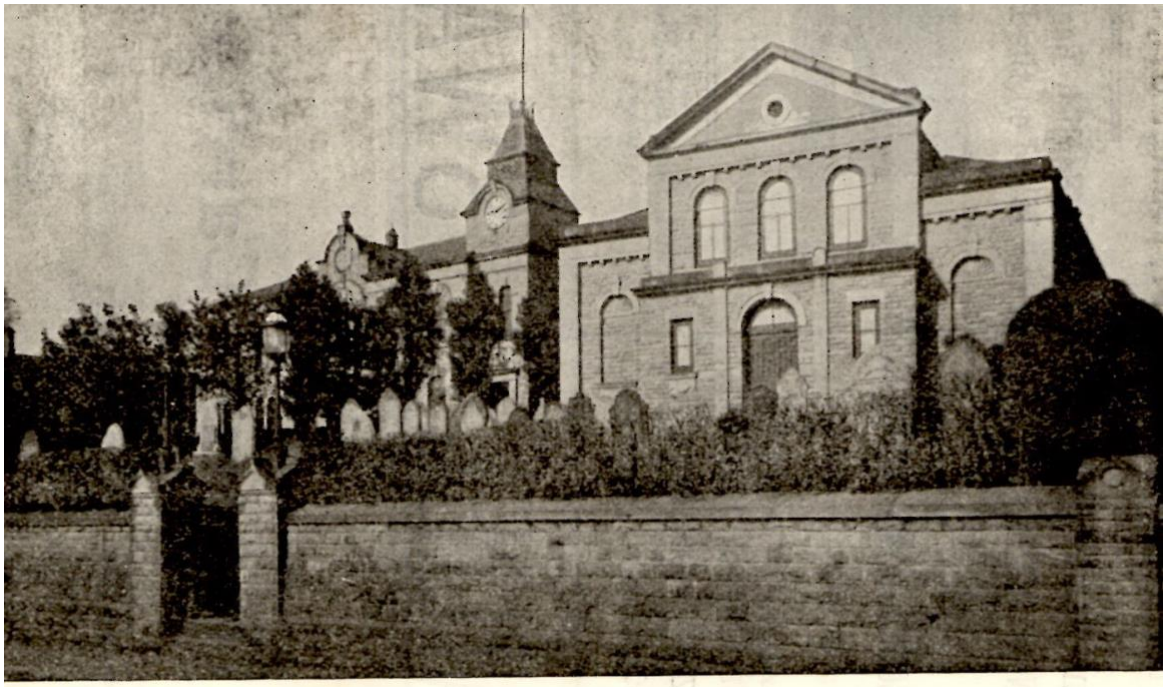
BIODIVERSITY ENHANCEMENT SCHEME

MOUNT PLEASANT, SPRING BANK

NEW MILLS SK22 4AS

October 2021



UNITED METHODIST FREE CHURCH, NEW MILLS.

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1.0 INTRODUCTION

1.1 Introduction

This Biodiversity Enhancement Scheme in pursuance of condition 16 of the planning for Mount Pleasant, Spring Bank, New Mills; hereafter referred to as the site.

The planning condition this report discharges is as follows:

Condition 16

Within three months of the date of planning permission ref. HPK/2020/0515, a Biodiversity Enhancement Plan shall be submitted to and approved in writing by the Local Planning Authority to achieve a net gain in biodiversity in accordance with the NPPF (National Planning Policy Framework). The plan shall clearly show positions, specifications, and numbers of features, which will include (but are not limited to) the following:

- *integrated bat boxes*
- *building and/or tree-mounted bird boxes*
- *bee bricks*
- *fencing gaps 130 mm x 130 mm to maintain connectivity for hedgehogs*
- *summary of ecologically beneficial landscaping (full details to be provided within the Landscape Plans)*

The development shall be carried out in strict accordance with the approved details before the development is first brought into use and maintained thereafter.

1.2 Objectives

The purpose of the Biodiversity Enhancement Scheme is to:

- Verify the ecological baseline features of interest
- Identify ecological mitigation requirements
- Identify management and enhancement requirements relevant to the application area

This Biodiversity Enhancement Scheme sets out the key ecological considerations relevant to the development proposals, the biodiversity management principles for new habitat creation areas and the enhancements that are likely to be achieved through such management.

