Former Hoyle Ing Dyeworks, Linthwaite – Preliminary Ecological Appraisal & Preliminary Bat Roost Assessment

Highstone Homes

Report prepared by:
Ecus Ltd.
Brook Holt
3 Blackburn Road
Sheffield
S61 2DW

0114 266 9292

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Ecus Ltd

Report to: **Highstone Homes**
Broadstone Farm
Brown's Edge Road
Sheffield
S36 7GR

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Preliminary Ecological Appraisal

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Originated By:

Natasha Firth
Senior Ecologist Date: 25.06.2021

Reviewed By:

Daniel Best
Senior Ecologist Date: 25.06.2021

Approved By:

Faye Durkin
Regional Manager Date: 02.07.2021

Prepared by:
Ecus Ltd.
Brook Holt
3 Blackburn Road
Sheffield
S61 2DW
0114 2669292

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Executive Summary

Ecus Limited (Ecus Ltd) was commissioned in June 2021 by Highstone Homes to undertake a Preliminary Ecological Appraisal (PEA) with Preliminary Bat Roost Assessment (PBRA) for the former Hoyle Ing Dyeworks, Manchester Road, Linthwaite, HD7 5RT, hereafter referred to as 'the Site'. The Site is centred on Ordnance Survey National Grid Reference (OS NGR): SE 09811 14547.

The Site is a total of 0.24 hectares (ha), and comprises habitats including buildings, built structures, short perennial vegetation, scrub and bare ground. The Site is bounded by fencing to the west and north, and walls to the east and south.

The proposals for the Site include the construction of four residential properties, an apartment block (8 units) and the conversion of Building 1 to four apartments, along with landscaping, the creation of an access and parking.

Two non-statutory designated sites of nature conservation interest are located within 2 km of the Site. The designated sites are not anticipated to be impacted as a result of the works due to a lack of habitat connectivity between the Site and these designated sites. The Site is sited within the SSSI Impact Risk Zone for a number of SSSIs, all of which are located in excess of 4 km from the Site. Consultation with Natural England is not required as residential development is not listed as a potential impact.

All of the habitats within the Site are considered to be of importance to nature conservation at no more than the site level. It is recommended that a Biodiversity Net Gain Assessment be undertaken to assess whether no net loss or a net gain in biodiversity can be achieved.

Great crested newt is unlikely to be associated with the Site due to a lack of connectivity with ponds within 500 m. Common amphibians may however be associated with the Site due to differing habitat requirements and typical dispersal ranges. The works should proceed under Best Practice Measures for common amphibians.

Badger are not currently resident at the Site but they may pass through as part of a wider territory. Any excavations deeper than 1 m required during the construction stage should be covered overnight. Shallow excavations less than 1 m should have a scaffold board or equivalent placed in them overnight to allow any animals which may become trapped to exit.

A number of potential roost features were recorded in the buildings and built structures which provide potential access points and roost sites for bats. Building 2, Structure 1 and Walls 1-6 have been categorised as displaying low suitability whilst Building 1 has been categorised as displaying moderate suitability. In line with current guidance, it is recommended that Building 1 be subject to a dusk emergence survey and dawn re-entry survey and Building 2, Structure 1, Walls 1-6 be subject to a single dawn re-entry survey between mid-May and August. These survey would also record foraging and commuting activity by bats at the Site and will determine whether any additional further survey and/or mitigation is required.

Habitats at the Site are considered to be suitable for use by a number of nesting bird species therefore vegetation clearance and works to the buildings and structures should take place outside of the nesting bird season (typically considered to be March to August, inclusive) to avoid the risk of encountering nesting birds. Where this is not possible, a nesting bird check should take place by a suitably experienced ecologist to identify any active nests within 48 hours prior to vegetation removal and make appropriate recommendations. In order to enhance the post-development site for nesting birds, it is recommended that nesting provision be provided on 30 % of units.

The Site offers suitable habitat for common reptiles, however given the isolated nature of the Site it is considered unlikely that reptiles would have dispersed onto the Site. The Best Practice Measures detailed in respect of common amphibians will also serve to protect common reptiles, should they be associated with the Site.

Hedgehog may utilise vegetated habitats at the Site. Scrub vegetation should be cleared by hand and gaps should be provided in boundary treatments at the post-development site to enable hedgehog to disperse through the Site.

Landscape proposals should incorporate native hedgerow, shrub, scrub and flowering plant species to offset the loss of suitable invertebrate habitat at the Site. Where possible, areas of grassland in public open space should comprise a wildflower grassland and should be managed appropriately. As an enhancement, it is recommended that insect towers and bee houses are installed in areas of public open space and where appropriate, fixed to the boundary walls.

Where removal of Buddleia sp. is required or spreading may occur to facilitate construction a precautionary approach should be taken when clearing buddleia scrub during works. It is recommended that all buddleia on Site should be cleared using hand tools ensuring the entire plant is removed, and bagged up. This should then be transported to a suitable green waste facility which is made aware of the content.

1. Introduction

1.1 Background

1.1.1 Ecus Limited (Ecus Ltd) was commissioned in June 2021 by Highstone Homes to undertake a Preliminary Ecological Appraisal (PEA) with Preliminary Bat Roost Assessment (PBRA) for the former Hoyle Ing Dyeworks, Manchester Road, Linthwaite, HD7 5RT, hereafter referred to as 'the Site'. The Site is centred on Ordnance Survey National Grid Reference (OS NGR): SE 09811 14547. The Site is displayed in Figure 1.

1.1.2 The Site is a total of 0.24 hectares (ha), and comprises habitats including buildings, built structures, short perennial vegetation, scrub and bare ground. The Site is bounded by fencing to the west and north, and walls to the east and south.

1.1.3 The proposals for the Site include the construction of four residential properties, an apartment block (8 units) and the conversion of Building 1 to four apartments, along with landscaping, the creation of an access and parking, as shown on the '*Land off Manchester Road, Linthwaite – Proposed Site Plan and Elevation to Manchester Road'* drawing (reference: HA-MRLW_001 Rev:A) produced by Highstone Homes in March 2021.

1.1.4 The purpose of the PEA was to carry out an ecological desk study and an extended Phase 1 habitat survey to inform an assessment of the ecological value of the Site and its potential to support, or be used by, habitats and species protected under either UK or European nature conservation legislation. This includes those within the Wildlife & Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019 and the Natural Environment and Rural Communities (NERC) Act 2006. Full details of legislation relating to those habitats and species discussed within this report can be found at: http://www.legislation.gov.uk.

1.1.5 This report details the findings of a data consultation and extended Phase 1 habitat survey carried out during June 2021. The methodologies employed during the survey and all survey findings are described along with an evaluation and assessment of the ecological value of the Site. Any requirement for further survey work and/or mitigation/enhancement is also detailed as required.

2. Methodology

2.1 Data Consultation

2.1.1 As part of the PEA process, a data consultation was undertaken by Ecus Ltd in June 2021 with the local record centre, West Yorkshire Ecology Service (WYES) and West Yorkshire Bat Group (WYBG). The data consultation was undertaken to determine the presence of existing biological records or local non-statutory designated sites of nature conservation interest within 2 km of the Site. All records received have been reviewed, but records dating from the past ten years are considered to have greater relevance.

2.1.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website (http://magic.defra.gov.uk) was consulted for information on statutory designated sites of nature conservation interest, and the presence of European Protected Species (EPS) mitigation licences for great crested newt *Triturus cristatus* (GCN) and bats within 2 km of the Site. MAGIC was also used to search for information relating to GCN Class Survey Licence Returns within 250 m of the Site.

2.1.3 Information obtained from WYES, WYBG and MAGIC is included within the report where appropriate.

2.2 Extended Phase 1 Habitat Survey

2.2.1 The Site was surveyed on 16th June 2021 by Senior Ecologist Natasha Firth BSc (Hons) MSc MCIEEM using the extended Phase 1 habitat survey methodology (JNCC, 2016). This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all plants occurring across the Site.

2.2.2 Habitats and vegetation types present inside the Site were recorded on to a field map and notable, rare or scarce plant species, including other features of ecological interest, were highlighted and marked using Target Notes (TN).

