SF 2678 | PLOT 3, ASHROYD BUSINESS PARK

ECOLOGICAL MITIGATION ENHANCEMENT SCHEME REVISION A

September 2021 | For Planning

SMEEDEN FOREMAN
Landscape Architecture • Ecology • Arboriculture

Quality Assurance

Job Title: Plot 3, Ashroyd Business Park			**Job Number:** SF2678	
Document title: Ecological Mitigation Enhancement Scheme				
Issue	**Date**	**Prepared by**	**Checked by**	**Approved by**
Original	September 2021	KL	CW	CW
REVISION A	September 2021	KL	CW	CW

Name:	**Initials:**	**Status:**
Katie Lawrence *Associate Ecologist*	KL	BSc (Hons) MCIEEM
Catherine White *Associate Ecologist*	CE	BSc (Hons) MA (LD) CMLI MCIEEM

SMEEDEN FOREMAN
Landscape Architecture • Ecology • Arboriculture
Somerset House, Low Moor Lane, Scotton, Knaresborough, North Yorkshire, HG5 9JB
www.smeedenforeman.co.uk tel: 01423 863 369

CONTENTS

1.0 INTRODUCTION 2
2.0 SITE DESCRIPTION 3
3.0 PRE-CONSTRUCTION 4
3.1 TREE PROTECTION 4
3.2 NESTING BIRD CHECK 4
3.3 MAMMALS 4
4.0 DURING CONSTRUCTION 5
4.1 TREE PROTECTION 5
4.2 PRECAUTIONARY WORKING METHODS – BADGER & HEDGEHOG 5
4.3 SYMPATHETIC LIGHTING 5
4.4 LANDSCAPING 6
4.5 BAT & BIRD BOXES 6
5.0 POST CONSTRUCTION 8
5.1 TREE AND SHRUB MANAGEMENT 8
5.2 HEDGEROW MANAGEMENT 8
5.3 WILDFLOWER GRASSLAND MANAGEMENT 8
6.0 ECOLOGICAL CLERK OF WORKS 9
7.0 TIMETABLE 10

Figures 10
Appendices 16

LIST OF FIGURES

Figure 01: AERIAL VIEW OF SITE LOCATION 3
Figure 02: PROPOSED LANDSCAPE PLAN (*VECTOR DESIGN CONCEPTS*) 14
Figure 04: BAT/BIRD BOX LOCATION PLAN 15

LIST OF APPENDICES

Appendix 01: Protected Species Legislation

1.0 INTRODUCTION

1.1.1 Smeeden Foreman Limited has been commissioned by Network Space to produce an Ecological Mitigation Enhancement Scheme in regards to Plot 3 at Ashroyd Business Park, located off Ashroyds Way in Hoyland (central grid reference SE 36380123), hereafter referred to as the 'site'.

1.1.2 The proposals are for the construction of an industrial unit, with associated infrastructure, car parking and soft landscaping. The site has been granted full planning permission subject to discharge of conditions, which requires submission of a detailed scheme of ecological mitigation, enhancement and maintenance (condition 7).

1.1.3 This document will meet the requirements of condition 7 and will address the following:-

- A brief description of the site and surroundings;
- The methods to be employed to protect the existing biodiversity of the site during construction;
- The proposed planting and habitat creation to mitigate/enhance the biodiversity of the site;
- The future management of these features to maintain and enhance biodiversity of the site post construction.

1.1.4 The mitigation follows the recommendations detailed within the corresponding ecological appraisal report submitted as part of the planning application (*SF2678_Ecological Report_Ashroyd Business Park – Plots 3 and 5, Barnsley, dated November 2017*) as follows:-

- Retention of the trees and shrubs on site wherever possible;
- Use of temporary demarcation fencing to protect retained vegetation;
- Appropriate timing of vegetation clearance with respect to breeding birds;
- Precautionary working methods during construction with respect to mammals;
- Planting of native trees/shrubs within the landscape proposals;
- Creation of wildflower grassland;
- Use of directional lighting during construction;
- Implementation of a sympathetic lighting design with respect to wildlife;
- Installation of bat and bird boxes.