1.3 Site Description

The site is focused on land formerly associated to Mount Pleasant Methodist Free Church. The site covers approximately 2,230 square metres (0.2Ha) with a perimeter boundary of approximately 260 metres. The site is bordered by both residential properties and commercial buildings. The western boundary of the site is Aldersgate, a small residential area. The eastern boundary Spring Bank.
No standing waterbodies are present on the Site and no water courses run through it. The River Sett is located approximately 330m to the northeast of the site.
Beyond these immediate boundaries, in all directions, the residential and industrial development that makes up the town of New Mills gives way to pastoral and arable land interspersed with small hamlets and pockets of woodland.

Trees, woodland and hedgerows are a common feature and are present along the roads adjacent to and surrounding the site.

The habitats present on the development site include

- Tall ruderal
- Amenity grassland
- Scattered Trees
- Structures and buildings
- Hard Standing
- Bare ground

Figure 1 Site Location Plan

2.0 ECOLOGICAL FEATURES OF INTEREST

2.1 Previous Studies

In May 2020, the baseline ecology of the site was assessed by Whistling Beetle Ecological Consultants during the Extended Phase 1 Habitat Survey. All habitats present within the development site were searched for obvious signs of faunal activity, e.g., mammal tracks or herpetofauna under refugia. All mature and semi mature trees were visually examined from the ground to identify features with the potential to support roosting bats or nesting birds.

A further assessment was carried out in October 2020 by Dunelm Ecology. The assessments included a daytime building inspection, as well as dusk and dawn bat surveys. It was concluded that the site and surrounding area offered moderate quality bat foraging habitat and the buildings offered moderate to high bat roosting potential, however no roosting bats were identified during the surveys. The buildings offered potential for nesting birds and the surrounding area, such as the mature trees and woodland could provide good bird foraging and nesting habitat.

2.2 Habitat descriptions within the proposed development footprint

2.2.1 Tall ruderal

Tall ruderal is present at on the boundaries of the site and in some areas within the graveyard to the front of the former church building.

Typical species recorded include foxglove (Digitalis sp.), bramble (Rubus fruticosus), hogweed (Heracleum sphondylium), dandelion (Taraxacum officinale), broad-leaved dock (Rumex obtusifolius), common nettle (Urtica dioica) garlic mustard (Alliaria petiolata), redshank (Persicaria maculosa), ground elder (Aegopodium podagraria), rosebay willowherb (Epilobium angustifolium) and cleavers (Galium aparine).

2.2.2 Scattered Trees

Scattered trees are present primarily with mature specimens being present on the site boundaries, and naturally colonised species being present throughout the site including within the internal spaces of the buildings. The dominant species recorded include Ash (Fraxinus excelsior), Birch (Betula sp.) Sycamore (Acer pseudoplatanus), Poplar (Poplus sp) and Rowan (Sorbus aucuparia).

2.2.3 Hedgerow

A small area of beech (Fagus sylvatica) dominated hedgerow is present at the rear of the site. on either side of the access track leading down to the site. The hedgerow is dominated by beech (Fagus sylvatica) and other species recorded were sycamore (Acer pseudoplatanus) saplings, bindweed (Convolvulus arvensis), cleavers (Galium aparine) and dog rose (Rosa canina).

2.2.4 Buildings and structures

There is a single derelict roofless building currently on site. Part of this building forms the development proposal with apartments being constructed within the walls of the former church.

The walls are a mixture of stone and brick and the walled area which will contain apartments is up to roof level without gaps in mortar work of holes where pipework once was located. The rear part of the building that is proposed for demolition is in a poor state with large areas of stonework missing and holes and spaces within the brickwork. The floor is littered with fallen roof beams and rafters.

2.2.5 Hard Standing

Areas of hard standing are present within the graveyard area leading up from Spring Bank and then around some of the gravestones and graves.

2.2.6 Bare Ground

Bare ground, consisting of compacted earth, is present around the building and within the graveyard area. There are also some areas of bare ground within the open spaces of the building.

3.0 BIODIVERSITY ENHANCEMENT

The key biodiversity enhancements anticipated at the site for habitats and species are set out below.

3.1 Habitat Enhancements

It is recommended to improve the ecological value of the site by implementing a range of biodiversity enhancements which are summarised below:

Planting

There is an opportunity to enhance the biodiversity value of the proposals in accordance with the NPPF (National Planning Policy Framework). Landscape planting should largely comprise native species of trees and shrubs such as hazel, holly, hawthorn, field maple, guelder rose and honeysuckle. Woodland plant plugs and bulbs could also be introduced to enhance botanical diversity.
Shrubs which provide good foraging opportunities for bats by attracting a wide range of insects include butterfly bush (Buddleia davidii), honeysuckle (Lonicera), lavender (Lavendula sp.) and jasmine (Jasminum sp.).