2.2.3 Evidence of protected species or species of nature conservation importance were recorded where present at the time of survey. Habitats present that are listed under Section 41 of the NERC Act 2006 or the Local Biodiversity Action Plan (LBAP) for Kirklees were also noted. Survey findings and TN are detailed in Section 3 below and annotated on Figures 1 and 2, with details of TNs provided in Appendix 1.

2.2.4 The abundance of plant species recorded was classified according to the DAFOR rating. The standardised terms are as follows:

- D – Dominant;
- A – Abundant;
- F – Frequent;
- O – Occasional, and,
- R – Rare.

2.2.5 The value and sensitivity of ecological features present in the Site was determined based on the guidance given in '*Guidelines on Ecological Impact Assessment'* (CIEEM, 2018). Individual ecological receptors (habitats and species) that could be affected by the proposed development were assigned levels of importance for nature conservation. The highest level is International, then

decreasing in order of importance through UK, national, regional, county, local, and lastly site level (within the zone of influence).

2.3 Protected and Key Species

2.3.1 Any evidence of protected species or groups encountered during the survey was recorded. This included observations of field signs and an assessment of the suitability of the habitats present to support protected species. For full details of legislation relating to all habitats and species discussed within this report visit http://www.legislation.gov.uk.

Amphibians

2.3.2 The presence of waterbodies within 500 m of the Site, which are not separated by a significant barrier to amphibian dispersal, was checked for using OS 1:10,000 mapping and aerial imagery.

Badger

2.3.3 Signs of badger *Meles meles* activity were searched for within the Site and up to 30 m from the Site boundary, where accessible.

2.3.4 The survey followed standard methodology detailed in 'Surveying Badgers' (Harris *et al*., 1989). This included survey for badger setts, latrine/dung pits, foraging marks, feeding signs and pathways, specifically along linear features and boundaries in the Site.

Bats

2.3.5 Buildings, a structure and walls within the Site were subject to an external, ground-based assessment and where possible and safe to do so, internal assessment for their suitability to support roosting bats during the extended Phase 1 habitat survey.

2.3.6 An individual building or structure may have several features of potential interest to roosting bats associated with it and it is not always possible to confirm usage of a feature by bats during a single visit given the often transient nature of roosts. Consequently it is customary when undertaking such surveys to assign each feature to a defined category of roosting suitability as follows: negligible, low, moderate, high, confirmed (Collins, 2016).

2.3.7 The Site was also assessed for its suitability for foraging and commuting bats.

Birds

2.3.8 While on Site during the extended Phase 1 habitat survey any species of birds encountered were recorded and habitats assessed for their potential value to nesting, wintering and foraging birds.

Reptiles

2.3.9 The habitats present on Site were assessed for their suitability to support reptiles, notably with reference to their connectivity with other areas of suitable habitat within the wider landscape.

Riparian Mammals and White-clawed Crayfish

2.3.10 A desk based search for watercourses on, and within 30 m of, the Site which are not separated from the Site by a significant barrier to dispersal was undertaken using OS 1:10,000 mapping.

2.3.11 Where access was possible, watercourses were subsequently assessed for their suitability to support water vole *Arvicola amphibius*, otter *Lutra lutra* and white-clawed crayfish *Austropotamobius pallipes*.

Other Key and Notable Species

2.3.12 Whilst on Site habitats were assessed for their potential to support any other nationally, locally scarce or locally notable species.

2.4 Invasive Species

2.4.1 During the extended Phase 1 habitat survey any evidence of invasive species, as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), was recorded and mapped where seen.

2.5 Survey Limitations

2.5.1 An extended Phase 1 habitat survey is intended to provide a rapid assessment of habitats present within a site and is not intended to replace detailed vegetation or targeted protected species surveys, where deemed necessary.

2.5.2 The survey was undertaken in June, within the optimal botanical survey season, and so it is considered that sufficient data has been collected to robustly characterise the habitats present at the Site and inform an assessment of their ecological value.

2.5.3 Dense scrub was present between Buildings 1 and 2 which prevented a detailed inspection of these areas and prevented access to the eastern aspect of Building 1, although observations could be made from clearer areas and Building 2.

2.5.4 Building 1 was locked up with no internal access available although an external assessment was made from the ground. It is considered that sufficient information was obtained to appropriately assess the suitability of this building for roosting bats.

2.5.5 The upper floor of Building 2 was not accessed fully due to safety concerns about the wooden stairs, however it was very well lit and so its suitability for roosting bats was considered to be limited.

3. Findings and Evaluation

3.1 Site Description

3.1.1 The Site is a total of 0.24 ha, and comprises habitats including buildings, built structures, short perennial vegetation, scrub and bare ground. The Site is bounded by fencing to the west and north, and walls to the east and south. The Site previously comprised buildings and hardstanding, however a review of historic Google Earth imagery indicates that the demolition of the other buildings occurred at some point between 2011 and 2016.

3.1.2 The Site is located within the village of Linthwaite, off Manchester Road. The Site is bounded by Manchester Road to the north, to the west by Hoyle Ing and by housing to the east. To the south, the Site is bounded by high stone and brick walls, above which is a continuation of the site ownership which does not form part of the Site.

3.1.3 In the wider area land use is suburban, comprising commercial premises, housing and roads, with areas of green space and the River Colne which is located approximately 50 m to the north-west of the Site.

3.2 Designated Sites

3.2.1 No statutory designated sites of importance to nature conservation were identified within 2 km of the Site using the MAGIC website. The Site does sit within the Site of Special Scientific Interest (SSSI) Impact Risk Zone for Dark Peak SSSI which is located approximately 4.3 km to the south-west of the Site. Dark Peak SSSI is designated for its almost continuous moorland habitats over gritstone. This SSSI sits within the Peak District National Park and also overlaps with Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA) and South Pennine Moors Special Area of Conservation (SAC).

3.2.2 Two non-statutory designated sites of importance to nature conservation, both Local Wildlife Sites (LWS), were identified within 2 km of the Site by WYES.

Designated Site	Description from Citation	Approximate Distance and Direction from Site
Non-Statutory		
Low Westwood Pond LWS	Low Westwood Pond is a disused Mill Pond in Linthwaite, with the Huddersfield Narrow Canal to the north west and the River Colne to the south east. Surrounding land is dense scrub and tall ruderal vegetation to the north and woodland to the south, with Low Westwood Lane to the east.	185 m north west.
Huddersfield Narrow canal LWS	Canal running near the River Colne.	700 m west.

3.2.3 Statutory designated sites are of value to nature conservation at the regional to national level, and non-statutory designated sites are of value at the local to county level.

3.3 Habitats

3.3.1 Habitats recorded on the Site, their distribution and composition are discussed in order of dominance below. Habitat locations and TN depicting features of ecological interest are annotated

on Figure 1. Site photographs are displayed in Appendix 2.

Ephemeral/Short Perennial Vegetation

3.3.2 A large area of ephemeral/short perennial vegetation was present at the Site, to the west of the existing buildings. Vegetation was low and variably sparse with black medick *Medicago lupulina* locally abundant, with frequent broadleaved dock *Rumex obtusifolius,* Yorkshire-fog *Holcus lanatus,* perennial rye-grass *Lolium perenne* and red fescue *Festuca rubra*. Species occurring occasionally included meadow buttercup *Ranunculus acris,* soft brome *Bromus hordeaceus,* barren brome *Anisantha sterilis*, valerian *Valeriana sp.*, cat's-ear *Hypochaeris radicata* and dandelion *Taraxacum officinale.*

3.3.3 Ephemeral/short perennial vegetation is not a NERC Act 2006 Section 41 priority habitat in its own right, nor is it listed within the LBAP as a habitat of importance, however it is considered to fall under the Scrub and Habitat Mosaics on Previously Developed Land Habitat Action Plan (HAP), given the brownfield nature of the Site. The habitat comprises predominantly commonly occurring species and is considered to be easily replicable. For these reasons this habitat is considered to be of value to nature conservation at the site level.

Buildings

3.3.4 Two buildings are present within the Site. Building 1 (B1) is located at the south-eastern extent of the Site, adjacent Hoyle Ing. This three storey stone building has a pitched slate covered roof. Skylights are present along the length of each pitch of the roof and windows along the top floor were open. Windows and doors on the ground and first floor were predominantly boarded up. Internal access was not available however ground-based observations determined that the upper floor was open floor to roof and was well lit by natural light during the daytime with wooden cladding on the underside of the roof. Internal access to inspect the ground and first floor was not available on the day of survey.