1.1.5 Network Space is the company responsible for the implementation of recommendations made within this document.

2.0 SITE DESCRIPTION

2.1.1 The site comprises a plot of land previously cleared for development located within Ashroyd Business Park off the Dearne Valley Parkway (A6195) approximately 5.5km south of Barnsley town centre. Habitats surrounding the site include adjacent industrial units immediately to the north and east, with residential areas located to the south and west, with areas of pasture grassland and woodland habitat beyond to the south and west.

2.1.2 Habitats within the plot predominantly comprises semi-improved and marshy grassland, tall ruderal herb and scrub vegetation. Native plantation woodland lies to the northern, western and southern boundaries of the plot, with drains running along the southern and eastern boundaries, which were found to be dry.



Figure 01: Aerial view of site location

3.0 PRE-CONSTRUCTION

3.1 TREE PROTECTION

3.1.1 Temporary protective fencing will be installed around all trees proposed for retention. The installation of protective fencing will ensure there is no accidental damage to the trees or their root zones during the construction phase. The protective fencing will also discourage the storage of construction material around the base of the trees. The protection fencing will be installed to BS5837:2012: Trees in Relation to Design, Demolition and Construction.

3.1.2 Laminated, waterproof A4 signs shall be fixed to the fence posts at 10m intervals bearing the words 'PROTECTED TREE ZONE- NO STORAGE OR OPERATIONS WITHIN FENCED AREA'.

3.2 NESTING BIRD CHECK

3.2.1 Nesting birds are afforded protection under the Wildlife and Countryside Act (1981 as amended) with additional protection against disturbance given to those on Schedule 1.

3.2.2 The existing vegetation present within the construction zone provides suitable habitat for breeding birds. As such removal of these features should be undertaken outside the bird nesting season (March to August inclusive). If vegetation clearance works are to be undertaken during the bird nesting season a check for nesting birds will be carried out by a suitably qualified ecologist (SQE) to ensure breeding birds, their nests, eggs or young are not affected.

3.2.3 If nesting birds are identified during the check the advising ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. Measures such as applying a set boundary around the nest may be necessary until the young birds have fledged.

3.3 MAMMALS

3.3.1 Precautionary working methods will be adopted to ensure hedgehogs are not harmed/killed during works. Such works would include the removal of any tree/shrub cuttings from site, once vegetation is cut, so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could subsequently be harmed if the brash pile is burnt or removed with machinery.

4.0 DURING CONSTRUCTION

4.1 TREE PROTECTION

4.1.1 Temporary protective fencing installed pre-construction must remain in place for the duration of development works to ensure there is no damage to the trees or their root zones during the construction phase. The protection fencing will also discourage the storage of construction material and trafficking around the base of the trees.

4.2 PRECAUTIONARY WORKING METHODS – BADGER & HEDGEHOG

4.2.1 No signs of badger were identified on site or within close proximity to the site boundary; however badger records were provided within the local area and it cannot be ruled out that badger may enter the site for foraging and commuting purposes. Habitats within the site are also considered to be suitable for hedgehog.

4.2.2 Precautionary working methods will therefore be adopted to ensure mammals such as badger and hedgehogs are not accidentally harmed or killed during construction works. Such methods will include:

- covering, or providing a means of escape from, any trenches and
- capping any open pipework at the end of each working day.

4.2.3 In addition to the above, tree/shrub cuttings will be removed from site once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could subsequently be harmed if the brash pile is burnt or removed with machinery.

4.3 SYMPATHETIC LIGHTING

4.3.1 Any flood lighting used during construction works, if necessary will be directed away from vegetation, such as that along the southern, northern and westerm boundaries, where tree belts occur. This will aim to ensure that such areas remain attractive to wildlife species, such as foraging and commuting bats, etc.

