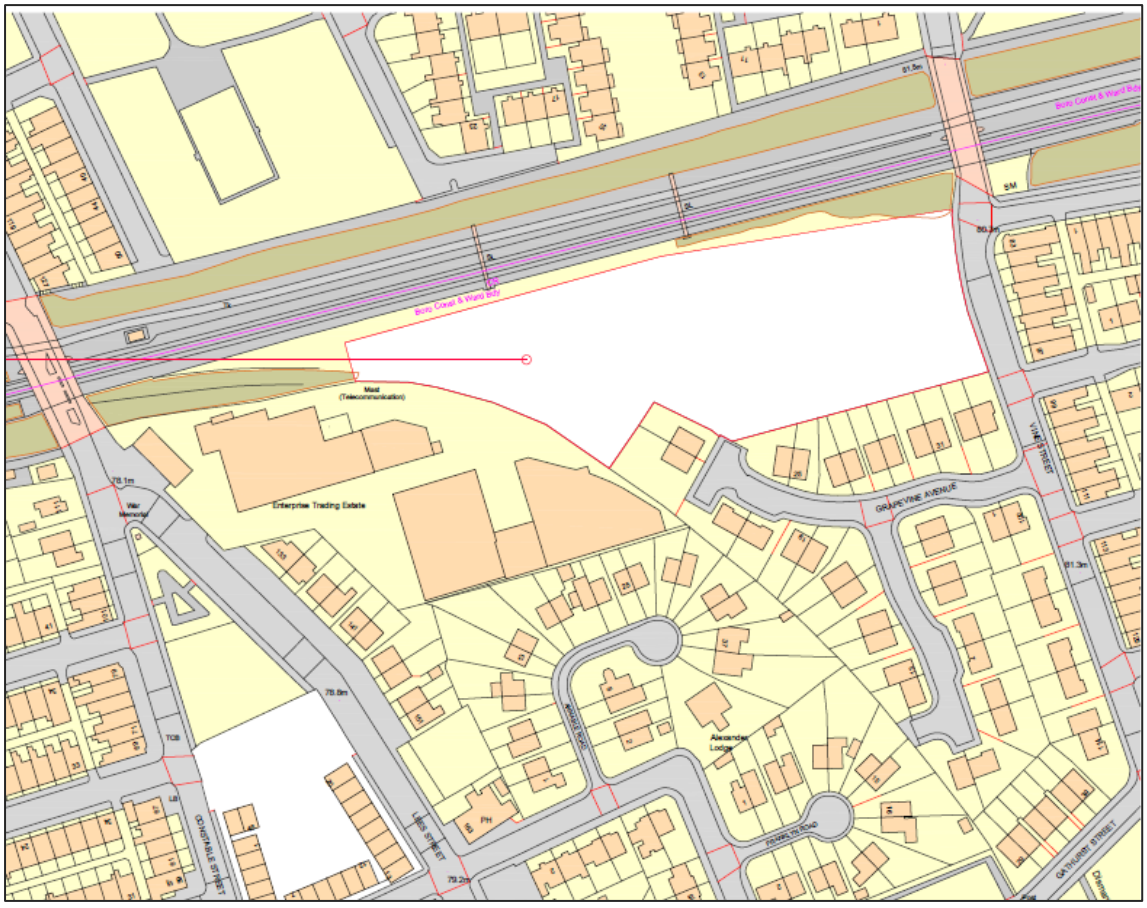
- Determine the potential of the site to support bats and badgers;
- Assess the current ecological value of the site for bats and badgers;
- Assess the likely impacts of the proposed development on bats and badgers; and
- Advise on the requirement for further survey, mitigation, compensation, or licensing should the proposed redevelopment be considered likely to result in adverse impacts on biodiversity or fail compliance with current ecological legislation and/or planning policies.

2.4 Site Description and Context

2.4.1 Measuring approximately 0.8ha and situated on derelict land off Vine Street, Gorton in Manchester M18 8SR, the application site comprises formerly developed land between housing and a railway line. The site is in an urban situation to the north-east of the city of Manchester, to the south of a railway line and to the west of Vine Street.