Landscaping Areas

A private garden is proposed within the north-western area of the site and a grassed area open to the public to the northeast. It is recommended that any grassed areas use an amenity grassland seed mix which contains a mixture of wear tolerant native species, such as the Emorsgate Eg22 Mix. Any ornamental species proposed should be of native origin and locally sourced. Of most benefit to wildlife is fruiting and flowering species which will increase the sites value for birds, bats, and invertebrates.

3.2 Species Enhancements

The proposed habitat and landscape features would provide enhancements for the species groups as set out below (with relevant legislation presented in Appendix 1).

Birds

The proposed development will result in a small decrease in nesting bird habitat by the removal of mature trees and scrub on the site. The impacts of this will be mitigated by the installation of a range of bird boxes throughout the development and within the surrounding area, which should be sited prior to the use of the commercial space and occupancy of the dwellings. It is proposed that 6 bird boxes are installed on the north and western walls of the renovated building as well preserving any suitable habitats in the ruined Sunday School building. Bird boxes can also be sited on mature trees remaining on the site (please refer to Appendix 2 for their locations). The recommended bird boxes are detailed in Table 3.1 below.

Table 3.1 Bird Box Specifications

Bird Box Specifications	Photograph
Traditional Wooden Bird Nest Box (25mm and 32mm) Material: FSC certified European redwood The 25mm entrance hole is suitable for the smaller tit species such as blue and coal tits whilst the 32mm entrance hole will attract a wide range of garden birds including great tits, house sparrows and nuthatches. Nest boxes also provide vital roosting spaces for birds during the cold winter months and the thick walls of these nest boxes will ensure that roosting birds stay warm. The boxes can be expected to last 5-10 years and are constructed using stainless steel staples which will not rust. These boxes can be installed on a tree or wall and should be placed two to four metres above ground. There should be a clear flight path to the entrance hole and the boxes should be placed so that the entrance is not exposed to strong sunlight or winds. Source: http://www.nhbs.com/title/181549/traditionalwooden-bird-nest-box	

Traditional Open Fronted Wooden Bird Nest Box

Material: FSC certified European redwood

This Traditional Open Fronted Wooden Nest Box has been designed to cater for open nesting species such as robins and is best placed in cover such as ivy, hedgerow areas or other climbing plants so that the nest entrance is secluded and hidden from predators. Nest boxes also provide vital roosting spaces for birds during the cold winter months and the thick walls of these nest boxes will ensure that roosting birds stay warm.

The boxes can be expected to last 5-10 years and are constructed using stainless steel staples which will not rust.

This nest box can be installed on a tree or wall and should be placed two to four metres above ground in cover. The box should be placed so that the entrance is not exposed to strong sunlight or winds.

Source:
http://www.nhbs.com/title/202241/traditionalopen-fronted-wooden-bird-nest-box

WoodStone Swift Nest Box

Material: FSC certified WoodStone

The FSC certified WoodStone Swift Nest Box is constructed entirely out of WoodStone meaning it is long lasting and won't rot away like a traditional wooden nest box. Swift numbers are declining, in part because of the loss of nesting sites. Installing a swift box is a great way to help these birds and to ensure their continued presence in our surroundings. There is an opening at the back of the box for easy cleaning with the nest entrance on the underside of the box. This type of entrance is preferred by swifts but discourages house sparrows and starlings from occupying the box. This box should be installed at least five metres above the ground, ensuring that there is unobstructed access for birds entering and leaving. If possible, boxes should be sited under the shelter of eaves or overhanging roofs.

Source:
http://www.nhbs.com/title/200401/woodstoneswift-nest-box

1SP Schwegler Sparrow Terrace Material: FSC certified WoodStone The Sparrow Terrace has been designed to help redress the balance of falling house sparrow numbers. The current UK population of 6 million pairs is half what it was in 1980 and this is thought to be due to habitat destruction and lack of suitable nesting spaces. Sparrows are social birds and like to nest in company. This terrace provides ideal nesting opportunities for three families. Made of Schwegler's revolutionary wood-concrete mix, this terrace is durable, breathable and will last many decades. It may also occasionally attract tits, redstarts and spotted flycatchers. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of houses in built-up areas, and on industrial and agricultural buildings such as barns, sheds and factories. Due to its weight (15kg), it is not suitable for fences or garden sheds. Ideally place the terrace two metres or more above the ground. Either install on the surface of the wall using the plugs and screws provided, or install directly into the wall (see the images tab for illustrations). Cleaning is advisable but not necessary. The front panel can be removed by turning the screw hook. Source: http://www.nhbs.com/title/174850/1spschwegler-sparrow-terrace	