3.3.5 Building 2 (B2) is located towards the west of the Site and extends from the Site frontage adjacent Manchester Road to the rear of the Site. This stone building had a pitched slate covered roof with skylights present along the length of each pitch of roof. Windows and doors were predominantly open with the front of the building (northern aspect) the only side with boarded up windows. Internally, distinct areas were separated by brick internal walls. All internal walls were painted and comprised a combination of brick and stone. A suspended ceiling was present over a wash room and wooden stairs provided access to the upper floor. Full inspection of the upper floor was not undertaken however, as at B1, the upper floor was also open floor to roof with wooden cladding on the underside of the roof.

3.3.6 Buildings are man-made habitats that are not a NERC Act 2006 Section 41 priority habitat nor are they listed within the LBAP as a habitat of importance. As habitats these are not discussed further in the report, however the potential of the building to support protected or notable species is discussed in Section 3.4.

Built Structures - Chimney

3.3.7 Structure 1 (S1) was a brick mill chimney adjacent the north-eastern boundary of the Site. A small door at the base provided access internally; the brickwork internally had small shelves at regular intervals. Externally, ventilation grills were present at two heights. Many of these were sealed up but a small number appeared to be open. Metal casing was present at the top of the chimney which reduced the opening, although light could still be seen from inside the chimney. Vegetation had established at the top of the chimney.

3.3.8 Built structures are man-made habitats that are not a NERC Act 2006 Section 41 priority habitat

nor are they listed within the LBAP as a habitat of importance. As habitats these are not discussed further in the report, however the potential of S1 to support protected or notable species is discussed in Section 3.4.

Built Structures - Walls

3.3.9 High walls 2 m to 4 m in height bounded the Site to the north-east and south-west. Wall 1 (W1) was present adjacent a residential garden and linked into the gable end of the off-site property. It was constructed of red brick, approximately 2 - 2.5 m high and appeared to be of relatively recent construction. Wall 2 (W2) was a stone wall, approximately 4 m in height, with dense ivy *Hedera helix* on its north-western face and overhanging vegetation on its south-western face. Wall 3 (W3) was a stone wall, approximately 3 m in height which formed part of the north-eastern boundary of the Site. Wall 4 (W4) was a brick wall, approximately 3 m in height and forming the far south-western boundary of the Site. Wall 5 (W5) was a brick wall, approximately 3 m high and sited perpendicular to W4 at its western extent. W6 is a painted stone wall, approximately 3 m high and located adjacent the southern aspect of B2. Hart's-tongue fern *Asplenium scolopendrium* was growing out of W6 close to ground level and up to 1 m in height, where the wall connected with the external wall of B2.

3.3.10 With the exception of W2 and W3, all of the walls at the Site previously formed external walls of buildings which have since been demolished.

3.3.11 Built structures are man-made habitats that are not a NERC Act 2006 Section 41 priority habitat nor are they listed within the LBAP as a habitat of importance. As habitats these are not discussed further in the report, however the potential of the walls to support protected or notable species is discussed in Section 3.4.

Scrub

3.3.12 Dense scrub is present to the east of B2 and around the margins of the Site, and scattered scrub is present within the area of ephemeral/short perennial vegetation. Birch *Betula pendula,* buddleia *Buddleja sp.* and willow *Salix sp.* were abundant. Colt's-foot *Tussilago farfara* and black medick were locally abundant whilst cherry *Prunus sp.*, teasel *Dipsacus fullonum,* bramble and rosebay willowherb *Chamaenerion angustifolium* were recorded occasionally.

3.3.13 Scrub is not a NERC Act 2006 Section 41 priority habitat however it is listed as a habitat of importance within the LBAP, under the Scrub and Habitat Mosaics on Previously Developed Land HAP. The habitat comprises commonly occurring species, and is commonly occurring locally. For these reasons this habitat is considered to be of no greater than site level importance to nature conservation.

Bare Ground

3.3.14 Small areas of bare ground were present to the west of B2. Vegetation was not present in these areas.

3.3.15 Bare ground is not a NERC Act 2006 Section 41 priority habitat in its own right nor is it listed within the LBAP as a habitat of importance, however it is considered to fall under the Scrub and Habitat Mosaics on Previously Developed Land HAP, given the brownfield nature of the Site and the habitat mosaic present. This habitats is considered to be of negligible botanical value, however it is discussed further in Section 3.4 with regards to its suitability for protected and notable species.

3.4 Species

Amphibians

3.4.1 WYES returned a total of 10 records of amphibians for locations within 2 km of the Site. There were no records pertaining to GCN. Records include one smooth newt *Lissotriton vulgaris*, six common frog *Rana temporaria* and three common toad *Bufo bufo*. The closest record to Site pertained to a common frog approximately 290 m west of Site from 2015.

3.4.2 No EPS licences, no class licence return or survey data (2017- 2019) pertaining to GCN were identified within 2 km of the Site using MAGIC.

3.4.3 GCN are listed as a priority species under Section 41 of the NERC Act 2006 and are listed on the Kirklees LBAP.

3.4.4 Two ponds are potentially present within 500 m of the Site (refer to Figure 2). Pond 1 is a former mill pond located approximately 185 m to the north-west of the Site which is also designated as the Low Westwood Pond LWS. Pond 2 is a small pond set within woodland and fed by a watercourse located approximately 495 m to the south-west of the Site. Ponds are not common locally, given the steep hills in Linthwaite. The Site is separated from Pond 1 by Manchester Road and the River Colne which are both considered to be barriers to dispersal for GCN. The Site is separated from Pond 2 by housing, roads and business premises. Given that Pond 1 and Pond 2 do not have direct habitat connectivity with the Site and the lack of records and low numbers of common amphibian records, it is considered unlikely that any GCN associated with Pond 1 or Pond 2, if present, would be associated with the Site.

3.4.5 The habitats at the Site comprise areas of ephemeral/short perennial vegetation and scrub, with areas of bare ground and buildings. There are areas of stone and brick rubble which have been colonised by perennial vegetation, and which are considered to offer suitable shelter and potential hibernation habitat for GCN and amphibians. Given the lack of suitable aquatic habitat within 250 m it is considered unlikely that GCN would be associated with the Site, however common amphibians are known to disperse further from their breeding ponds and so may be associated with the Site. Given the availability of suitable habitat within 250 m of Pond 1, and locally, common amphibians are considered to be of importance at no more than the site level.

Badger

3.4.6 WYES returned one record of a badger sett within 2 km of the Site, however this record is located outwith 1.5 km from the Site. WYES returned no records of badger within 200 m however it was noted that the Site falls within an area of increased probability of badger activity.

3.4.7 Site habitats comprise predominantly compacted bare ground and rubble colonised with ephemeral/short perennial vegetation and dense scrub, which offers some, albeit limited suitability for sett building. Whilst a detailed inspection of the area of dense scrub could not be undertaken, no evidence of digging or signs of badger activity were recorded. Given the high walls around the southern and eastern boundaries of the Site, badgers could only disperse onto the Site from Hoyle Ing or Manchester Road. The Site is considered to provide sub-optimal foraging habitat for badger, with areas of more suitable habitat present locally (i.e. grassland) however badger may forage at the Site as part of a wider territory.

3.4.8 Given a lack of records and the sub-optimal suitability of Site habitats, it is considered unlikely that badgers would be resident at the Site although they may forage and commute through the Site occasionally. Badgers are considered to be of importance at no more than the site level.

Bats

3.4.9 WYES returned a total of 98 bat records for locations within 2 km of the Site, of which, 39 records of bat roosts were returned. The closest of which pertained to a maternity roost of common pipistrelle *Pipistrellus pipistrellus* approximately 400 m west of the Site from 2007. The other roosts recorded locally are all attributable to common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus, Pipistrellus sp.* and unidentified bat species.

3.4.10 The remaining 59 records pertained to observations of bats in flight or grounded / injured bats. In addition to species previously listed, WYES returned field records for Daubentons bat *Myotis daubentonii,* noctule *Nyctalus noctula,* vesper bat species *Vespertilionidae,* brown Long-eared bat *Plecotus auritus,* whiskered bat *Myotis mystacinus* and Natterer's bat *Myotis nattereri* The closest of these records pertained to a common pipistrelle, recorded at the Site in 2014.

