Preliminary Ecological Appraisal

Better Barnsley

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Executive Summary

Mott MacDonald Ltd was appointed by Barnsley Metropolitan Council to undertake a Preliminary Ecological Appraisal (PEA) of a redevelopment site in the centre of Barnsley. The proposed development is to comprise the demolition and redevelopment of a number of buildings within the city centre including multi-storey car parks, the TEC Centre, the old Council offices and the Market Hall.

A desk study and an Extended Phase 1 Habitat Survey were undertaken. There is one non-statutory designated site within 2km of the development, Dearne Valley Park, which consists of oak woodland and wetland habitat.

The majority of habitats within the site extents include buildings and hard standing with a small patch of amenity grassland and a few scattered ornamental trees. Protected species that may use the site include breeding birds, most likely feral pigeons *Columba livia*, within the buildings.

Before demolition of the buildings a breeding bird survey should be carried out to ensure no nesting birds are present. Should any nesting birds be present the demolition will have to be postponed until any chicks have fledged. Breeding bird season is typically March to August so if the demolition occurs outside of this period no mitigation will be required.

Following discussions with the Barnsley Council Ecologist bat activity surveys are recommended in the vicinity of the buildings to be demolished to understand how the area is used by bats for foraging and/or commuting.

Possible opportunities for ecological enhancements could include buildings with bat bricks incorporated into their design or additional planting of trees and/or wildflower mix around the redevelopment.

1 Introduction

1.1 Background

Mott MacDonald Ltd was appointed by Barnsley Metropolitan Council to undertake a Preliminary Ecological Appraisal (PEA) of the site, which is located in Barnsley, at National Grid Reference SE 3465 0633 (see Figure 1.1).

The proposed development is to comprise the demolition and redevelopment of a number of buildings within the city centre including multi-storey car parks, the TEC Centre, the old Council offices and the Market Hall.

1.2 Aims and Objectives

The aim of this report is to provide a PEA of the site, highlighting any protected and/or notable habitats and species which occur or have the potential to occur on or near the site and which may be impacted by the proposed works. The report follows the 'Guidelines for Preliminary Ecological Appraisal' (CIEEM, 2013).

The objectives are to:

- Identify any designated sites for natural conservation and habitats on, near and adjacent to the site;
- Identify any notable and/or protected plant or animal species of conservation value, which may occur on or near the site;
- Identify the presence of any invasive plant species on or adjacent to the site;
- Provide a habitat map with target notes of ecological features as identified above;
- Undertake a preliminary assessment of the potential impacts on any ecological receptors of conservation value identified on, near or adjacent to the site; and,
- Recommend further surveys, mitigation and enhancement measures as appropriate.

1.3 Zone of Influence

The current guidance on ecological assessments (IEEM, 2006) recommends that all ecological features that occur within a 'zone of influence' (ZoI) for a proposed development are investigated. The ZoI includes:

- Areas directly within the land take for the proposed development and access;
- Areas which will be temporarily affected during construction;
- Areas likely to be impacted by hydrological disruption; and
- Areas where there is a risk of pollution and noise disturbance during construction and/or operation.

The ZoI is variable depending on the ecological receptors affected.

1.4 Assessment of Ecological Value

An assessment of the ecological value for habitats and species within the ZoI was made, where possible, in accordance with current guidance (IEEM, 2006). These are as follows: international, national, regional, county, district, local and ZoI only.

1.5 Legislative and Policy Framework

The construction and operational activities for the proposed works must comply with the International, European and UK nature conservation legislation, and with national and local biodiversity policies. The main pieces of legislation in the UK are the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 (as amended). The biodiversity policies which are most relevant are the National Planning Policy Framework (NPPF, 2012), Biodiversity 2020, and the Barnsley Biodiversity Action Plan (BAP).

Under the Natural Environment and Rural Communities (NERC) Act 2006, all public bodies are required to have regard to biodiversity conservation when carrying out their function. Under this act a list of habitats and species that are of principal importance for the conservation of biodiversity in England are published under Section 41.

2 Methods

2.1 Desk Study

A desk study was undertaken of the designated sites for nature conservation, habitats of conservation importance and protected and notable species which occur within 1.5km of the proposed development. Data has been received from Sheffield City Ecology Unit of protected species and non-statutory designated sites within 1.5km of the development. In addition data was collected from online databases including the Multi-Agency Geographic Information for the Countryside (MAGIC), Joint Nature Conservation Committee (JNCC) and the Barnsley BAP.

