arbtech

Anneke Greenman MSc BSc (Hons)
Consultant Ecologist
Email: annekegreenman@arbtech.co.uk
Arbtech Consulting Ltd
arbtech.co.uk

Preliminary Ecological Appraisal & Preliminary Roost Assessment

Survey site:
Providence Mills, Wormald Street, Liversedge WF156AR

Client:
Barnes Homes

Survey date:
23/02/2026

Project:
This report is prepared to inform a planning application with Kirklees Council. This proposal can be described as construction of an additional unit.

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion

Executive Summary

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Tables 1, 3 & 4 of this report.

Key Findings	
Buildings, Bats.	Further bat surveys necessary on B1, though this building does not form part of the current planning application.
Protected and Priority species	Precautionary working methods required to protect Otter and Common Amphibians.
Nesting birds	Habitat is suitable on site for nesting birds.
Biodiversity net gain assessment	Works will result in a net biodiversity loss at the site.

Contents

Introduction and Context

Introduction

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author's knowledge, by any other consultancy.

Methodology

PEA survey methodology and legislation can be found in the Arbtech Supplement: PEA Methodology and Legislation - 2025.

PRA survey methodology and legislation can be found in the Arbtech Supplement: PRA Methodology and Legislation - 2025.

Limitations

Whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report is a preliminary assessment and does not provide a complete characterisation of the site. Nor does it represent a full botanical assessment. It assesses the likelihood of protected, notable and important habitats and species being present, based on a site and landscape level habitat value-based risk assessment. This is based upon the ecology, biology and known distribution of species as currently understood.

A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

The survey was completed outside of the optimal survey period (April to October) for ground flora, and as such the accuracy of botanical assessment and condition assessment data may be limited in terms of species visible and ground conditions at the time of survey.

Results, Impacts and Recommendations

Site Location and Landscape Context

Table 1: Site location and landscape context

Site Location
The site is located at National Grid Reference SE 20848 23564 and has an area of approximately 0.21ha comprising one building, two scattered trees, developed land; sealed surface, artificial unvegetated, unsealed surface and non-native and ornamental hedgerow. The site is located in an urban setting, immediately surrounded by a retail park of office blocks to the north, and a busy road to the east. The River Spen runs from west to east along the southern boundary of the site, with further hardstanding to the south of the River which forms part of the further site ownership. The site is enclosed to the north, east, and south by urban infrastructure. The River Spen runs to the south of the site. The wider landscape is primarily urban, with the site lying within the urban location of Liversedge, West Yorkshire. Tree lines are present within the wider habitat, notably approximately 300m south bordering the NCN66. A review of historic maps indicates the landscape has remained largely unchanged since the late 1800s. The site is hydrologically connected, with the River Spen running along the southern boundary. This eventually connects to the River Calder, approximately 4km downstream. A variable soil and subsoil typically Peat or layered clay, sand and silt (riverine). Mildly Acidic to Neutral (pH: 4.5 - 6.5).
Priority Habitats and Designated Sites
Summary of Survey Findings <u>Priority Habitats</u> There are 2 priority habitats located within 2 km of the site. These comprise deciduous woodland and traditional orchard. The closest priority habitat comprises deciduous woodland, located ~70 m SW of the site. Whilst the site is surrounded by urban land, the River Spen provides connectivity into habitats within the wider environment. <u>Designated Sites</u>

There are no other statutory sites within 2 km of the site.

The site does fall within the impact risk zone for SSSI however, the proposed development type is not listed as possible high risk with regard to this designation.

The presence of non-statutory designated sites within 2km of the site cannot be established without data from the local records centre. Whilst some habitats in the wider landscape may host designations, the immediate environs of the site do not host habitats likely to be of designable quality.

Impacts

No direct impacts to any designated sites will occur as a result of the proposed development, due to the small scale and low overall impact of the development from such sites (where known), alongside additional factors such as distance in combination with connectivity disrupting barriers.

Recommendations

No recommendations.

Habitats and Flora

The site survey was undertaken by Anneke Greenman MSc BSc (Hons), Consultant Ecologist.

Table 2: Survey weather conditions

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
23/02/2026	10.5	75	40	41.8	None

Table 3: Habitats and floras

Habitats and Flora: Conclusion, Impact or Recommendations
This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All

clients are expected to read and understand this section, or to contact the lead surveyor for advice.