3.4.11 West Yorkshire Bat Group (WYBG) returned a total of 21 bat records for locations within 2 km of the Site, of which, 12 records of bat roosts were returned relating to common pipistrelle, Daubenton's bat and unidentified bats. The closest of which pertained to a maternity roost of common pipistrelle approximately 350 m north-west of the Site, however this is an historic record from 1996. The closest most recent roost pertained to unidentified *Pipistrellus* species approximately 475 m west from 2007.

3.4.12 The remaining nine records pertained to observations of bats in flight or grounded / injured bats. In addition to species previously listed, WYBG returned field records for, Daubentons bat and Natterer's bat. The closest of these records pertained to an unidentified bat, approximately 420 m north-west of Site from 2007.

3.4.13 Two EPS licences relating to bats was identified within 2 km of the Site using MAGIC. The licences related to the same place and were located approximately 950 m south west of the Site and each pertained to the destruction of a common pipistrelle resting place from 2013 – 2018 and 2017-2025.

Roosting Bats

3.4.14 B1 and B2 were derelict and in a state of disrepair with missing windows and doors, gaps in stonework, missing mortar and gaps at the roof line, amongst the features recorded. S1 appeared to be in good structural condition however some missing mortar was recorded and potential access into the chimney was present in the form of open ventilation windows. W1 to W6 had missing stone/bricks, missing mortar, ivy cladding and the corner of W5 and W6 was in a state of disrepair with open stonework and missing mortar. These features are considered to provide potential roosting features (PRF) for bats and potential access points into the buildings and structures. Full details and photographs of the PRFs are provided in Appendix 3 and the location of each PRF is shown in Figure 2.

3.4.15 Given the above, the PRFs in B1, S1 and W1-W6 are considered to provide opportunities for individual to low numbers of bat species and so in line with current guidance (Collins, 2016) have been classified as displaying no greater than low suitability for roosting bats. Given the likely dark ground and first floor of B2, this building is considered to display moderate suitability for roosting bats. The buildings and structures at the Site are also considered to display suitability for hibernating bats, with many of the features recorded considered likely to maintain a stable temperature through the winter months. Roosting bats are currently considered to be an ecological receptor at the Site however in the absence of further survey, an assessment of their value cannot

be definitely determined at the time of writing.

Foraging and Commuting Bats

3.4.16 The Site comprises predominantly built structures with some areas of scrub, although vegetation is generally low across much of the Site. The Site is disused and so there is no lighting on Site, however, there is likely to be light spill from Manchester Road, although it is considered that the southern and eastern aspects of the Site and the around the buildings will remain dark. The Site is located in a suburban location with suitable foraging and commuting habitat nearby, namely areas of grassland and woodland to the south and the River Colne and Huddersfield Narrow Canal to the north-west. The Site is considered to provide some suitability for light avoiding species however species which are more tolerant of artificial lighting, such as pipistrelle bats, are more likely to be associated with the Site. Given this and the suitability of the Site for roosting bats, the Site is considered to display low suitability for foraging and commuting bats. Foraging and commuting bats are considered to be of importance at no greater than the site level given the lack of connectivity with suitable habitat in the local area.

Birds

3.4.17 In 2015, a re-assessment of Birds of Conservation Concern (BoCC) was published by Eaton *et al*. (2015), which defined rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.

3.4.18 "Red" is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. "Amber" is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more. These categories are followed by "Green", indicating that the species are relatively unthreatened.

3.4.19 WYES returned a total of 501 records comprising 138 bird species for locations within 2 km of the Site. A total of 42 Schedule 1 bird species, as listed within the Wildlife and Countryside Act 1981 (as amended), are included within the records. Bird species recorded within 2 km of the Site are summarised in Appendix 4 and comprise 34 Red, 47 Amber and 11 Green listed species.

3.4.20 Site habitats are considered unlikely to support many of the bird species listed in Appendix 4 due to a lack of suitable habitat i.e. no aquatic habitat. The Schedule 1 species fieldfare *Turdus pilaris* and redwing *Turdus iliacus* are known to utilise scrub habitat for feeding, however the flora within the on-site scrub are not berry producing species and so the Site is considered to be of limited value for these overwintering species. Ground nesting species which favour bare ground such as the little ringed plover *Charadrius dubius* may utilise Site habitats, however the Site lacked ephemeral pools favoured by this species no evidence of this species was recorded during the survey. The scrub and buildings provide suitable nesting habitat for a number of common garden and urban species such as starling *Sturnus vulgaris,* dunnock *Prunella modularis* and house sparrow *Passer domesticus.*

3.4.21 A robin *Erithacus rubecula* and wren *Troglodytes troglodytes* were observed on Site and alarm called when the surveyor accessed the scrub surrounding, and went inside the mill chimney (S1), which was indicative of nesting at the Site. Potential bird nests were recorded within the small alcove shelves inside S1.

3.4.22 Given the common species recorded at the Site, commonly occurring habitats and the availability

of similar habitat in the wider area, birds are considered to be of importance at no greater than the site level.

Reptiles

3.4.23 WYES provided one historic record of reptiles for locations within 2 km of Site. The record relates to a common lizard *Zootoca vivipara* found in 1914, approximately 1.1 km from the Site.

3.4.24 Site habitats comprise areas of scrub, ephemeral/short perennial grassland and bare ground with rubble piles, which are considered to provide suitable habitat interfaces for reptiles. The high walls provide shelter and warm, sunny locations for basking reptiles. The Site is effectively isolated from other suitable habitat by roads and the high walls. The Site previously comprised buildings and hardstanding, however the other buildings were demolished at some point between 2011 and 2016. Given the Site's isolation, it is considered unlikely that common reptiles could have dispersed onto the Site naturally. However, given the suitability of Site habitats, their presence cannot be ruled out.

3.4.25 Given the suitability of Site habitats and a lack of suitable connecting habitat in the surrounding area, it is considered possible, although unlikely, that common reptiles would be associated with the Site and so are of importance at no more than the site level.

Riparian Mammals and White-clawed Crayfish

3.4.26 One record was returned for otter *Lutra lutra* for locations within 2 km of the Site. The record was approximately 800m west of Site from 2020.

3.4.27 WYES returned one record of water vole *Arvicola amphibius* dated from 2004 and was located approximately 1.96 km south from the Site.

3.4.28 No records of white-clawed crayfish were provided by WYES for locations within 2 km of the Site.

3.4.29 A review of OS mapping and aerial imagery has shown that no watercourses are present within 30 m of the Site. Given a lack of aquatic habitat and the isolated nature of the Site habitats, riparian mammals and white-clawed crayfish are not considered to comprise a receptor to the works and as such are not discussed further.

Other Notable and Key Species

Hedgehog

3.4.30 No records were returned for hedgehog *Erinaceus europaeus* for locations within 2 km of the Site.

3.4.31 Site habitats are considered to display suitability for hedgehog, with areas of scrub providing vegetative cover and the ephemeral/short perennial vegetation providing foraging habitat. It is considered possible that this species would be associated with the Site, however there is suitable habitat locally in the form of mature residential gardens, grassland and woodland, and so hedgehog are considered to be of importance at no greater than the site level.

Invertebrates

3.4.32 WYES returned 57 records of invertebrates occurring within 2 km of the Site. These records related primarily to beetle species with single records of butterfly, moth and true fly. The closest record relates to a white ermine moth *Spilosoma lubricipeda* dating from 2016 and located 440 m to the north-east of the Site.

3.4.33 The matrix of scrub, ephemeral/short perennial and bare ground provide suitable basking, foraging, shelter and potential breeding habitat for a range of invertebrates. A number of flowering plants

were present at the Site and there were rubble piles and sunny aspects which provide suitable habitat. A number of bumblebees *Bombus sp.* and cinnabar moths *Tyria jacobaeae* were observed at the Site during the survey. These species are common and widespread although cinnabar are listed on Section 41 of the NERC Act, 2006. Given the small size of the Site and common species recorded, it is considered that invertebrates are of importance at no greater than the site level.

3.5 Invasive species

3.5.1 WYES returned 97 records for invasive plants within 2 km of the Site. The records include Canadian waterweed *Elodea Canadensis,* rhododendron *Rhododendron ponticum,* giant hogweed *Heracleum mantegazzianum,* Indian balsam *Impatiens glandulifera* and Japanese knotweed *Fallopia japonica.* The closest record was found in 2015 approximately 140 m from the Site and pertained to Indian balsam.