4.3.2 To minimise disturbance to wildlife including foraging/commuting bats, the permanent lighting scheme within the development will be designed to avoid illuminating existing vegetation and new planting to the site boundaries to the south and east, using the following guidelines:-

- Using warm white, narrow spectrum lights with little or no UV;
- Low wattage (e.g. 20W);
- Directional lighting with near full horizontal cut off, mounted at a low height (or directional bollard lighting);
- Minimum height columns at maximum spacing.

4.3.3 Reference should be made to the Bat Conservation Trust publications '*Artificial Lighting and Wildlife'* (2014) and '*Bats and Artificial Lighting in the UK'* (2018).

4.4 LANDSCAPING

4.4.1 Proposed landscaping incorporates the established tree belts to the southern, northern and western boundaries of the site, which are to be largely unaffected by the proposed development.

4.4.2 New planting proposed includes native tree planting to south of the site including species such as silver birch *Betula pendula,* wild cherry *Prunus avium,* field maple *Acer campestre* and crab apple *Malus sylvestris.*

4.4.3 A native hedgerow is proposed to the east of the site. The hedge includes a mix of native shrubs including field maple, hawthorn *Crataegus monogyna,* hazel *Corylus avellana,* beech *Fagus sylvatica* and holly *Ilex aquifolium.*

4.4.4 Areas of grassland are proposed, with a seed mix suitable for shaded habitats proposed in association with the retained woodland to the boundaries and mix comprising species typical of neutral grassland proposed to the eastern boundary. The following seed mixes or similar approved are proposed:-

- LW8M - Woodland and heavy Shade by Landlife,
- EL1 – Flowering lawn mixture by Emorsgate.

4.4.5 Refer to the Landscape Proposals Plan V14698A-L02, produced by Vector Design Concepts for further details (included as Figure 02).

4.4.6 New planting will aim to provide a buffer to the existing tree belts and maintain connectivity across the site for a range of species such as foraging birds, bats and small mammals.

4.5 BAT & BIRD BOXES

Bat and bird boxes are to be incorporated within the development site, onto the proposed building (refer to Figure 03 for proposed location of boxes). Boxes proposed to be installed are composed of 'wood-crete' (a wood sawdust, concrete and clay mixture) as these are more durable and long-lasting, as opposed to the more temporary traditional wooden boxes.

BOX 1		
Manufacturer	Schwegler	
Model	Bat Roost 1FQ	
Number	2	
Description & Installation	This is the ideal bat box for all types of bats that inhabit buildings. The bats may use it for roosting, to form a colony or to shelter their young. If desired, the front panel can be painted to match your building using an air-permeable paint.	

	Position 4-6 metres above the ground in a place where there is clear flight path for bats entering and leaving the box; on south east to south west elevations, out of strong winds. **Lighting:** Bat boxes should be located away from existing/proposed street lighting to ensure they are attractive to bats.
Dimensions	Dimensions: Height: 60 cm, Width: 35 cm, Depth: 9 cm Weight: 15.8 kg

BOX 2		
Manufacturer	Schwegler	
Model	Swift Nest Box No. 17C (double cavity)	
Number	2	
Description & Installation	Bird species such as swifts have occupied the cracks and crevices in our buildings for thousands of years. Due to the effective sealing of eaves in new build houses, swift numbers are declining as nesting opportunities are lost and new sites difficult to find. Can be installed externally on facades or under roofs of all kinds of buildings. To be installed at least 5.5 to 7m above the ground (ideally at the eaves of the building). Ensure unobstructed access for birds entering and leaving the box. A clear distance (drop) below the box is recommended, preferably 5 m or more. Installed to face between north and east and out of direct sunlight, unless shaded by buildings.	
Dimensions	W660 x H150 x D150mm plus wing screws Weight: approx. 5.5kg Includes nest box, fixing bracket, screw, plugs.	

5.0 POST CONSTRUCTION

5.1 TREE AND SHRUB MANAGEMENT

5.1.1 Areas of native tree and shrub planting should generally be allowed to grow to their natural form and size. Shrub planting may be pruned to remove material encroaching over kerbs and to encourage vegetative renewal. General pruning should be undertaken to preserve the natural form of plants and their propensity to bear flowers, fruits or exhibit winter stem colour.