Onsite habitats

Summary of Survey Findings

Developed land; sealed surface (u1b)
Sealed surface land was present on site as concrete hardstanding.

In accordance with the Statutory Biodiversity Metric Condition Assessment Matrix, this habitat is not subject to a condition assessment and is automatically assigned a N/A condition.

Artificial unvegetated, unsealed surface (u1c)
To the eastern side of B1, a parcel of unsealed land is present. This parcel has remnants of cleared introduced scrub, though it is now cleared and covered with gravel. Further parcels of unsealed surface land are present along the northern boundary of the site.

Species present within this habitat include buddleja (Buddleja davidii), large bindweed (Calystegia silvatica), bramble sp. (Rubus sp.) and cherry laurel (Prunus laurocerasus).

In accordance with the Statutory Biodiversity Metric Condition Assessment Matrix, this habitat is not subject to a condition assessment and is automatically assigned a N/A condition.

Non-native and ornamental hedgerow (h2b)
In the southeast corner of the site a tall non native hedgerow is present behind B2 (a small gas building). This consists of Cherry Laurel, approximately 4.5m in height.

Species present within this habitat include cherry laurel (Prunus laurocerasus).

In accordance with the Statutory Biodiversity Metric Condition Assessment Matrix, this habitat is not subject to a condition assessment and is automatically assigned a poor condition.

Scattered Trees (32)

There are two scattered trees on site, one medium Silver Birch *(Betula pendula)* and one small, dead, Hazel (*Corylus avellana).* Both species are native to the UK. In accordance with the Statutory Biodiversity Metric Condition Assessment Matrix, the individual trees were assessed to have the following condition values:

Table 3a: The individual condition scores of each tree on site.

No.	Tree	Condition Score	Size Category
#1	Silver Birch *(Betula pendula)*	Good	Medium
#2	Common Hazel *(Corylus avellana)*	Poor	Small

Building (u1b5)

There is one building on site (B2) which is a small outbuilding, and a large warehouse (B1) which is adjacent to the eastern site boundary. Full details for buildings on site are included within Table 4.

Impacts

No direct impacts to any notable habitats will occur as a result of the proposed development. The Silver Birch tree is not scheduled to be removed during demolition. Indirect impacts to the adjacent Spen River may occur as a result of the proposed works if precautions are not taken.

Recommendations

Best practice measures to minimise the possibility of pollution must be implemented during construction. This should include the following measures:

A Construction Ecological Management Plan (CEMP) will be required, outlining best practice measures delineate the construction zone and to minimise the possibility of pollution and habitat damage during construction.

The proposed development may require a Biodiversity Net Gain assessment, to calculate the value of habitats on site and ensure the delivery of a minimum of 10% measurable biodiversity net gain.

Invasive / Non-native species

Summary of Survey Findings

No non-native invasive or otherwise problematic plants were recorded on site.

Impacts

None.

Recommendations

Remain vigilant for invasive species on site.

Fauna

Table 4: Fauna

Fauna: Conclusion, Impact or Recommendations

This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

Roosting Bats

Summary of Survey Findings

Building B1 is located off site of the updated red line boundary but was originally assessed as part of the previous red line boundary for the site. The building remains within influencing distance of the development, and original recommendations made in line with the building being included within the red line boundary remain valid. B1 provides moderate roosting habitat for bats in the form of features present. Further detail on features present can be found within the building section of this report. One tree is present on site, this was not assessed to have any roosting features suitable for roosting bats.