2.2 Extended Phase 1 Habitat Survey

A field survey, in the form of an extended Phase 1 Habitat Survey was undertaken by an Ecologist on 20 January 2015. All habitats within the site were identified and mapped in compliance with the 'Handbook for Phase 1 habitat survey: a technique for environmental audit' (Joint Nature Conservation Committee, 2010). Dominant plant species were noted, as were any protected or invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

An assessment was also undertaken of the likely presence or absence of protected and notable animal species within the ZoI of the proposed development. This was based on the known distribution of species, habitat suitability and/or direct evidence such as field signs or observations. The methodologies and assessment criteria used were based on current published guidance where available. Specific assessment criteria for bats used in this report are given in Appendix A.

3 Results

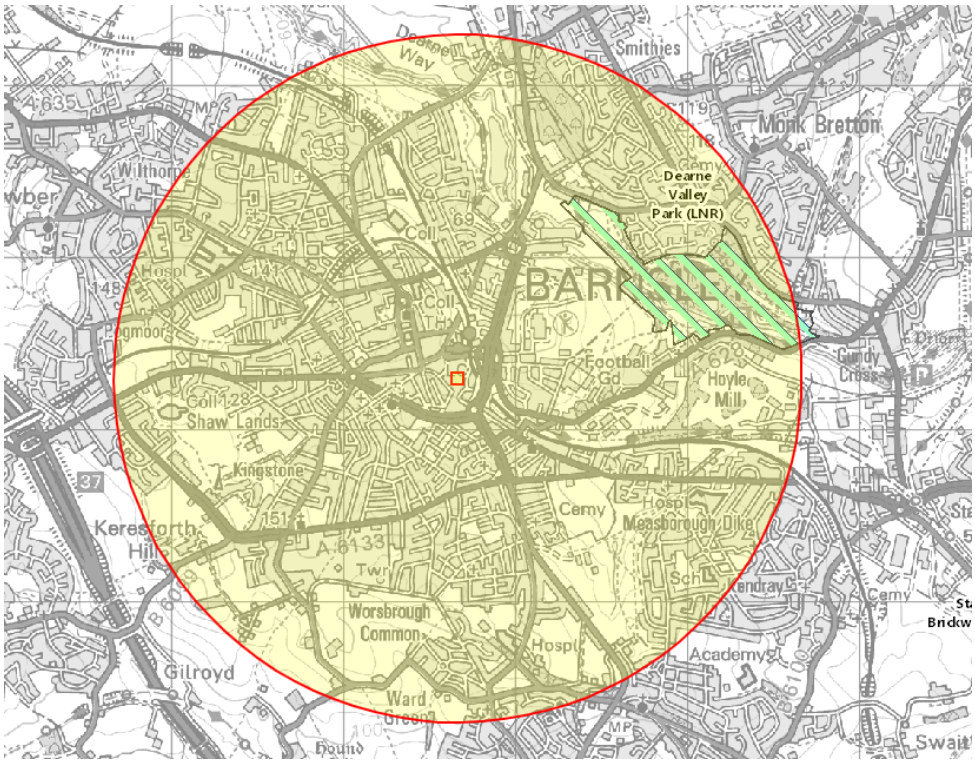
3.1 Desk Study

3.1.1 Designated Sites for Nature Conservation

3.1.1.1 Statutory designated sites for nature conservation

There is one statutory designated site within 2km of the development. This is Dearne Valley Park Local Nature Reserve (LNR) which is approximately 1.2km North East of the development (Figure 3.1).

Figure 3.1 Location of Dearne Valley LNR



Source Magic.gov.uk, OS mapping licence: 100026791

3.1.1.2 Non-statutory designated sites for nature conservation

There are two non-statutory designated sites within 1.5km of the development which consists of oak woodland and wetland habitat (see Table 3.1 and Appendix D).

Table 3.1: Summary of non-statutory sites for nature conservation

Site name	Designation	Minimum distance from site
Cliffe Wood	Local Wildlife Site	1.2km North East

Site name	Designation	Minimum distance from site
Old Mill Lane	Local Wildlife Sites	1.5km North East

3.2 Extended Phase 1 Habitat Survey

The locations of all habitats are shown on the Phase 1 habitat map in Appendix B, with associated Target Notes and photographs in Appendices C and D respectively. Target Notes are referred to as TN1, TN2 etc. in the following section.

3.2.1 Scattered Trees

There are a few scattered trees around the development which are small and immature. These would have been planted as part of the previous development as ornamental trees.

3.2.2 Building and Hardstanding

The majority of the development is comprised of buildings and hardstanding.