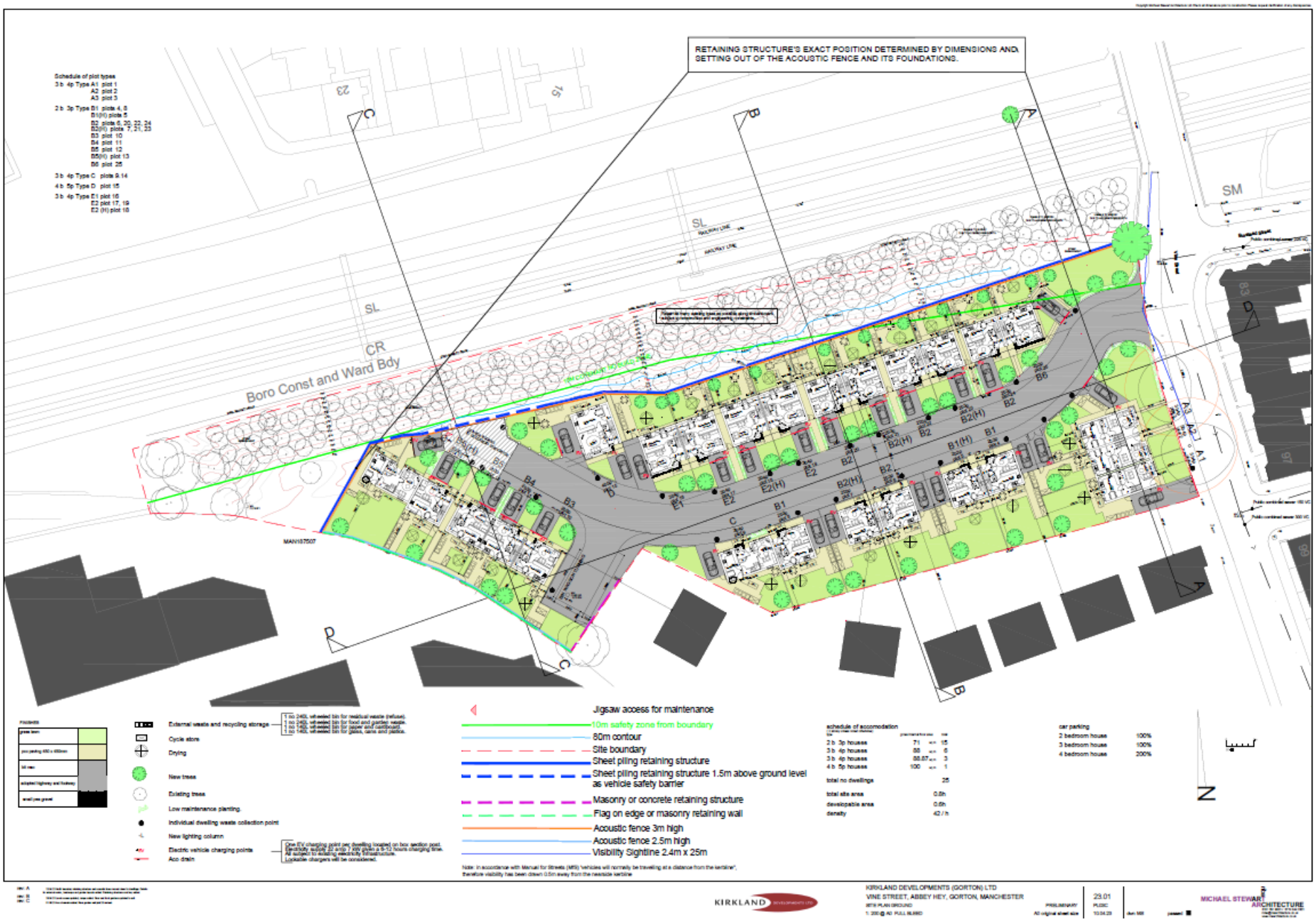
2.4.2 The site is centred on OS grid reference: **SJ 89226 96964.** The survey area (application boundary) is provided at ***Plan 1***; the location of the site within the wider landscape is provided at ***Plan 2***. The proposed redevelopment is illustrated in ***Plan 3***.

Plan 1: Site Red Line Boundary (Client supplied, not to scale)



Plan 2: Site Location (not to scale)

Plan 3: Proposed Development (Client supplied, not to scale)



3.0 SURVEY AND EVALUATION METHODOLOGIES

3.1 Pre-survey Data Search

3.1.1 Prior to field survey in 2020 and in accordance with the British Standard for Biodiversity[1], desk study had been carried out to identify any nearby sites of national or local nature conservation designation, and to request details of any legally protected or notable[2] species local to the site made to GMLRC, hosted by the Greater Manchester Ecology Unit (GMEU).