Buildings

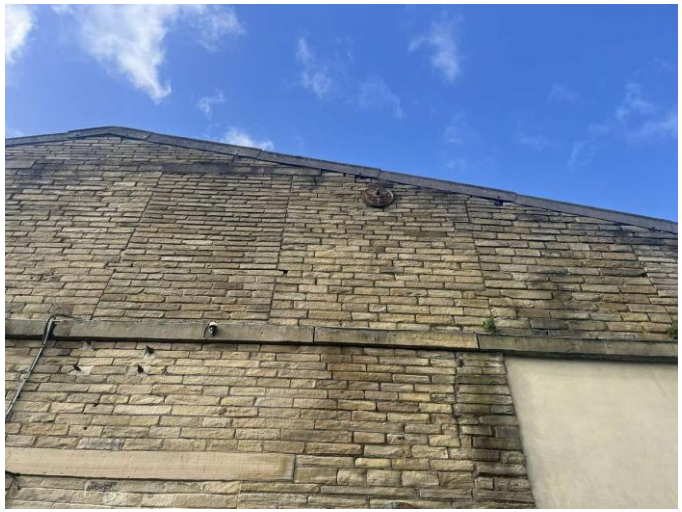
Building B1 Description	
B1 is a single-storey warehouse constructed of block-built walls with a gabled roof clad in corrugated metal sheeting. No internal loft voids were present. No bat evidence was found during the survey. **This building is adjacent to the red line boundary but was assessed before the boundary was updated.** In line with Good Practice Guidelines (Collins, J (Ed) 2023), B1 is assessed to have moderate habitat value for roosting bats, whilst the internal void is considered to be suitable only for foraging bats rather than as a roosting feature, there are multiple external features that provide suitable roosting sites for bats. Gapping within the brickwork both internally and externally provide crevices suitable for roosting bats. Furthermore, due to the construction of the walls, some gaps lead into the void present within the wall construction. Due to access into the internal wall construction, low hibernation suitability is also present for bats.	 *Internal of B1*

Eastern extent of B1

Western extent of B1

Feature	Materials	Condition/Suitability	Photographs

	Walls	Block-built	The block-built walls exhibit open cracks and voids. Multiple cracks and gapping along the western extent of the building provide potential roosting habitat for bats, with gaps leading into the internal wall construction. Further crevices are present along the ridge of the roof structure. Gapping was also present under the roof felt at the eastern extent of the building.	 *Gapping in brickwork and gapping under the top of the roof.*  *Gapping into the internal structure of the wall.*	

			 *Gapping at the top of the roof apex under the felting at the eastern extent of the building.*

Building B2 Description

B2 is a single-storey outbuilding for gas, of block-built construction within the red line boundary. B2 will not be impacted by the proposed works on site.	 *B2*

Trees

Both trees on site were assessed to have negligible features suitable for roosting bats.

Impacts

Potential to destroy a bat roost, or disturb roosting bats. B1, whilst currently outside of the planning application, is still within influencing distance of the proposed works. Furthermore, the works planned for B1 include modifications to the internal of B1 which will impact roosting bats if they are present.

Recommendations

Dependent on the outcome of further surveys.

Foraging and Commuting Bats

Summary of Survey Findings

The scattered tree on site and non-native hedgerow could be used by local bat populations for foraging. In addition, the site is well connected to more suitable habitats in the wider landscape by the Spen River.

Impacts

The proposed development will result in the loss of unsealed surface land and hardstanding. Given the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats.

Recommendations

A low impact lighting strategy will be adopted for the site during and post-development, which will be designed to incorporate the measures laid out in the latest (2023) bat lighting guide Guidance Note 8 Bats and Artificial Lighting 1.

The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats:

- Planting of locally characteristic tree, shrub and hedgerows to increase foraging opportunities.

Amphibians

Summary of Survey Findings

A review of MAGIC database found no granted EPSL for great crested newts within 2km of the site.

No ponds are located on, or adjacent to, the site. A review of aerial imagery shows there are no ponds within 500m of the site.

The habitats present on site are of limited value to amphibians, with no shelter or foraging present on site at the time of the survey. However, the site is adjacent to the Spen River, which is likely to provide habitat for common amphibians.

Impacts

The proposed works on site will not result in the removal of any habitat that is suitable for amphibians. However, due to the proximity of the site to the Spen River, amphibians present on site cannot be fully discounted.

Recommendations

Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures:

- Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas.
- Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.
- If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.
- In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist.

Reptiles

Summary of Survey Findings

No evidence for reptiles. The habitats on site do not provide any suitable foraging, hibernation, or commuting opportunities for reptiles.

Impacts

No impacts are anticipated on reptiles as a result of the proposed development.

Recommendations

None. However the above precautionary measures to protect common amphibians will also protect reptiles in the unlikely event they are present on or cross the site.

Birds

Summary of Survey Findings

No evidence of nesting birds was identified on or within B1 or B2, however the buildings provide suitable nest sites for species including feral pigeons. Gaps present in brickwork are also suitable for a number of passerine species including blackbirds and robins. The scattered tree and non-native hedgerow on site also provides suitable nesting.

Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.

Impacts

Unsealed land and hardstanding will be removed during construction. The loss of such habitats will be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally. However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. Although not part of this planning application, surveyed B1 is suitable for a number of nesting species including small passerines which may utilise cracking within brickwork.