3.5.2 WYES returned a total of four records of invasive bird species within 2 km of the Site, including Canada goose *Branta canadensis*, Mandarin duck *Aix galericulata*, Carolina wood duck *Aix sponsa* and Ruddy duck *Oxyura jamaicensis* dated between 1970 and 2012. The closest record to Site pertains to a Canada goose record approximately 1.8 km south of Site.

3.5.3 Buddleia *Buddleja sp.* was recorded across the Site, within areas of scrub during the survey. This species is often associated with disused land including brownfield sites, and is considered to have invasive tendencies due to the ability to outcompete native species and become dominant but is not listed on Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended). This species is considered to be of importance at the Site level.

4. Impact Assessment, Mitigation and Enhancements

4.1 Proposals

4.1.1 The proposals for the Site include the construction of four residential properties, an apartment block (8 units) and the conversion of B1 to create four apartments, along with landscaping, the creation of an access off Manchester Road and parking, as shown on the '*Land off Manchester Road, Linthwaite – Proposed Site Plan and Elevation to Manchester Road*' drawing (reference: HA-MRLW_001 Rev:A) produced by Highstone Homesin March 2021.

4.1.2 The proposals will result in the loss of B2, areas of scrub, ephemeral/short perennial vegetation and bare ground. B1, S1 and W1-W6 are due to be retained. It is anticipated that some repairs to these building/structures will be required in addition to the conversion of B1.

4.2 Designated Sites

4.2.1 The Site falls within the SSSI Impact Risk Zone for Dark Peak SSSI which is located approximately 4.3 km to the south-west of the Site. Residential developments are not listed as a potential risk to this SSSI and so consultation with Natural England is not considered to be required.

4.2.2 The data consultation identified that two non-statutory sites of nature conservation are present within 2 km of the Site which is located approximately 185 m to the north-west of the Site and is separated from the Site by roads and the River Colne.

4.2.3 Given that there is no direct connectivity between the Site and this LWS, and considering the localised nature of the proposed works, it is considered that there are no mechanisms by which this designated site may be directly or indirectly affected by the works.

4.3 Habitats

4.3.1 Permanent habitat loss on Site will primarily relate to areas of scrub, ephemeral/short perennial vegetation and bare ground, and Building 2. These areas do not qualify as priority habitats however the habitat mosaic at the Site is listed on the Kirklees LBAP. There is similar habitat adjacent the southern boundary and, following a review of aerial imagery, to the north-west of the Site. These habitats are common and widespread and often occur together on disused land and so the loss of these habitats is unlikely to be of importance at greater than the site level. Landscaping proposals should incorporate native shrub and scrub planting, native hedgerow planting, native tree planting and wildflower grassland, to compensate for the loss of existing habitats.

4.3.2 The remaining habitats, B1, S1 and walls, will be retained. B1 will be converted to apartments, and this building along with S1 and the walls are likely to be subject to repairs, as required. The provision of compensatory habitat is not considered to be appropriate due to the negligible botanical value of these habitats.

4.3.3 In order to adhere to the requirements of the National Planning Policy Framework (NPPF) 2019, which states that development should seek to provide net gains for biodiversity, it is recommended that a Biodiversity Net Gain Assessment be undertaken in relation to the proposals for the Site to determine whether no net loss or a net gain of biodiversity can be achieved.

4.4 Species

Amphibians

4.4.1 Smooth newt, common frog and common toad are included in Section 9(5) of the Wildlife and Countryside Act 1981 (as amended) which prohibits sale, barter, exchange, transporting for sale

and advertising to sell or to buy these species. Common amphibians are not listed on the Kirklees LBAP.

4.4.2 Pond 1, designated as Low Westwood Pond LWS, is located 185 m to the north-west and Pond 2 is located 495 m to the south-west of the Site. GCN are considered unlikely to be associated with the Site due to the lack of suitable aquatic habitat and barriers to dispersal between Pond 1, Pond 2 and the Site. Common toad typically disperse further from their breeding ponds and so may be associated with the Site. Common frog may be present due to different breeding habitat requirements.

4.4.3 It is recommended that the works proceed under Best Practice Measures (BPM) in order to protect common amphibians. Rubble piles will be cleared by hand, where practicable, with the bases checked by a suitably experienced person before the material is cleared from the Site. The excavation of scrub roots should be undertaken outside of the hibernation period (which encompasses November to February) to avoid impacts to hibernating common amphibians. If this is not possible, mature scrub should be cut to a low level (150 mm) and the bases checked prior to root excavation. Where practicable, short perennial vegetation should be strimmed to a low level (10-15 cm) and checked, prior to strimming to ground level. Any common amphibians encountered should be moved by gloved hand to an area of suitable vegetative cover away from the works i.e. scrub, hedgerows, unmanaged grassland.

4.4.4 In the unlikely event that a GCN is encountered during site clearance activities, works should cease and a suitably experienced ecologist should be contacted for advice.

Badger

4.4.5 Badgers and their setts are protected under the Protection of Badgers Act 1992. It is an offence under the act to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a currently active badger sett, or to disturb animals within the sett. Badger is not listed on the Kirklees LBAP.

4.4.6 No evidence of badgers or badger setts were identified during the survey however the Site contains some sub-optimal foraging habitat and limited suitability for sett building in the areas of scrub. Habitat loss associated with the development is considered to be of importance to badgers at no greater than the site level given the sub-optimal suitability of Site habitats and the presence of similar suitable habitats in the local and wider area.

4.4.7 To mitigate for impacts to badgers associated with construction works, any excavations deeper than 1 m required during the construction stage should be covered overnight. Shallow excavations less than 1 m should have a scaffold board or equivalent placed in them overnight to allow any animals which may become trapped to exit. Additionally, lighting implemented during the construction stage and upon completion of the development should be directed away from retained and off-site vegetated habitats to allow badgers to continue to use such habitats for foraging and commuting.

Bats

4.4.8 All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Under regulation 41 bats are protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).

4.4.9 All UK bats are also included on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, their protection is limited to certain offences. Under the 1981 Act (as amended) it is an

offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.

4.4.10 Barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, brown long-eared, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros*, noctule and soprano pipistrelle bats are included as priority species under Section 41 of the NERC Act 2006. Bats are not listed on the Kirklees LBAP.

Roosting Bats

4.4.11 The PBRA of the Site found no evidence of roosting bats during the visit. However, an internal inspection of B1 was not possible and a detailed inspection of B2 was not possible due to health and safety concerns.

4.4.12 Based on the number of PRF's found, B1 is considered to display moderate suitability for roosting bats. B2, S1 and W1-W6 are considered to display low suitability for roosting bats.

4.4.13 In order to determine the current use of the Site by roosting bats, further nocturnal survey should be undertaken during the bat activity season.

4.4.14 In accordance with recommended survey guidelines (Collins, 2016) it is recommended that two nocturnal surveys comprising of a dusk emergence survey and a dawn re-entry nocturnal survey should be undertaken of B1 between mid-May and August. B2, S1 and W1-W6 should each be subject to a single dusk emergence or dawn re-entry survey between mid-May and August.

4.4.15 Surveyors should record the species and number of bats using any roosts on Site as well as recording incidental bat activity observed during the survey period. For a dusk emergence survey surveyors should survey from at least 15 minutes before sunset until 1.5 hours after sunset. For a dawn re-entry survey surveyors should survey from at least 1.5 hours prior to sunrise until 15 minutes after sunrise. The surveys should be conducted during periods when weather conditions are dry, with relatively low winds and temperatures in excess of approximately 10°C.

4.4.16 Should the nocturnal surveys find evidence of roosting bats, further survey is likely to be required to determine the species of bat/s and type of roost/s present and inform a bat licence application that would be required to permit the works to lawfully proceed.

4.4.17 The buildings and structures provide suitable opportunities for hibernating bats. It is recommended that surveys for hibernating bats be undertaken at the Site. This survey would comprise two visits undertaken between December and February, and would determine whether mitigation is respect of hibernating bats is required.

Foraging and Commuting Bats

4.4.18 The Site is considered to display low suitability for foraging and commuting bats. Current guidance states that sites which display this level of suitability should be subject to nocturnal bat activity transect surveys in Spring, Summer and Autumn (Collins, 2016).