3.2.3 Amenity Grassland

There is a small area of amenity grassland between the markets and the railway line which is not to be affected.

3.3 Protected and Notable Plant Species

3.3.1 Breeding Birds

There are records of a number of birds within 1.5km of the development (Appendix D). Located nearest to the development are magpie *Pica pica* and feral pigeon *Columba palumbus*. Local Biodiversity Action Plan species are within the vicinity of the development including starling *Sturnus vulgaris.*

There is potential for breeding birds, most likely feral pigeons *Columba livia*, to be within the buildings and car parks to be demolished. There is a large amount of bird faeces underneath some of the trees (most likely from starlings). Due to the disturbance level within the trees with constant human presence and the immaturity it is unlikely that breeding birds will be nesting within the scattered trees.

All wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to take, damage or destroy the nest of any wild bird while it is in use or being built. In addition species listed on Schedule 1 of the same act are afforded additional protection from disturbance whilst breeding.

3.3.2 Bats

There are many records of bats within 1.5km of the development. A common pipistrelle *Pipistrellus pipistrellus* is noted within 1km^2 of the development but the exact grid reference is inaccurate and the record is from 1992.

None of the buildings had any potential for roosting bats due to intact brick work, lack of roof and loft space and the use of lighting.

There is little foraging habitat in the vicinity of the proposed works due to lighting and lack of suitable habitats being present. Following discussions with the Barnsley Council Ecologist if bats are using the area then the demolition could cause impacts or disturbance on bats foraging and/or commuting in the vicinity.

Bats are protected by Schedule 5 of the WCA 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010 (as amended). This legislation makes it an offence to kill or injure a bat, disturb it while it is roosting or destroy a roosting site.

3.3.3 Amphibians and reptiles

No records of reptiles were found within 1.5km of the development and no habitats such as scrub or grassland were found within / adjacent to the proposed works footprint. Common Toad *Bufo bufo* records were found in 2003 and 2007 within 1.5km but there are no waterbodies on or adjacent to the site so there is no potential for their presence.

3.3.4 White clawed crayfish

There are records for both white clawed crayfish *Austropotamobius pallipes* and signal crayfish *Pacifastacus leniusculus* within 1.5km of the development. As the only watercourse within the ZoI to the works is a culverted drain therefore there is no potential habitat for white clawed crayfish to be present.

4 Interpretation and Recommendations

4.1 Further surveys

Bat activity surveys will be undertaken following the 'Bat Conservation Trust Bat Surveys Good Practice Guidelines' (Hundt, 2012).These will consist of one transect on two visits between March to September, the optimum period being June to August. For a valid survey the night time temperature should be above 10° centigrade. Bats will forage at temperatures below this but insect levels drop and so levels of activity also drop.

4.2 Mitigation

The following mitigation measures must be implemented in order to comply with planning and legislative requirements.

Before demolition of the buildings a breeding bird check should be carried out to ensure no nesting birds are present. Should any nesting birds be present the demolition will have to be postponed until any chicks have fledged unless there is an overriding health and safety issue. Breeding bird season is typically March to August so if the demolition occurs outside of this period no mitigation will be required.

The building could possibly be sealed and pigeon deterrents installed but this would likely be costly and should be only be considered if a delay to the demolition, if planned between March and August, would not be feasible due to nesting birds.

4.3 Possible Enhancements

The following optional enhancement measures are recommended. The implementation of these measures will contribute to providing net gains to biodiversity as required under the NPPF 2012 and Section 40 of the NERC Act (2006).

Buildings with bat bricks incorporated into their design or additional planting of trees and/or wildflower mix around the redevelopment.

5 References

CIEEM (2013) *Guidelines for Preliminary Ecological Appraisal*, Winchester: Chartered Institute of Ecology and Environmental Management. Available URL: http://www.cieem.net/data/files/Resource_Library/Technical_Guidance_Series/GPEA/GPEA_April_2013.pdf. Last accessed 5 March 2014.

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National Policy Planning Framework (2012) *Department for Communities and Local Government*, London. Available URL: http://www.communities.gov.uk/documents/planningandbuilding/pdf/2116950.pdf. Last accessed 5 March 2014.