Bats

The development provides the opportunity to further increase the number of roosting opportunities on site for bats. It is recommended that 3 multipurpose bat boxes are to be installed on the north and western walls of the renovated chapel building as well as preserving any suitable habitats in the ruined Sunday School building. In addition it is proposed that 2 bat boxes are installed on the mature trees (please refer to Appendix 2 for their locations) and they should be sited prior to the occupancy of the dwellings. The recommended bat boxes are detailed in Table 3.2 below.

Table 3.2 Bat Box Specifications

Bat Box Specifications	Photograph
<u>1FF Schwegler Bat Boxes With Built-in Wooden Rear Panel</u> Material: Schwegler Woodcrete The Schwegler 1FF bat box is spacious enough for bats to use as a summer roost or nursery sites and is open at the bottom, allowing droppings to fall out so it does not need cleaning. The 1FF is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years. Source: http://www.nhbs.com/title/158636/1ff-schweglerbat-box-with-built-in-wooden-rear-panel	
<u>Improved Cavity Bat Box</u> This Improved Cavity Bat Box has the following features: * FSC Certified. * Suitable for the British cavity-dwelling bats - including the Brown Long-Eared, Daubenton's, Natterer's, Bechstein's, Grey Long-Eared, Whiskered, Brandt's and Nathusius' Pipistrelle bats. These species together make up about 20% of UK bats. * External panels precision cut from 12mm Exterior Grade FSC plywood, for improved heat insulation. * Exterior surface stained black with water based woodstain for improved thermal input, whilst avoiding any possibility of deterring the bats due to vapour from the stain. * Overhanging apex roof for protection from UK weather. * Single large cavity inside, with varying temperature characteristics. * Wide entrance with accurately sized opening. Ideal for cavity dwelling bats and deters unwelcome birds etc. * Internal ceramic	

heat sink ensures improved temperature stability. * Improved "Bat Ladder" at base of box facilitates bats landing and climbing into box. * Ladder continues inside box, while textured internal surfaces ensure bats find it easy to move around inside box and on the walls. * Ladder acts as "convector heater" for box - when sun shines on ladder, warm air rises into the box, but does not come out when the outside cools. * Easy and safe to erect box on walls or trees - relatively light weight, with 1 keyhole mounting hole and 2 extra screw holes for secure fixing. * Floor slides out (after removing 1 screw) for cleaning or inspection where permitted. * Improved draught-proofing enhances temperature stability inside box. * Improved aesthetics - looks good to humans as well as bats. Suits any building or tree. Source: http://www.nhbs.com/title/176912/improved cavity-bat-box	

Bees

The Bee Brick can be used in place of a standard brick or block in construction to create habitat for solitary bees. Alternatively, it can be used as a standalone bee house in your garden or wild patch. It will provide much needed nesting space for solitary bee species such as red mason bees and leafcutter bees, both of which are non-aggressive. Each Bee Brick contains cavities in which solitary bees can lay their eggs before sealing the entrance with mud and chewed-up vegetation. The offspring will emerge the following spring and the cycle will begin again. Each cavity goes part way into the brick, which is solid at the back. Bee Bricks are made in Cornwall in England using the waste material from the Cornish China clay industry. 75% of the brick is made from recycled	

materials and concrete, making it both strong and environmentally friendly. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants should be located nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used. Lavender, honeysuckle and buddleia are all pollinator-friendly plants. Available in a choice of four colours: white grey, dark grey, yellow and red. Specification * Material: Concrete * Origin: Cornwall, UK * Dimensions: W 215mm x D 105mm x H 65mm * Weight: 2.9kg * Colours: White grey, yellow, dark grey and red Source: https://www.nhbs.com/bee-brick	

Hedgehogs

Although the site is surrounded on all sides by existing drystone walling 130 mm gaps should be left at the base of any newly constructed walls and fences to allow hedgehogs to freely move through the site. Efforts should also be made to create entry/exit points in existing walls to improve connectivity.