Recommendations

Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests, depending on species present, until the young have fledged.

Badgers

Summary of Survey Findings

The site does not provide any habitat suitable for foraging badger, nor any sett building opportunity. Further to this, the site is situated within an urban environment, with little connectivity to suitable optimal habitat. Therefore, badgers are unlikely to be present on the site of the proposed works.

Impacts

No impacts are anticipated on badgers as a result of the proposed development.

Recommendations

None.

Riparian animals

Summary of Survey Findings

The sections of the adjacent Spen River provide no opportunity for otter holts due to hard engineered banks, however the River at this section is suitable for commuting otters. No evidence of otter was found on site at the time of the survey and no riparian habitat is present on the site , however the presence of otters on site cannot be fully discounted due to the proximity of the Spen River .

Impacts

Otters

The proposed development will not result in the loss of any riparian habitats and no works will be undertaken within 8m of the watercourse (as per Environment Agency regulations). However, due to the presence of the watercourse within close proximity of the site, indirect effects such as pollution could occur during construction. Furthermore, construction activities could result in the death or injury of otters, if present.

Water Vole

No works will be undertaken within 5m of the top of the banks of the watercourse. Therefore, no impacts are anticipated on water vole as a result of the proposed development.

Recommendations

Otters

Owing to the nature of the proposed development and the low potential for impacts to otter, further otter surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures:

- A toolbox talk will be given to contractors regarding the possible presence of otters at the site.
- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.
- The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which otters could use.
- Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that otters could use.

- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.

In the unlikely event that an otter holt or den is identified, works must cease and advise must be sought from a suitably qualified ecologist.

Water Vole
None required.

Hazel dormouse

Summary of Survey Findings

There are no suitable habitats on site to support hazel dormice.

Impacts

No impacts are anticipated on hazel dormice as a result of the proposed development.

Recommendations

None.

Invertebrates

Summary of Survey Findings

The site provides limited habitat value for a variety of commonplace species. The non -native hedgerow behind B2 and the scattered Silver Birch tree on site provide some opportunities for foraging and refuge.

Impacts

The proposed development will result in the loss of sealed and unsealed surface habitat types. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to the presence of more extensive habitat locally.

Recommendations

The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for invertebrates:

- Retention of scrub pockets
- Planting of pollinator friendly grassland species
- Installation of insect hotels
- Incorporation of log piles/dead wood
- Incorporation of bee bricks into the fabric of the new building. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation
- Creation of rock and brash piles

Other e.g. small mammals

Summary of Survey Findings

The site provides little foraging opportunity for small mammals, or shelter. Furthermore, the site is located within an urban landscape with limited connectivity to higher value habitat patches.

Impacts

No impacts are anticipated on small mammals as a result of the proposed development.