5.1.2 Sympathetic management of existing and newly planted trees and shrubs should be undertaken to avoid disturbance to breeding birds. This involves the avoidance of management during the active season March – August inclusive and preferably only to be carried out during January and February when the majority of the berry crop has been utilised.

5.1.3 Following pruning and/or thinning operations a proportion of cut material should be retained on site to create habitat piles in suitable locations within/adjacent to scrubby areas.

5.2 HEDGEROW MANAGEMENT

5.2.1 Native hedgerow planting should be managed to produce a dense, bushy, 'A' form hedge with a minimum width of 1.5m and height of 2-3m. Shrubs may be pruned to remove material encroaching over kerbs and to encourage vegetative renewal.

5.2.2 Initial cutting should be yearly to encourage bushy growth, however, once established, hedgerows should be cut on a biennial rotation to maximise their propensity to bear flowers and fruits. Cutting and any pruning operations required should be undertaken in January or February to avoid disturbance during the bird breeding season and to allow any fruit to be utilised through the early winter.

5.3 WILDFLOWER GRASSLAND MANAGEMENT

5.3.1 Native wildflower seeding proposed to the east of the site and is association with the retained areas of woodland to the north, west and southern boundary. This will aim to be visually attractive as well as increasing the wildlife value of the site by providing a botanically diverse, invertebrate rich and structurally varied habitat.

First year

5.3.2 Wildflower areas should be cut 4/5 times to reduce competition from grasses and control weeds. Cut sward to a height of 50mm every two months. All cut material to be removed to reduce nutrient build up and smothering.

For Autumn sowing: first cut to be March/April - final cut to be September/October. For Spring sowing: first cut to be May – final cut to be September/October.

Subsequent years

5.3.3 Wildflower areas shall be cut once annually in August/September, following seed set. All cuttings are to be collected and removed from site to contractor's tip, to avoid a build-up of soil fertility.

5.3.4 Selective/spot weeding, by hand or herbicide weed-wipe or similar spot applicator is to be undertaken to remove aggressive/invading weed species, if necessary.

6.0 ECOLOGICAL CLERK OF WORKS

6.1.1 Appropriately qualified ecologists will act as the ecological clerk of works for actions where supervision is required including:-

- Nesting bird checks: in the event of vegetation clearance being required within the breeding season (March to August inclusive).

6.1.2 A generalised timetable/programme for the works is provided in section 7.0 of this report.

6.1.3 An annual site walkover by a suitably qualified ecologist will be undertaken for the first five years to monitor the site to assess the establishment/management of proposed habitats and suggest remediation works or alterations to the programme where required to take into consideration unforeseen changes as the habitats develop.

6.1.4 The visit will make note of any ecological trends and constraints (i.e. invasive perennial weeds, scrub/tall grass over-shading new tree and shrub planting) and make note of any additional management recommendations needed to be carried out.

6.1.5 This inspection will also allow for recommendations of alternative management methods if the aims and objectives of the management plan are not being met.

7.0 TIMETABLE

Pre-construction works and landscaping implementation

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Vegetation clearance			Nesting bird season – vegetation clearance to be carried out following checks by an ecologist where active nests found to be absent.									
Tree, shrub and hedgerow planting												
Wildflower seeding												
Installation of bird and bat boxes	On completion of development											

Management Operations – Years 1-3

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tree and shrub planting	Formative pruning only if required.							Check for dead plants and adjust tree ties / stakes as required.			Replacement planting as required.	
Native hedgerow planting	Formative pruning only if required.			Fertiliser application and mulch reinstatement				Check for dead plants.			Replacement planting as required.	
Wildflower grassland (Year 1)			Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.		Cut to 50mm to suppress pernicious weeds. Cuttings to be removed from site.			
Wildflower grassland (year 2-3)								Cut following seed set to 150mm. Cuttings to be removed from site. Allow minimum of six weeks post bulb flowering.				