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Appendix A. Summary of Assessment Methods

A.1 Bats

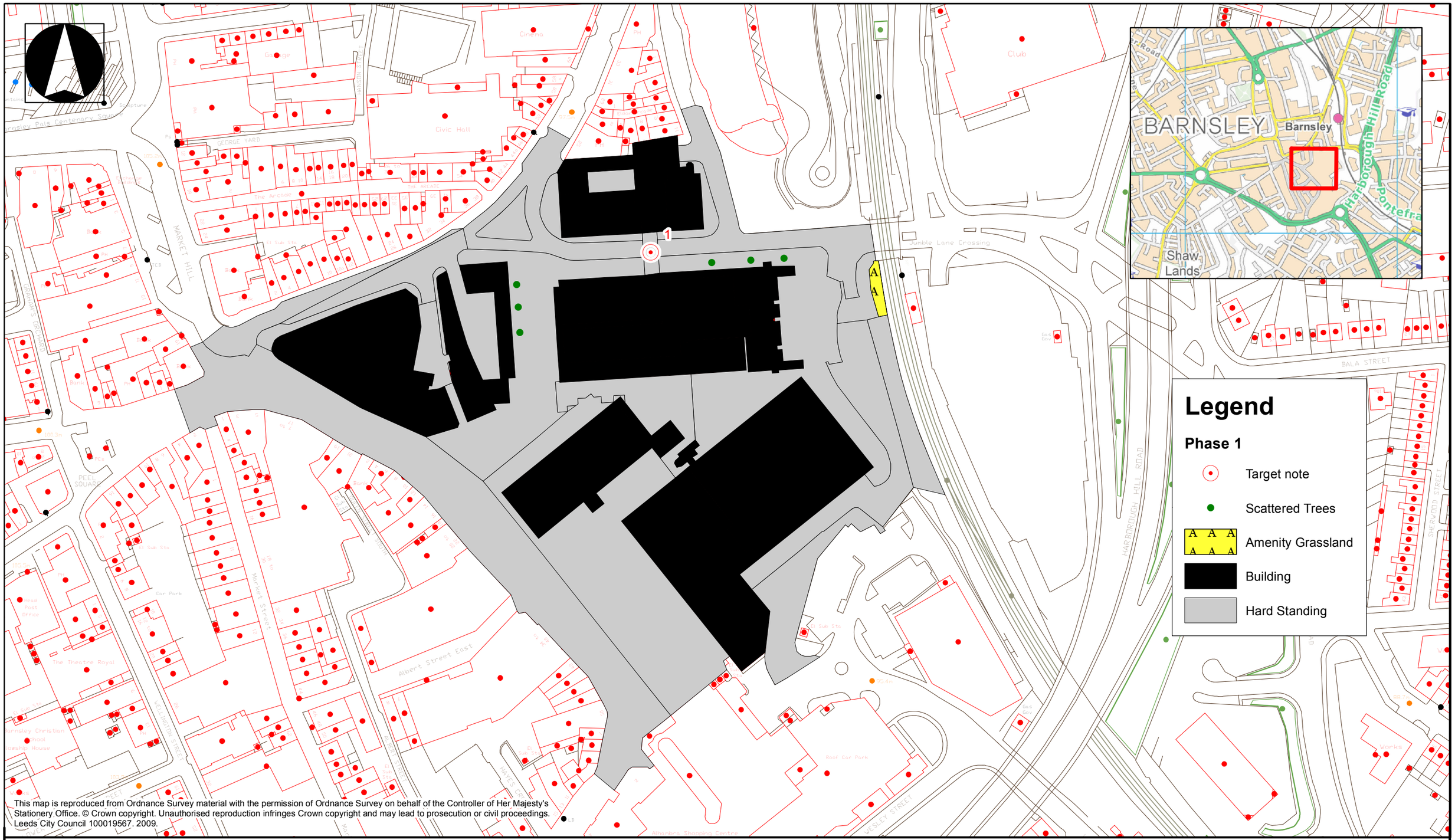
All buildings within the site with the potential to support roosting and foraging bats were assessed using the 'Bat Surveys Good Practice Guidelines' (Hundt, 2012). Buildings and other structures were assessed using the criteria outlined in Table A.1.

Table A.1 Criteria for bat roost potential assessment of a structure.

Bat Roost Potential	Description
Negligible/No potential	The structure lacks any features suitable for roosting bats.
Low	The structure may have some interest to roosting bats, e.g. external roosting features such as fascia or soffit boards, but is considered to be sub-optimal to the extent that bats would not be anticipated to use it.
Moderate	The structure exhibits features suitable for use by roosting bats, such as internal and external cavities well insulated from external weather conditions, but is less than ideal in some way. It may be situated in less than ideal habitat, lacking suitable commuting corridors.
High	The structure exhibits a number of features suitable for use by roosting bats e.g. numerous roosting opportunities such as dark, enclosed roof voids; the structure has a high degree of connectivity with likely navigation routes; and the building is located within suitable foraging habitat, likely to be noticed by commuting bats.
Confirmed	Positive signs of bats are recorded within the structure (internally or externally), such as individual bats or bat droppings.