3.2 Field Survey

3.2.1 Badger and Bat Roost Assessment surveys were conducted on 28th March 2023 by Dr David Hackett (Director), assisted by Lydia Clarke (Graduate Biodiversity Consultant), during daytime hours and suitable weather conditions. Surveyors followed best-practice guidance for both Badger *Meles meles* and bat species[3] throughout survey.

3.2.2 Badger survey involved a walkover of all accessible land within and adjacent to the site, with both surveyors closely checking for signs of badger activity including tracks, spraints, snuffle holes, setts etc. Although land outside the survey area could not be fully accessed, surveyors check for evidence of Badger within this adjacent land wherever it was visible from within site.

3.2.3 Bat roost assessment survey involved both surveyors checking all tree on site for maturity and for evidence of Potential Roost Features (PRFs) including cracks/ hollows, as well as any other signs of bat roosting or feeding (including droppings, evidence of insect wings etc). There are no buildings on site.

3.2.4 Details of field survey date(s), time, personnel, weather conditions and equipment used are provided at ***Table 1*** below.

Table 1: Survey Dates, Surveyors, Weather Conditions, Equipment

Date & Time of Survey	Personnel	Weather Conditions	Survey Equipment
Date: 28/03/2023 *Start time: 14.00*	David Hackett Lydia Clarke	*Air temperature:* 12°C, *Wind speed*: 0km/h, *Cloud cover:* 40%, *Precipitation:* None	Binoculars Digital camera Garmin GPS unit

3.3 Survey Personnel

3.3.1 **David Hackett BSc (Hons) MLD PhD MCIEEM** is an ecologist and landscape architect with over twenty years' experience of leading ecological surveys, licensing and habitat design. David has held licences and been Named Ecologist for multiple licences for Bat species, Badger *Meles meles*, Otter *Lutra lutra* and Great crested newt *Triturus cristatus*. David is a Member of the Chartered Institute of Ecology and Environmental, the British Society for Soil Science, the British Ecological Society and a member of Cheshire Bat Group.

3.3.2 **Lydia Clarke BSc (Hons)** is a Graduate Biodiversity Consultant at Biora, experienced in conducting Preliminary Ecological Appraisal, Bat, Badger surveys and Habitat Conditions Assessments for Biodiversity Net Gain.

3.4 Survey Limitations

3.4.1 March is optimal for badger survey, with the animals active and trees still not in full leaf. Bat roost assessments can be undertaken at any time of year, but the absence of foliage in trees makes it more useful during the early Spring months.

3.4.2 The steepness of the bank sloping towards the railway line made traversing this land difficult, however surveyors had clear views through vegetation of the full survey area.

3.4.3 Surveyors did not haver permission to enter adjacent private land on which Badger activity (including setts) had been recorded (see ***Table 2*** below for location).

3.4.4 In addition land at this site had been heavily disturbed recently and such disturbance could potentially have removed signs of Badger activity.

[1] BS:42020 (2013) Biodiversity. Code of practice for planning and development.
[2] Subject of a Species Action Plan under UK or Local Biodiversity Action Plan, or a species listed in Section 41 of the NERC Act (2006) as one of *"principal importance for the conservation of biodiversity"*.
[3] Bat Conservation Trust (BCT) and the Bat Workers' Manual (2004); Natural England (Standing Advice for Bats and for Badgers) and the Mammal Society, Surveying Badgers (Harris, S. *et al*, 1989)

4.0 SURVEY RESULTS AND EVALUATION

4.1 Desk Study

4.1.1 The data search of 2020 returned records of several protected species within 2km of the site over the past decade. Records for Badger and bat species are provided at ***Table 2*** below. Please note that the precise location of the nearby Badger setts are not provided in this table.