4.4.19 However, given the nature of the Site and that the buildings, structure and walls are distributed across the Site, in this instance it is considered that the dusk emergence and dawn re-entry surveys recommended in respect of roosting bats would also record bat activity levels at the Site. Given this, and that no foraging and commuting habitats is due to be impacted, no further specific survey effort in respect of foraging and commuting bats is currently considered necessary.

Birds

4.4.20 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against destruction of the nest during the bird nesting season, which falls between March and August,

inclusive.

4.4.21 The buildings, structures and scrub vegetation at the Site are considered to provide suitability for nesting birds and so as a precautionary measure, it is recommended that site clearance be undertaken between September and February i.e. to avoid the typical bird breeding season.

4.4.22 If this is not possible, then nesting bird checks undertaken by a suitably experienced ecologist will be required with works completed within the subsequent 48 hour period. Some bird species, including pigeons, can nest at any time of year and so if nesting activity is suspected between September and February, a suitably qualified ecologist should be contacted for advice.

4.4.23 If an active nest is found during a nesting bird check, then there will be a requirement to establish a no disturbance exclusion zone around the nest, in consultation with the ecologist, with a minimum diameter of 4 m. The exclusion zone will be required to be maintained until it has been demonstrated that all fledglings have left the nest and the nest is no longer active. This may require monitoring for periods of at least a month.

4.4.24 It is recommended that a range of bird nesting provision should be included across the development as a positive enhancement for nature conservation. Suitable provision should include boxes incorporated within at least 30% of the newly built properties. Integrated boxes are preferred options as they are robust and are less susceptible to damage however external boxes of a woodcrete material are also considered suitable.

4.4.25 Recommendations include general bird boxes with 26 mm and 32 mm entrance holes suitable for a range of garden bird species, sparrow terraces, and boxes suitable for swifts and house martins. The bird boxes should be placed at a minimum height of 3 m in a number of locations facing different aspects to maximise the chances of occupation, although full south aspects which receive full sun all day during the summer months present a risk of overheating and should therefore be avoided.

4.4.26 The use of fruit bearing trees and shrubs such as rowan *Sorbus aucuparia*, hawthorn, cherry, and spindle *Euonymus europaeus* within new habitat creation and soft landscaping would also provide foraging opportunities for a range of bird species during the autumn and winter.

Reptiles

4.4.27 Common reptile species including grass snake *Natrix helvetica*, common lizard, and slow worm *Anguis fragilis* are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) against intentional killing or injuring. No reptiles are listed on the Kirklees LBAP.

4.4.28 The Site supports suitable foraging and sheltering habitat for reptiles in the form of the ephemeral/short perennial and scrub habitats, the partially vegetated rubble piles and interfaces between these habitats. Given the isolated nature of the Site from other suitable habitat, and that it is considered unlikely that reptiles would be associated with the Site, it is considered unlikely that the development would pose a negative impact to common reptiles.

4.4.29 It is recommended that the Best Practice Measures recommended in respect of common amphibians will also serve to protect common reptiles. Works should ideally be timed to take place during the active season for reptiles (April to October). In the unlikely event that common reptiles are encountered during the works, they should be allowed to move away of their own volition.

Notable Species

Hedgehog

4.4.30 Hedgehog is included as a species of principal importance under Section 41 of the NERC Act 2006

but is not listed on the Kirklees LBAP. Whilst not afforded a high level of protection, hedgehogs have experienced significant declines in their UK population numbers, therefore, a best practice approach, avoiding harm to hedgehogs should be taken into consideration during works.

4.4.31 Hedgehogs are highly mobile and inquisitive animals that have potential to move onto Site or be resident within the Site. As a precautionary measure, it is recommended that any excavations left overnight should be covered or have a suitable escape ramp, e.g. a long scaffold board, inserted to allow escape should a hedgehog fall in.

4.4.32 Scrub habitats on Site which are suitable shelter habitat for hedgehogs should be cleared using hand tools, preferably between April and October in milder weather when hedgehogs are not hibernating, however potential implications for nesting birds during this period should be noted. Should a hedgehog be discovered when clearing vegetated habitats, it should be moved carefully with gloved hands to a sheltered area away from the footprint of works, such as within adjacent greenspace located to the south west of the Site.

4.4.33 The creation and maturing of new garden habitats and additional soft landscaping which includes grassland and introduced shrub will provide suitable foraging and shelter habitat for hedgehogs following completion of the development.

4.4.34 To allow for dispersal between gardens, small gaps beneath or between garden fences should be incorporated across the development if close boarding fencing is to be used. Natural gaps should be left under or around fencing at fence junctions to gardens, or where this is not feasible, gaps measuring a minimum of 13 cm x 13 cm could be created to the base of panels/gravel boards to allow the movement of hedgehogs between gardens across the development. Further information and examples of fencing gaps in practice can be found at: www.hedgehogstreet.org/pages/link-your-garden.html. Alternatively, railing and hedgerows provide free passage for hedgehogs.

Invertebrates

4.4.35 A small number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are protected against sale. The Northern wood ant *Formica lugubris* is the only invertebrate listed on the Kirklees LBAP.

4.4.36 The bare ground, ephemeral/short perennial vegetation and scrub offers potential for foraging, basking, breeding and shelter for a variety of invertebrate groups and species. Loss of these habitats at the Site may impact upon a range of invertebrate species however given the small size of the Site, and the commonly occurring plants present, it is considered unlikely that the Site would support notable populations of invertebrates and so further survey is not currently required.

4.4.37 Landscape proposals should incorporate native hedgerow, shrub, scrub and flowering plant species to offset the loss of suitable invertebrate habitat at the Site. Where possible, areas of grassland in public open space should comprise a wildflower grassland and should be managed appropriately. If amenity grassland is required in certain locations i.e. at junctions, it is recommended that a sensitive mowing regime be implemented whereby a strip around the edge is mown, but the middle and rear of the area is left to grow tall. This will provide areas of cover and food source for invertebrates.

4.4.38 As an enhancement, it is recommended that insect towers and bee houses are installed in areas of public open space and where appropriate, fixed to the boundary walls.

4.5 Invasive Species

4.5.1 Buddleia sp. is not listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as

amended) invasive plant list.

4.5.2 Where removal is required or spreading may occur to facilitate construction a precautionary approach should be taken when clearing buddleia scrub during works. It is recommended that all buddleia on Site should be cleared using hand tools ensuring the entire plant is removed, and bagged up. This should then be transported to a suitable green waste facility which is made aware of the content.

4.5.3 Several plant species often used in landscaping, such as Japanese rose *Rosa rugosa* are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) due to their non-native and invasive nature. Care should be taken to avoid incorporation of any Schedule 9 species in landscaping plans.

5. References

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Collins, J. (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn)'. The Bat Conservation Trust, London.

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Harris S, Cresswell P and Jefferies D (1989) '*Surveying Badgers*'. The Mammal Society, London.

Joint Nature Conservation Committee (JNCC) (2010) '*Handbook for Phase 1 habitat survey – A technique for environmental audit'*. JNCC, Peterborough.

Ministry of Housing, Communities & Local Government (2019) *'National Planning Policy Framework'.* London.

Natural England (2010) '*List of habitats and species of principal importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006'*.