Lighting

The proposed lighting scheme for the site will need to consider the locations of the bat boxes. The use of artificial lighting should aim to follow the protocols outlined in the Institute for Lighting Engineers document "Guidance for the Reduction of Obtrusive Lighting" (2005) and BCT's "Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting" (2014) to minimise disturbance and sky-glow across the site and particularly towards the boundary features.

4.0 **ECOLOGICAL MONITORING**

In order to monitor the success of the consented mitigation and enhancement measures detailed in this plan, post-construction monitoring will be undertaken for a period of 10 years post development. Please see Table 4.1 below for a proposed monitoring schedule.

Bird Boxes

Nest features are to be checked annually between November and February inclusive and any repairs or modifications undertaken. There are no legal issues associated with the installation of bird boxes. When the nest box is occupied, all wild birds, their nests and eggs, are protected by law. Under the terms of the Wildlife and Countryside Act 198, it is illegal to intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built. Under the terms of the Wildlife and Countryside Act 1981, if un-hatched eggs are found in the box, they can only legally be removed from October to January inclusive. The eggs must be destroyed, as it is illegal to keep them.

Bat Boxes

Bat boxes are to be checked annually in October by a licensed bat worker and any repairs or modifications undertaken. There are no legal issues associated with the installation of bat boxes. However, once occupied, it is illegal to disturb any bat when it is roosting, or to kill, injure or handle a bat without a licence under the Habitats Regulations 2010 (as amended). If a sick or injured bat is found, the local Wildlife Trust or bat group should be contacted for further advice. If maintenance of the bat boxes is required a licensed bat worker or local bat group should be consulted.

Table 4.1 Ecological Monitoring Schedule

Ecological Feature	Indicator	Assessment	Remedial Works	Timescale	Target
Breeding Birds	Nesting evidence	Check occupancy of nest boxes	Replace damaged or missing boxes. Relocate boxes if no nesting activity within 4 years.	Annually for 10 years (Nov-Feb)	To provide additional nesting opportunities for bird species on site. At least half of installed nest boxes in use.

Bats	Presence	Inspect bat boxes	Replace damaged or missing boxes. Relocate boxes if no roosting activity within 4 years.	Annually for 10 years (Oct)	To provide roosting opportunities for bats. Bats roost in at least 1 box.
	Diversity of bat species	Inspect bat boxes	Replace damaged or missing boxes. Relocate boxes if no roosting activity within 4 years. Identify species minimal disturbance e.g. use droppings for eDNA.	Annually for 10 years (Oct)	To increase bat diversity on site. 2 species using boxes.

5.0 CONCLUSIONS

This Biodiversity Enhancement Scheme describes the current baseline conditions and sets out the proposed biodiversity enhancement for the proposed scheme.

The site currently has medium ecological value, though it is anticipated that post development, with the inclusion of the above measures, the sites value for wildlife will be increased.

Long-term monitoring has also been proposed to ensure biodiversity enhancement is achieved post development.

6.0 REFERENCES

- Bat Conservation Trust (2014). Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting.

- Collins J (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition. Bat Conservation Trust.

- Institute of Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment.

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- JNCC (1990). Handbook for Phase 1 habitat survey: A technique for environmental audit. English Field Unit, Nature Conservancy Council.

- JNCC (2004). The Bat Workers Manual. 3rd Edition.

- Lawton, J.H. et al. (2010). Making Space for Nature: a review of England's wildlife sites and ecological network. Report to Defra.

- Mitchell-Jones A, J, (2004). Bat Mitigation Guidelines, English Nature, Peterborough.

- Stace. C. A. (2011). 'New Flora of the British Isles'. Third Edition. Cambridge University Press.

APPENDICES

APPENDIX 1 – PROTECTED SPECIES LEGISLATION

Breeding Birds

Under the Wildlife & Countryside Act 1981 (as amended), a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds, however, are not included in this definition (except for limited parts of the Act). They are covered by the Games Acts, which fully protect them during the closed season.

All birds, their nests and eggs are protected by law, and it is an offence, with certain exceptions, to;

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while it is being built or in use
- Take or destroy the eggs of any wild bird
- Possess or control any wild bird or egg unless obtained legally

Birds listed under Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) are afforded additional protection, which makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

The UK's birds can be split in to three categories of conservation importance - red, amber and green.

Red list criteria:

- Globally threatened
- Historical population decline in UK during 1800–1995
- Severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969)
- Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period

Amber list criteria:

- Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern);

- Historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years
- Moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period
- Moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period
- Moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period
- Rare breeder; 1–300 breeding pairs in UK
- Rare non-breeders; less than 900 individuals
- Localised; at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders
- Internationally important; at least 20% of European breeding or non-breeding population in UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively)

Green list species occur regularly in the UK but do not qualify under any or the above criteria.