Table 2: Results of Ecological Data Request for Protected Species 2020 – Bats and Badgers

Common Name	Scientific Name	Group	Records	Distance (closest)	Designations
Brown Long-eared Bat	*Plecotus auritus*	Terrestrial Mammal	1	1.1km E	LBAP, WCA5, S41, HabRegs2, UKBAP
Common Pipistrelle	*Pipistrellus pipistrellus*	Terrestrial Mammal	52	50m NE	WCA5, S41, HabRegs2
Noctule Bat	*Nyctalus noctula*	Terrestrial Mammal	4	160m NW	LBAP, WCA5, S41, HabRegs2, UKBAP
Pipistrelle species	*Pipistrellus*	Terrestrial Mammal	24	200m NW	WCA5, S41, HabRegs2
Soprano Pipistrelle	*Pipistrellus pygmaeus*	Terrestrial Mammal	5	1km S	LBAP, WCA5, S41, HabRegs2, UKBAP
Daubenton's Bat	*Myotis sp.*	Terrestrial Mammal	2	120m N	LBAP, WCA5, S41, HabRegs2, UKBAP
Whiskered Bat	*Myotis mystacinus*	Terrestrial Mammal	1	110m NE	LBAP, WCA5, S41, HabRegs2
Eurasian Badger	*Meles meles*	Terrestrial Mammal	6x setts, 4x field signs	70m	BAct

4.1.2 No evidence of Badger activity or bat roost potential were recorded on site during Biora's 2020 Preliminary Ecological Appraisal (PEA) survey of this site.

4.2 Field Survey:

4.2.1 Site Context and Connectivity

4.2.1.1 The site is bordered by Vine Street and housing to the east, by housing to the south, light industrial development and offices to the south-west, Lees Street and housing beyond to the west and the railway and housing beyond to the north. The vegetated embankments of the railway line represent a 'green corridor' running east-west through the city.

4.2.2 Habitats

4.2.2.1 The site is typical of disturbed, previously-developed sites in urban areas, with a mix of colonising scrub/ trees: mainly Bramble *Rubus fruticosus* agg. Birch *Betula pendula* and Goat willow *Salix caprea*) with ruderals, bare ground and garden escapes.

4.2.2.2 The bank leading down to the railway line had a continuous closed canopy of Birch *Betula pendula* and Willow *Salix spp* scrub (***Photograph P01***), of roughly even age, that had developed over a period of approximately 15 to 20 years.

4.2.2.3 PEA survey in 2020 had recorded the following habitat parcels on site:

Table 3: JNCC Phase 1 Habitats Recorded by Survey

Habitat Parcels	Description
A2.1 –Scrub	There were extensive patches of scrub, largely bramble *Rubus fruticosus agg* with young goat willow *Salix caprea*. and occasional gorse *Ulex europeaus*, broom *Cytisus scoparius* and raspberry *Rubus idaeus*.
A1.1.1– Broadleaved Woodland	The majority of this woodland comprises young birch *Betula pubescens,* with multi-stem goat willow, but also young poplar *Populus nigra* subsp. b*etulifolia*?, and occasional ash Fraxinus excelsior and cherry *Prunus padus.*
J1.4 – Tall ruderal	There were patches of tall ruderals scattered across the site, with a variety of weed species, including Large-flowered Evening Primrose *Oenothera glazioviana*
J2.4 - Fence	The site was bordered by a fence of overlapping vertical timber sections on concrete posts to the south.
J4 – Bare ground	There were extensive areas of cleared ground on site, following illegal earthworks.

4.3 Field Survey: Badger

4.3.1 Desk study had returned records of multiple Badger setts and activity very close to this site, within 70m. However much of the adjacent site (the recorded location of Badger) had been cleared by the time of survey in 2020 and no signs of Badger activity had been noted during that survey.

4.3.2 This field survey identified no evidence of Badger (tracks, latrines, hairs, prints etc) at any location.

4.3.3 Suitable habitat for Badger was noted in the bank leading down to the railway line. Suitable hollows were noted in this area (see ***Photograph P02*** below), within piles of excavated material on the embankment, however no signs of Badger activity were recorded.

4.3.4 Private residential gardens lie Immediately adjacent to the site along its southern boundary and surveyors were able to visually inspect these gardens from within the site's boundaries. No evidence of Badger activity was recorded in this area, nor in the embankment to the west of the site, to the rear of the factory units.

4.3.5 Foraging habitat on site for Badger was generally low-quality (likely a low number of earthworms, but invertebrates beneath stones), with a lack of fruit-bearing trees and/ or hedgerows which could provide suitable food sources.