Figure 1. Phase 1 Habitat Map

ecus

Legend

- Site boundary
- Dense scrub
- Ephemeral/short perennial
- Bare ground
- Structures
- Wall
- Fence
- Target note

0 7.5 15 m

Highstone Homes

Former Hoyle Ing Dyeworks, Linthwaite
PEA & PBRA
Figure 1
Phase 1 Habitat Map

Brook Holt 3 Blackburn Road Sheffield s61 2DW
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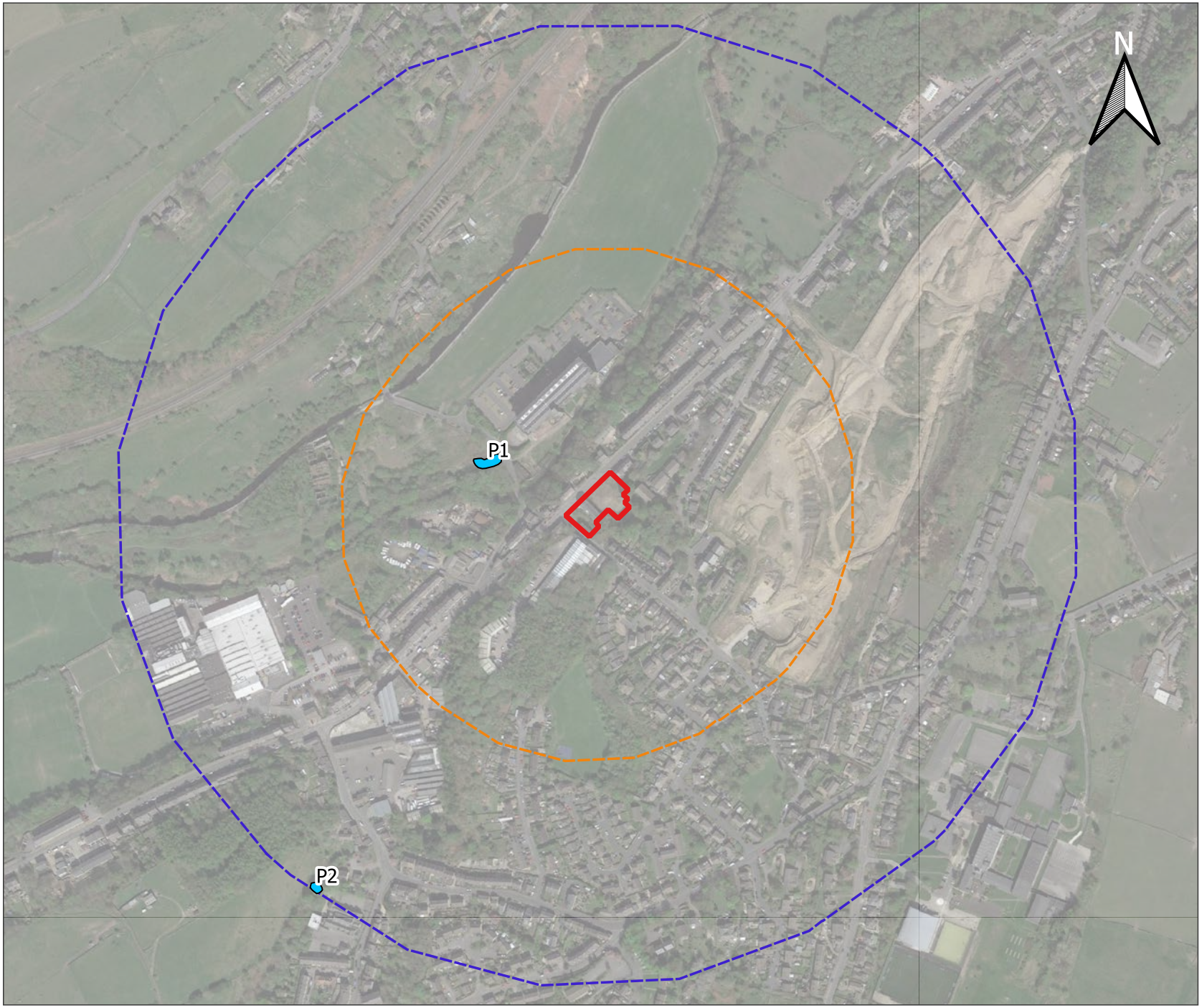
Date: June 2021 | Scale 1:400 @A3 | Drg.Ref: FT/17281/F1

Figure 2. Pond Plan



Legend

- Site boundary
- Site boundary + 250 m
- Site boundary + 500 m
- Pond

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PEA & PBRA
Figure 2
Pond Location Plan

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Date: June 2021

Scale 1:6,000 @A3

Drg.Ref: FT/17281/F2

Figure 3. Potential Roost Feature Plan

ecus

Legend

- Site boundary
- Structures
- Potential Roost Features (PRF)

0 7.5 15 m

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Figure 3
Potential Roost Feature Plan

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Date: June 2021 | Scale 1:400 | @A3 | Drg.Ref: FT/17281/F3

Appendix 1. Target Notes

TN1 – Building 1 which displays Moderate suitability for roosting bats

TN2 – Building 2 which displays Low suitability for roosting bats

TN3 – Structure 1 which displays Low suitability for roosting bats

TN4 – Wall 1 which displays Low suitability for roosting bats

TN5 – Wall 2 which displays Low suitability for roosting bats

TN6 – Wall 3 which displays Low suitability for roosting bats

TN7 – Wall 4 which displays Low suitability for roosting bats

TN8 – Wall 5 which displays Low suitability for roosting bats

TN9 – Wall 6 which displays Low suitability for roosting bats

TN10 – Rubble piles and vegetation which provide suitable shelter and basking habitat for amphibians, reptiles, small mammals and invertebrates

Appendix 2. Photographic Plates

Plate 1	View of ephemeral/short perennial vegetation.
Plate 2	View of north-eastern aspect of Building 1 (TN1).
Plate 3	View of Building 2 (TN2)
Plate 4	View of Structure 1 (mill chimney) and Walls 2, 3 and 6 (TN3, 5, 6 & 9).

N.B. Further photos of buildings and structures are provided in Appendix 3.

June 2021

Highstone Homes

Former Hoyle Ing Dyeworks, Linthwaite
Preliminary Ecological Appraisal

Appendix 2 Photographic Plates

Ecus Ltd.
Brook Holt, 3 Blackburn Road, Sheffield, S61 2DW

Plate 5	View of dense scrub.
Plate 6	View of bare ground.
Plate 7	View of vegetated rubble piles (TN10).
Plate 8	View of the Site.

June 2021

Highstone Homes

Former Hoyle Ing Dyeworks, Linthwaite
Preliminary Ecological Appraisal

Appendix 2 Photographic Plates

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Appendix 3. Preliminary Bat Roost Assessment Findings

Potential Roost Feature Number	Description	Bat Roost Potential
PRF 1	Open window providing access into B1 and gaps in stonework. 	Low
PRF 2	Missing mortar on B1. 	Low
PRF 3	Gap along roofline above guttering provides potential access point into B1. 	Low

Potential Roost Feature Number	Description	Bat Roost Potential
PRF 4	Broken glass providing access into dark lower floors of B1. 	Moderate
PRF 5	Missing mortar at roof line on gable of B1 providing potential crevices. 	Moderate
PRF 6	Open windows on first floor of B1 on north-eastern aspect providing access point and gaps. 	Moderate
PRF 7	Darker section on ground floor of B2 with gap above suspended ceiling.	Low

Potential Roost Feature Number	Description	Bat Roost Potential
		
PRF 8	Gaps in stonework, crack in rendering and open window of B2. 	Low
PRF 9	Gaps in stonework which may provide access to cavities within the external wall of B2. 	Low
PRF 10	Missing mortar creating crevice in stonework of B2.	

Potential Roost Feature Number	Description	Bat Roost Potential
		
PRF 11	Open windows providing access into B2 and missing mortar. May provide suitable hibernation habitat for crevice dwelling bats. 	Low
PRF 12	Gaps in brickwork and ivy cladding on W1. 	Low
PRF 13	Dense ivy cladding on W2.	Low

Potential Roost Feature Number	Description	Bat Roost Potential
		
PRF 14	Gaps in stonework and some overhanging vegetation which may obscure features on W2. 	Low
PRF 15	Mill chimney with missing mortar and open window/vent externally and shelves internally, may provide suitable hibernation site. 	Low

Potential Roost Feature Number	Description	Bat Roost Potential
		
PRF 16	Gaps in stonework of W3 which may provide suitable hibernation potential. 	Low
PRF 17	Gaps in brickwork of W4 which may provide suitable hibernation potential. 	Low
PRF 18	Gaps in brickwork of W5.	Low

Potential Roost Feature Number	Description	Bat Roost Potential
		
PRF 19	Junction of W5 and W6 in a state of disrepair with gaps into crevices within W6. 	Low
PRF 20	Gaps in stonework of W6. 	Low
PRF 21	Open windows and gaps in stonework on north-eastern aspect of B1.	Low