Nest boxes											Clean out old nest material if required.
Bat boxes	No maintenance required – replacement / repaired to be carried out by licensed bat surveyor only (if required)										

Management Operations – Years 4-5

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tree and shrub planting	Formative pruning only if required.							Check dead trees and **remove** tree ties / stakes as trees become established.			Replacement planting as required.	
Wildflower grassland								Cut following seed set to 150mm. Cuttings to be removed from site. Allow minimum of six weeks post bulb flowering.				
Native hedgerow planting	Bi-annual cutting. Cut to maintain a height of 2m.											
Bird nest boxes											Clean out old nest material if required.	
Bat boxes	No maintenance required – replacement / repaired to be carried out by licensed bat surveyor only (if required)											

ITEM LOCATION	DESCRIPTION	PRE-CONSTRUCTION	DURING CONSTRUCTION	POST CONSTRUCTION
3.1, 4.1	Tree protection	Install	Maintain	N/A
3.2, 3.3	Vegetation clearance	Following nesting bird check if undertaken between March - August inclusive.	Following nesting bird check if undertaken between March - August inclusive.	N/A
		Working methods with respect to hedgehog.	Working methods with respect to hedgehog.	N/A
4.2	Working methods	N/A	Precautionary working methods with respect to badger and hedgehog	N/A
4.4, 5.1	New tree/shrub planting	N/A	Planting of native trees (November – March)	Pruning (January – February)
4.4, 5.2	New hedgerow planting	N/A	Planting of native hedgerows	Cutting (January – February)

			(November – March)	
4.4, 5.3	Wildflower grassland	N/A	Wildflower seeding (April – May or September – October)	Cutting (1st year 4/5 cuts May-Oct; subsequent years annual cut in July)
4.3	Lighting	N/A	Temporary	N/A
		N/A	Permanent installation	N/A
4.5	Bat and bird boxes	N/A	Installation on new units	N/A

FIGURES

Figure 02: Proposed Landscape Plan: Provisional (*Vector Design Concepts*)

Figure 03: Bat/Bird Box Location Plan

FIGURE 02: PROPOSED LANDSCAPE PLAN (*VECTOR DESIGN CONCEPTS*)