Photograph P01: Continuous closed tree cover on Railway embankment, suitable for Badger setts

Photograph P02: Hollows within embankment

4.4 Field Survey: Bats

4.4.1 Desk study had returned several records of bats within 2km of the site over the past 10 years.

4.4.2 As there are no buildings or suitably mature trees on site, the site is highly unlikely to support bat roosts.

4.4.3 Habitats at this site generally provide moderate habitat for foraging and commuting bats; the site also connects to the railway line, which represents a green corridor, following the establishment of scrub and woodland on the embankments. It is likely that bats forage and commute at this location.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Habitats

5.1.1 There was biodiversity value in the young trees, scrub and ruderals that covered this brownfield site in a mosaic of habitats. However this had been substantially reduced by the illegal actions of a third party in site clearance and fly-tipping. The proposed re-development of the site should at least seek to preserve the value of the railway embankment as part of a green corridor in the wider landscape, as well as maintenance and enhancement of trees and scrub in this area, given their likely value to foraging and commuting bats and as potential foraging /sett location for Badger.

5.2 Bats

5.2.1 All British bats are European Protected Species (EPS) and are fully protected under Schedule 2 of The Conservation of Habitats and Species Regulations 2010 (as amended) and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation, it is an offence *to intentionally capture, kill, disturb, or injure a bat; to damage or destroy a breeding or resting place (whether in use or not); to obstruct access to their resting or sheltering places; or to possess, sell, control or transport live or dead bats, or parts of a bat*.

5.2.2 All species of British bat are also the subject of a UK-wide Biodiversity Action Plan (BAP), any many species are also listed under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act.

5.2.3 Bat species in the local area are likely to use this site and the adjacent embankment and railway line for both foraging and commuting, however there are currently no opportunities for bat roosting at this site.

5.2.4 The proposed landscape would benefit bats where there is enhancement by native planting of shrubs and highly-scented herbs which will attract invertebrates as a food source for bat species, particularly along the railway corridor (see **Appendix 1** for suitable species)..

5.2.5 The proposed lighting scheme for this re-development should by sympathetic to bats and avoid negative impacts on foraging and commuting bats (see **Appendix 2** for design guidelines).

5.3 Badger

5.3.1 All badgers are protected from harm under the Protection of Badgers Act (1992). Under this act it is an offence:

- To kill, injure or take a badger, or to attempt to do so;
- To use badger tongs in the course of killing or taking, or attempting to kill or take, any badger;
- To kill or take a badger with a firearm which does not fall within the specifications laid down in the Act;
- To dig for a badger;
- To cruelly ill-treat a badger;
- To possess or control a live badger;
- To sell or offer for sale a live badger;
- To mark, or attach any ring, tag or marking device to a badger;
- To possess or control any dead badger, any part of one, or anything derived from one;
- To interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.

5.3.2 Where badgers are found to be present at a proposed development site, it is usually possible to continue with the proposed project, but only upon receipt of a site-specific licence from Natural England. A licence is always required to shut down a badger sett or for works within 30m of a badger sett. The licence application process can be complex and can only be conducted by a suitably qualified badger-specialist ecologist. Each licence application must be supported by:

- Full optimal-season badger survey results and analysis;
- A suitable mitigation strategy that ensures that the favourable conservation status of the badger population will be maintained (this usually involves the provision by the developer of replacement artificial setts, planting of suitable fruit-bearing shrubs, erection of badger gates and underpasses within the development site). This mitigation strategy should usually be agreed by the ecologist through liaison with Natural England; and
- A method statement explaining how badgers will be accommodated legally if found during the development process.

5.3.3 No evidence of Badger activity was found at any location within or adjacent this site during survey.

5.3.4 This site contains areas suitable for Badger sett-building and more limited areas for Badger foraging. In addition the nearby railway corridor provides a potential commuting and foraging route for the species and Badgers are known to have been present in recent years very close to this site's boundaries. Surveyors were unable to access private adjacent land to

confirm the current status of Badger close to this site. In addition the site had recently been subject to heavy disturbance, which could have removed recent or more historic evidence of Badger usage.

5.3.5 With multiple records of Badger from within 70m of this site, it is likely that Badgers have foraged at this location and may forage at this site in future. Measures should be taken, therefore, to ensure that foraging and communing opportunities are maintained at this location, in particular, to maintain access to the vegetated railway embankment

5.3.6 While no evidence was found for Badger during either survey on site, the species tends to be seasonal in its use of sites and can very rapidly colonise, particularly in the creation of outlier setts. Reasonable Avoidance Measures should be drawn up and followed by all site professionals to avoid accidental harm to any Badgers that might colonise the site during the development process. Should any evidence of Badger activity be recorded by any member of the site clearance/ demolition/ construction team, then works on site should cease until a further Badger survey has been completed and any legally-required licensing work has been completed.