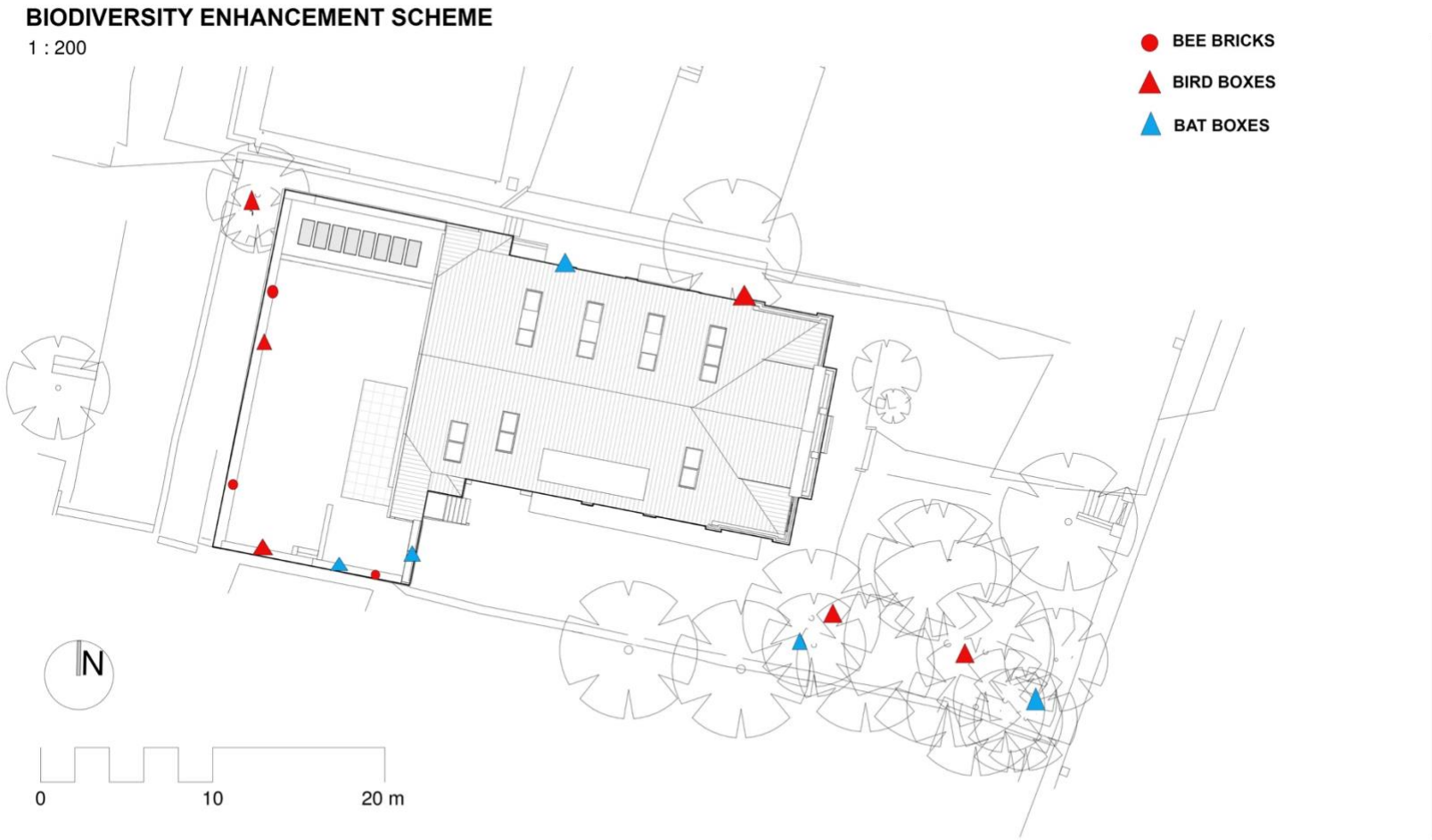
Bats

All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act (2000) and the Conservation (Natural habitats &c.) Regulations 2010 (as amended). Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat
- Damage to, destruction of, and obstruction of access to, a bat roost
- Disturbance of a bat occupying a roost

A bat roost is defined in the legislation as “any structure or place which a bat uses for shelter or protection”

APPENDIX 2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