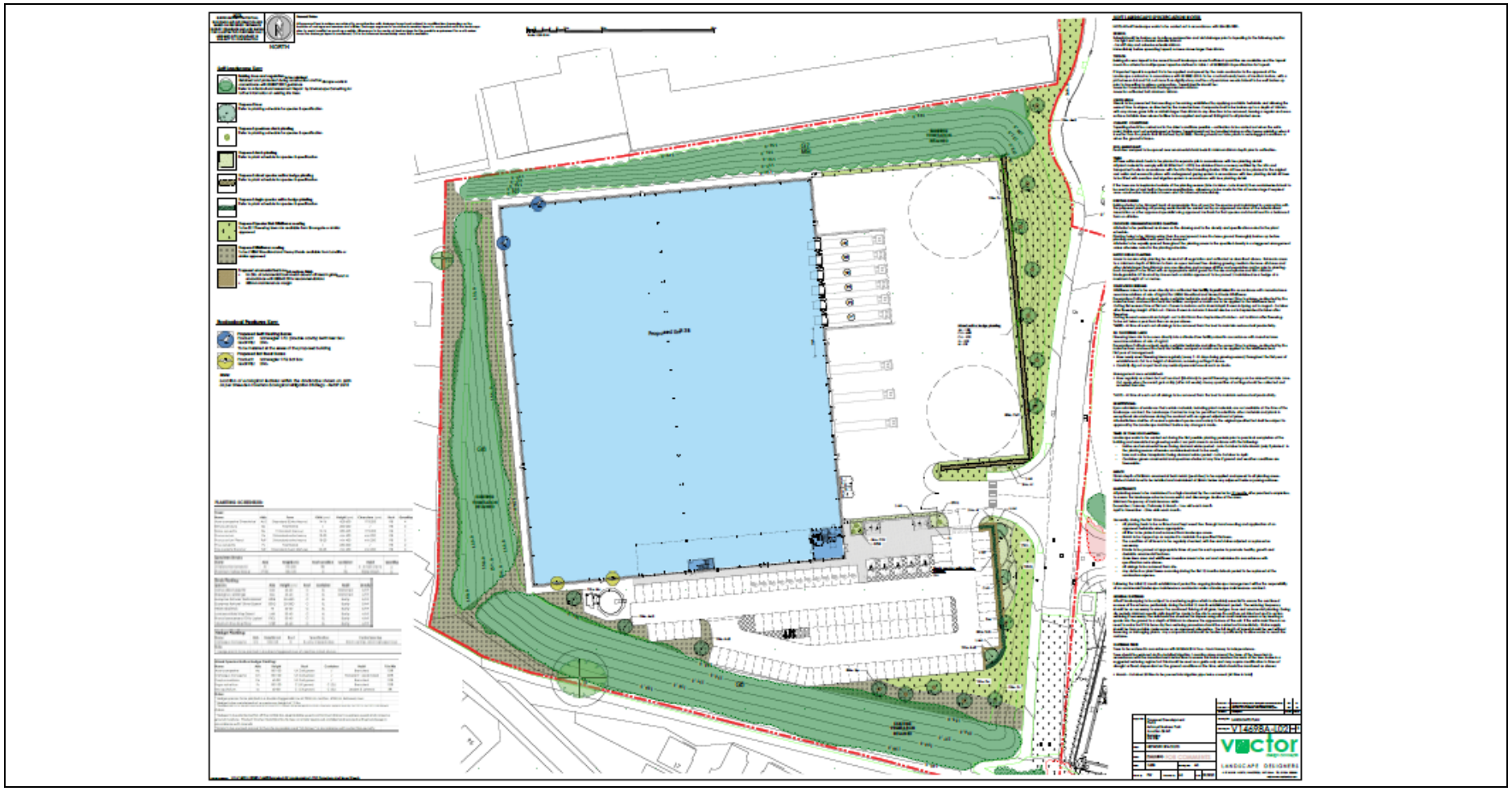
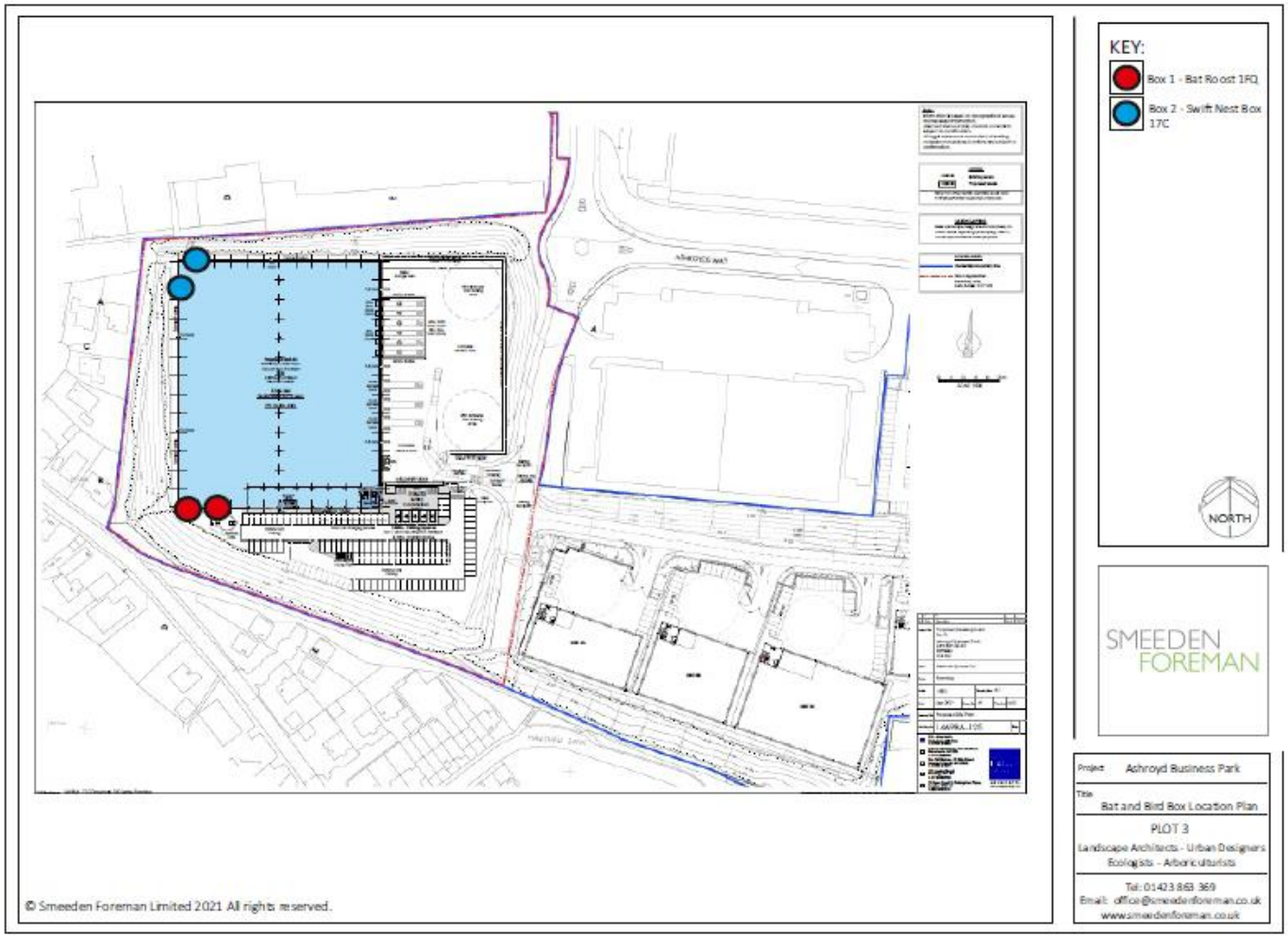