Recommendations

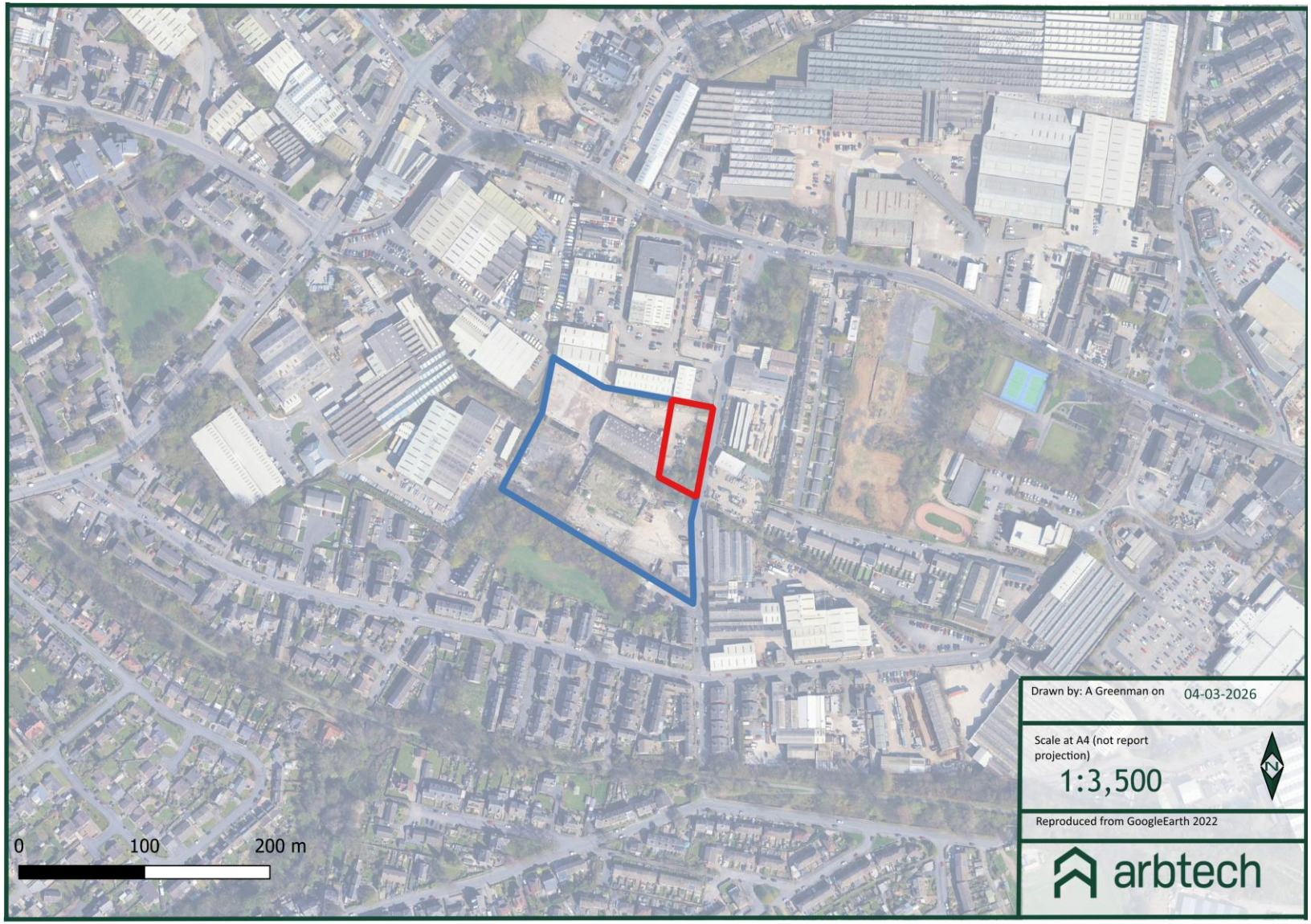
None.

The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs:

- Creation of fence gaps (14cm x 14cm) to enable small mammals to travel freely through the site
- Creation of brash piles
- Installation of hedgehog houses in shady areas.

Appendix 1: Proposed Development Plan

Appendix 2: Site Location Plan



Appendix 3: Habitat Survey Plan

Appendix 4: BERS Plan for B1

Appendix 5: Site Photographs

Photo 1: Developed land; sealed surface

Photo 2: Artificial unvegetated, unsealed surface

Photo 3: Artificial unvegetated, unsealed surface

Photo 4: Non-native and ornamental hedgerow

Photo 5: Silver Birch (Betula pendula)

Photo 6: Common Hazel (Corylus avellana)

Photo 7: Internal of B1

Photo 8: Eastern extent of B1

Photo 9: Western extent of B1

Photo 10: B2

Appendix 6: Baseline Condition Assessments

Table 8a: Scattered trees - #1 Silver Birch (betula pendula) - condition assessment.

	Criteria Description	Criteria Passed?
A	The tree is a native species (or at least 70% within the block are native species).	**Y**
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	**Y**
C	The tree is mature (or more than 50% within the block are mature).	**Y**
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	**Y**
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	**Y**
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	**N**
		Total 5/6
	Condition Good due to passing 5 of 6 criteria and all essential criteria.	

Table 8b: Scattered trees - #2 Common Hazel (corylus avellana) - condition assessment.

	Criteria Description	Criteria Passed?
A	The tree is a native species (or at least 70% within the block are native species).	**Y**
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	**N**
C	The tree is mature (or more than 50% within the block are mature).	**N**
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	**N**
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	**Y**
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	**N**
		Total 2/6
	Condition Poor due to passing 2 of 6 criteria and all essential criteria.	

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

Version Control

Status	Issue	Name	Date
Draft	0.1	Anneke Greenman MSc BSc (Hons), Consultant Ecologist	01/03/2026
Proof	0.2	Elen Griffin BSc (Hons), MRSB, Senior Ecologist, Class 2 Bat Licenced	05/03/2026
Final	1	Anneke Greenman MSc BSc (Hons), Consultant Ecologist	06/03/2026