Potential Roost Feature Number	Description	Bat Roost Potential
		

Appendix 4. Bird Species Records Summary

Common name	Latin name	BoCC status
Black-Tailed Godwit	*Limosa limosa*	Schedule 1, Red
Common Scoter	*Melanitta nigra*	Schedule 1, Red
Fieldfare	*Turdus pilaris*	Schedule 1, Red
Hen Harrier	*Circus cyaneus*	Schedule 1, Red
Long-Tailed Duck	*Clangula hyemalis*	Schedule 1, Red
Merlin	*Falco columbarius*	Schedule 1, Red
Redwing	*Turdus iliacus*	Schedule 1, Red
Ruff	*Philomachus pugnax*	Schedule 1, Red
Scaup	*Aythya marila*	Schedule 1, Red
Slavonian Grebe	*Podiceps auritus*	Schedule 1, Red
Whimbrel	*Numenius phaeopus*	Schedule 1, Red
Bewick's Swan	*Cygnus columbianus*	Schedule 1, Amber
Black-Necked Grebe	*Podiceps nigricollis*	Schedule 1, Amber
Black-Throated Diver	*Gavia arctica*	Schedule 1, Amber
Garganey	*Anas querquedula*	Schedule 1, Amber
Goldeneye	*Bucephala clangula*	Schedule 1, Amber
Great Northern Diver	*Gavia immer*	Schedule 1, Amber
Green Sandpiper	*Tringa ochropus*	Schedule 1, Amber
Greenshank	*Tringa nebularia*	Schedule 1, Amber
Greylag Goose	*Anser anser*	Schedule 1, Amber
Kingfisher	*Alcedo atthis*	Schedule 1, Amber
Little Tern	*Sterna albifrons*	Schedule 1, Amber
Mediterranean Gull	*Larus melanocephalus*	Schedule 1, Amber
Osprey	*Pandion haliaetus*	Schedule 1, Amber
Pintail	*Anas acuta*	Schedule 1, Amber
Purple Sandpiper	*Calidris maritima*	Schedule 1, Amber
Quail	*Coturnix coturnix*	Schedule 1, Amber
Snow Bunting	*Plectrophenax nivalis*	Schedule 1, Amber
Stone-Curlew	*Burhinus oedicnemus*	Schedule 1, Amber
Whooper Swan	*Cygnus cygnus*	Schedule 1, Amber
Wood Sandpiper	*Tringa glareola*	Schedule 1, Amber
Barn Owl	*Tyto alba*	Schedule 1, Green
Black Tern	*Chlidonias niger*	Schedule 1, Green
Brambling	*Fringilla montifringilla*	Schedule 1, Green
Firecrest	*Regulus ignicapillus*	Schedule 1, Green
Goshawk	*Accipter gentilis*	Schedule 1, Green
Little Gull	*Larus minutus*	Schedule 1, Green
Little Ringed Plover	*Charadrius dubius*	Schedule 1, Green
Peregrine falcon	*Falco perigrinus*	Schedule 1, Green
Red-Throated Diver	*Gavia stellata*	Schedule 1, Green
Spotted Crake	*Porzana porzana*	Schedule 1, Green
Velvet Scoter	*Melanitta fusca*	Schedule 1, Green

Common name	Latin name	BoCC status
Arctic Skua	*Stercorarius parasiticus*	Red
Corn Bunting	*Emberiza calandra*	Red
Cuckoo	*Cuculus canorus*	Red
Curlew	*Numenius arquata*	Red
Grasshopper Warbler	*Locustella naevia*	Red
Grey Partridge	*Perdix perdix*	Red
Grey Wagtail	*Motacilla cinerea*	Red
Herring Gull	*Larus argentatus*	Red
House Sparrow	*Passer domesticus*	Red
Kittiwake	*Rissa tridactyla*	Red
Lapwing	*Vanellus vanellus*	Red
Lesser Redpoll	*Carduelis cabaret*	Red
Linnet	*Carduelis cannabina*	Red
Mistle Thrush	*Turdus viscivorus*	Red
Pied Flycatcher	*Ficedula hypoleuca*	Red
Pochard	*Aythya ferina*	Red
Red-Necked Grebe	*Podiceps grisegena*	Red
Ring Ouzel	*Turdus torquatus*	Red
Ringed Plover	*Charadrius hiaticula*	Red
Shag	*Phalacrocorax aristotelis*	Red
Skylark	*Alauda arvensis*	Red
Song Thrush	*Turdus philomelos*	Red
Spotted Flycatcher	*Muscicapa striata*	Red
Starling	*Sturnus vulgaris*	Red
Tree Pipit	*Anthus trivialis*	Red
Tree Sparrow	*Passer montanus*	Red
Turtle Dove	*Streptopelia turtur*	Red
Twite	*Carduelis flavirostris*	Red
Whinchat	*Saxicola rubetra*	Red
Willow Tit	*Poecile montanus*	Red
Wood Warbler	*Phylloscopus sibilatrix*	Red
Woodcock	*Scolopax rusticola*	Red
Yellow Wagtail	*Motacilla flava*	Red
Yellowhammer	*Emberiza citrinella*	Red
Arctic Tern	*Sterna paradisaea*	Amber
Barnacle Goose	*Branta leucopsis*	Amber
Bar-Tailed Godwit	*Limosa lapponica*	Amber
Black-Headed Gull	*Chroicocephalus ridibundus*	Amber
Brent Goose	*Branta bernicla*	Amber
Bullfinch	*Pyrrhula pyrrhula*	Amber
Common Gull	*Larus canus*	Amber
Common Redstart	*Phoenicurus phoenicurus*	Amber
Common Sandpiper	*Actitis hypoleucos*	Amber
Common Tern	*Sterna hirundo*	Amber

Common name	Latin name	BoCC status
Curlew Sandpiper	*Calidris ferruginea*	Amber
Dipper	*Cinclus cinclus*	Amber
Dunlin	*Calidris alpina*	Amber
Dunnock	*Prunella modularis*	Amber
Fulmar	*Fulmarus glacialis*	Amber
Gadwall	*Anas strepera*	Amber
Glaucous Gull	*Larus hyperboreus*	Amber
Great Black-Backed Gull	*Larus marinus*	Amber
Grey Plover	*Pluvialis squatarola*	Amber
House Martin	*Delichon urbica*	Amber
Iceland Gull	*Larus glaucoides*	Amber
Kestrel	*Falco tinnunculus*	Amber
Knot	*Calidris canutus*	Amber
Lesser Black-Backed Gull	*Larus fuscus subsp. graellsii*	Amber
Mallard	*Anas platyrhynchos*	Amber
Meadow Pipit	*Anthus pratensis*	Amber
Mute Swan	*Cygnus olor*	Amber
Oystercatcher	*Haematopus ostralegus*	Amber
Pink-Footed Goose	*Anser brachyrhynchus*	Amber
Red Grouse	*Lagopus lagopus*	Amber
Redshank	*Tringa totanus*	Amber
Reed Bunting	*Emberiza schoeniclus*	Amber
Sanderling	*Calidris alba*	Amber
Sandwich Tern	*Sterna sandvicensis*	Amber
Shelduck	*Tadorna tadorna*	Amber
Short-Eared Owl	*Asio flammeus*	Amber
Shoveler	*Anas clypeata*	Amber
Smew	*Mergus albellus*	Amber
Snipe	*Gallinago gallinago*	Amber
Spotted Redshank	*Tringa erythropus*	Amber
Stock Dove	*Columba oenas*	Amber
Swift	*Apus apus*	Amber
Tawny Owl	*Strix aluco*	Amber
Teal	*Anas crecca*	Amber
Turnstone	*Arenaria interpres*	Amber
Wigeon	*Anas penelope*	Amber
Willow Warbler	*Phylloscopus trochilus*	Amber
Golden Plover	*Pluvialis apricaria*	Green
Goldfinch	*Carduelis carduelis*	Green
Green Woodpecker	*Picus viridis*	Green
Jack Snipe	*Lymnocryptes minimus*	Green
Little Grebe	*Tachybaptus ruficollis*	Green
Sand Martin	*Riparia riparia*	Green
Swallow	*Hirundo rustica*	Green

Common name	Latin name	BoCC status
Tufted Duck	*Aythya fuligula*	Green
Water Rail	*Rallus aquaticus*	Green
Wheatear	*Oenanthe oenanthe*	Green
Whitethroat	*Sylvia communis*	Green
Canada Goose	*Branta canadensis*	Schedule 9
Carolina Wood Duck	*Aix sponsa*	Schedule 9
Mandarin duck	*Aix galericulata*	Schedule 9
Ruddy Duck	*Oxyura jamaicensis*	Schedule 9

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