Source: Modified from Hundt, 2012.

Appendix B. Phase 1 Survey Map



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Client

BARNSLEY
Metropolitan Borough Council

Rev	Date	Drawn	Description	Ch'k'd	App'd
A	22/01/2015	SC	Drawing Created	PR	RDS

Title: Phase 1 Map of Barnsley

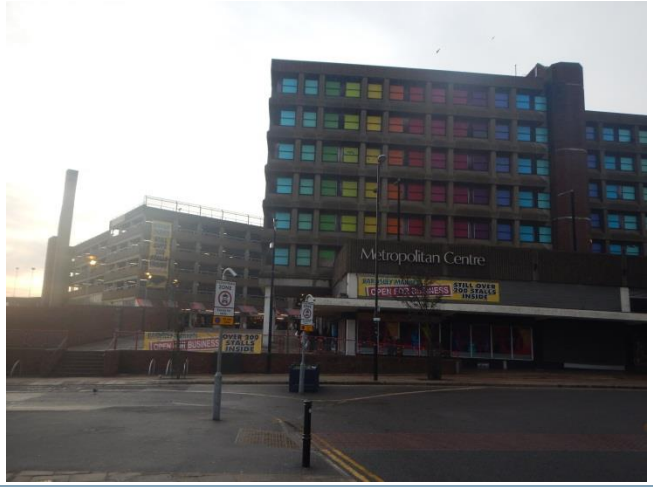
Drawn	SC
Checked	PR
Approved	RDS
Scale at A3	1:1,500
Drawing No.	343537DD04A
Rev	A
Status	

Appendix C. Target Notes and Photographs

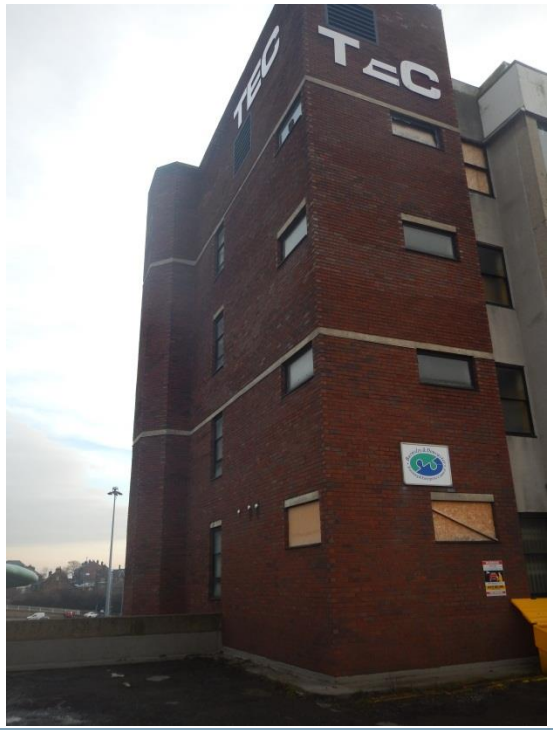
Table C.1: Phase 1 Habitat Survey Target Notes

Target Note (TN)	Details	Photo Reference
1	Footbridge between two buildings with no potential for bats	
	Multi-storey car park	

Target Note (TN)	Details	Photo Reference
	Multi-storey car park with markets underneath – no potential for roosting bats due to lack of roof space and lighting.	
	Brick with no potential for roosting bats due to lack of crevices and holes.	

Target Note (TN)	Details	Photo Reference
	TEC building with walkway over road	
	Council offices with no roosting bat potential due to flat roof, lack of loft space.	

Target Note (TN)	Details	Photo Reference
	TEC building with no roosting bat potential due to no roof space and intact bricks with no crevices or cracks.	
.	Car park adjacent to TEC building	

Target Note (TN)	Details	Photo Reference
	Ramp up to TEC building	
	Intact brickwork on the TEC building	

Target Note (TN)	Details	Photo Reference
	Car park adjacent to TEC building	
	Amenity grassland patch adjacent to heavy good entrance and railway line	

Target Note (TN)	Details	Photo Reference
	Multistorey car park	
	Scattered trees adjacent to building	
	Large amount of bird faeces underneath tree from most likely starlings eating and then sitting in the tree above. It is unlikely that they nest due to the high levels of disturbance and lighting.	

Target Note (TN)	Details	Photo Reference
	May Day Green Retail Units	

Appendix D. Local record data