FIGURE 04: BAT/BIRD BOX LOCATION PLAN



APPENDICES

Appendix 01: Protected Species Legislation

APPENDIX 01: PROTECTED SPECIES LEGISLATION

Bats

Bats and their roosts are afforded full legal protection under both UK and European legislation. Conservation of Habitats and Species Regulations 2017 transpose the Habitats Directive into UK law, making it an offence to:

- deliberately disturb a bat;
- deliberately kill, injure or capture a bat;
- damage, destroy or obstruct access to a breeding site or resting place (note this applies to both deliberate and reckless actions).

The Wildlife and Countryside Act 1981 (as amended) (Schedule 5) made it an offence to:

- intentionally kill, injure or take a bat ;
- damage, destroy or obstruct a bat roost *;
- disturb a bat at a roost *;
- possess or control a bat or any part thereof;
- sell, offer for sale, possess or transport for sale any bat or part thereof;
- set traps for catching, killing or injuring bats;
- possess articles for the purposes of committing offences against bats;

[*= intentional and reckless offences covered].

Legal protection under the Habitats Directive applies to the animals and their breeding sites and resting places. This means that bat roosts are fully protected, whether they are in use at the time or not. Where roosts or resting/breeding sites are identified, any works which may contravene the protection afforded to them require derogation from the provisions of the legislation in the form of a licence from Natural England.

Breeding birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built or,
- take or destroy an egg of any wild bird.

This protection applies from the moment the nest is being built. Additional protection against disturbance on the nest or of dependent young is provided for birds included on Schedule 1.

Badger

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under the Act it is illegal to:

- Wilfully kill, injure or take a badger or attempt to do so;
- Cruelly ill-treat a badger; and,
- Interfere with a sett by doing any of the following:

  (i) damaging a badger sett or any part of it;

  (ii) destroying a badger sett;

  (iii) obstructing access to a badger sett;

  (iv) causing a dog to enter a sett; and,

  (v) disturbing a badger while it is occupying a sett.