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NATURAL ENGLAND *Standing Advice Species Sheet: Bats*

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APPENDIX 1: Native Plant Species Suitable for Bat Foraging

Planting to enhance a site for bats should aim to provide a habitat rich in insects, and with the potential for alternative roosting sites. The following are examples of plant species, which can be used where appropriate, to enhance a landscape for bats.

Night-scented flowers

As bats usually feed at dusk and dawn it is advantageous to use night-scented flowers which will attract moths and other night-flying insects.

Re-seeding

Where re-seeding is to take place the choice of a 'conservation mix' of grass seed would be preferential. The management of grassland areas as hay meadows, without use of herbicides/fertilisers and allowing the grass to go to seed prior to cutting is beneficial in allowing larval stages of the insects to develop.

Common Name	Scientific Name
Trees and Shrubs (of local provenance where possible)	
Oak	*Quercus robur*
Ash	*Fraxinus excelsior*
Silver Birch	*Betula pendula*
Field Maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Alder	*Alnus glutinosa*
Goat Willow	*Salix caprea*
Guelder Rose	*Viburnum opulus*
Hazel	*Coryllus avellana*
Blackthorn	*Prunus spinosa*
Elder	*Sambucus nigra*
Night-scented flowers	
Nottingham Catchfly	*Silene nutans*
Night -flowering Catchfly	*S. noctiflora*
Bladder Campion	*S. vulgaris*
Night-scented Stock	*Matthiola bicornis*
Dame's-violet	*Hesperis matronalis*
Common Evening-primrose	*Oenothera biennis*
Soapwort	*Saponaria officinalis*
Scented herbs	
Chives	*Allium schoenoprasum*
Sage	*Salvia officinalis*
Marjoram	*Origanum vulgare*
Borage	*Borago officinalis*
Mint	*Mentha* sp.
Climbers	
Honeysuckle (native)	*Lonicera periclymenum*
Traveller's-joys	*Clematis vitalba*
Dog-rose	*Rosa canina*
Sweet-briar	*R. rubiginosa*
Field-rose	*R. arvensis*
Ivy	*Hedera helix*
Bramble	*Rubus fruticosus* agg

APPENDIX 2: BCT Guidance on Sympathetic Lighting Designs for Bats

Guidance has been recently updated, provided by the Bat Conservation Trust (2018) in the following document: layout (bats.org.uk)
General guidance for sympathetic lighting is also given below.

GENERAL

Type of lamp (light source)
The impact on bats can be minimised using low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics.

Luminaire and light spill accessories
Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned to form a barrier.

Lighting column
The height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. However, there are cases where a taller column will enable light to be directed downwards at a more acute angle and thereby reduce horizontal spill. For pedestrian lighting this can take the form of low level lighting that is as directional as possible and below three lux at ground level. The acceptable level of lighting may vary dependent upon the surroundings and on the species of bat affected.

Predicting where the light cone and light spill will occur
There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels
The light should be as low as guidelines permit. If lighting is not needed, don't light.

Timing of lighting
The times during which the lighting is on should be limited to provide some dark periods. Roads or trackways in areas important for foraging bats should contain stretches left unlit to avoid isolation of bat colonies. These unlit stretches should be 10 metres in length either side of commuting route.

SECURITY LIGHTING

Power
It is rarely necessary to use a lamp of greater than 2000 lumens (150 W) in security lights. The use of a higher power is not as effective for the intended function and will be more disturbing for bats.

Movement sensors
Many security lights are fitted with movement sensors which, if well installed and aimed, will reduce the amount of time a light is on each night. This is more easily achieved in a system where the light unit and the movement sensor can be separately aimed.

Timers
If the light is fitted with a timer this should be adjusted to the minimum to reduce the amount of 'lit time'.

Aim of light
The light should be aimed to illuminate only the immediate area required by using as sharp a downward angle as possible. This lit area must avoid being directed at, or close to, any bats' roost access points or flight paths from the roost. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.

Alternatives
It may be a better solution for security lighting on domestic properties to use a porch light.