

ECOLOGICAL ENHANCEMENT STRATEGY

MARCH 2024




Hogshaw Farm

Fairfield,
Buxton,
SK17 7HN

U R B A N
G R E E N



QUALITY MANAGEMENT

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1 Introduction

1.1 Background to the Scheme

- 1.1.1 Barratt Homes are proposing to develop land at Hogshaw Farm in Fairfield, Buxton (hereafter referred to as ‘the site’). The proposals include the development of the site into a residential estate with associated hard and soft landscaping.
- 1.1.2 Urban Green have been appointed to provide an Ecological Enhancement Strategy (EES) for the site.
- 1.1.3 The author of the report is Olivia Jones MSc, BSc (Hons), Assistant Ecologist at Urban Green.

1.2 Site Context

- 1.2.1 The site is located at National Grid Reference SK 06584 74409 and comprises a total area of approximately 5.6ha (see Figure 1).



Figure 1 – Site Extent

- 1.2.2 The site is located in the rural-urban fringe of Buxton, approximately 1.5km north-east of the town centre. The A6 lies approximately 50m east of the site, with Nun Brook approximately 20m west of the site. Residential housing lies immediately south of the site, with areas of recreational green space to the east and west and agricultural land to the north. An industrial unit is present along the central aspect of the eastern boundary of the site.

1.3 Purpose of this Report

- 1.3.1 Urban Green have been appointed to complete an EES in accordance with the completed PEA. This report has been produced to detail the quantity, specification, and locations of ecological enhancements for protected and notable species identified on site listed in the PEA and other survey work.
- 1.3.2 Derbyshire Wildlife Trust has specifically requested the implementation of integrated swift boxes to be included in the development following the newly published British Standard (BS 42021:2022 Integral best boxes), which has been considered within this report.
- 1.3.3 Appendix 1 includes the relevant legislation.
- 1.3.4 A map of suitable locations for these products to be installed is located In Appendix 2.

2 Previous Reports

2.1 Preliminary Ecological Assessment (PEA) (Urban Green, 2022)

- 2.1.1 Urban Green were commissioned by Barratt Homes to produce a PEA in 2022. The report identified records of notable bird, bat, and small mammals within 1km of the site in the data search.
- 2.1.2 In summary, the assessment identified the following notable species potentially using the site:
- Eleven records of protected or notable birds were returned, including Bullfinch (*Pyrrhula pyrrhula*), Dunnock (*Prunella modularis*), House Sparrow (*Passer domesticus*), Song Thrush (*Turdus philomelos*), Starling (*Sturnus vulgaris*) and Swift (*Apus apus*).
 - Twenty-four records of bat, comprising two roost records and twenty sightings of species comprising an unidentified bat species (*Chiroptera sp.*), an unidentified pipistrelle species (*Pipistrellus sp.*), an unidentified myotis species (*Myotis sp.*), noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*) and common pipistrelle (*Pipistrellus pipistrellus*).
 - Four hedgehog (*Erinaceus europaeus*) records were also returned.
- 2.1.3 The PRA was undertaken according the Bat Conservation Trust Guidelines, third edition - the most up to date at the time of survey. All trees and structures underwent a Preliminary Roost Assessment (PRA) during the survey. Two trees (T1 and T2) were assessed as having “low” roost suitability and one tree (T3) was assessed as having “moderate” roost suitability.
- 2.1.4 The PEA also details the site may be useful for commuting and foraging bats and nesting birds. The site was also found to provide suitable foraging habitat for birds of prey such as Buzzard (*Buteo buteo*) and Barn Owl (*Tyto alba*). The main habitats on site consisted of modified grassland and broadleaved woodland with blackthorn scrub, artificial unvegetated; unsealed surface, buildings, multiple lines of trees and built linear features such as dry-stone walls and fencing. Nun brook is offsite but was considered during the PEA due to the close proximity to the site.




2.2 Bat Survey Report (BSR) (Urban Green, 2024)

- 2.2.1 A Bat Survey Report was produced by Urban Green (2024), in relation to a suite of bat surveys which were carried out between May-September 2023 in response to the recommendations of the relevant PEA (Urban Green, 2022). An aerial tree assessment was undertaken on T3 and found that the tree had shallow knots, therefore was deemed as having “negligible” roost potential. The other trees onsite were not individually surveyed for bat presence/absence as they are not to be impacted by the proposed development, and so roosting cannot be discounted sitewide.
- 2.2.2 Across the entire suite of surveys, including both transect and statics, 1,974 bat calls were recorded. Common pipistrelle were the dominant species, with some records of soprano pipistrelle, myotis sp., Brown Long-eared (*Plecotus auritus*), noctule and *Nyctalus sp.* (*Nyctalus sp.*). The results found that the site was regularly used by a small population of bats for foraging and commuting, with activity being noticeably concentrated at the site’s western perimeter (comprising woodland and adjacent scattered trees). Overall, foraging, and commuting activity were recorded site-wide with varying concentrations throughout.

3 Bat Boxes

- 3.1.1 A total of **eighteen** bat boxes are to be installed across the site, comprising twelve external boxes and six integrated bat boxes. The bat boxes selected will provide a range of suitable conditions and target pipistrelle species, brown long-eared bats, records of which were returned in the data search.
- 3.1.2 Externally mounted bat boxes are to be positioned on retained mature trees and newly constructed buildings. Please refer to Table 1 for the bat box specifications example. A bat box design of similar specification can be selected for the site.

Table 1 - Bat box specification

Bird Box Type	Image	Total Number of Boxes
<p>Low Profile WoodStone Bat Box</p> <p>NHBS.com</p> <p><u>Dimensions:</u></p> <ul style="list-style-type: none"> Height 440mm Width 290mm Depth 90mm Weight: 4.7 kg 		6
<p>Small Hollow Bat Box</p> <p>Greenwoods EcoHabitats</p> <p><u>Dimensions:</u></p> <p>Height 430mm Width 215mm Depth 68mm Weight: 6kg</p>		6
<p>Ibstock Enclosed Bat Box 'C'</p> <p>Large Box:</p> <ul style="list-style-type: none"> Height: 29cm Width: 21.5cm Depth: 10.5cm Weight: 9.2kg <p>Small Box:</p> <ul style="list-style-type: none"> Height: 21.5cm Width: 21.5cm Depth: 10.5cm Weight: 6.7kg 		6

3.2 Positioning of Bat Boxes

- 3.2.1 Bat boxes must be positioned between 4–6m high and are most effective when located on a south-east to south-western facing aspect, as this will provide additional heat throughout the day. Please refer to Appendix 3 for the Location Plan.

3.3 Timing of Installation

3.3.1 Bat boxes are to be installed prior to the operational phase of the site post-construction.

3.4 Maintenance of Bat Boxes

- 3.4.1 Bat boxes are considered self-cleaning and require minimal maintenance once installed. The boxes are made of hard-wearing material that is generally long-lasting. Bat boxes should be checked periodically (e.g. every two years) to assess their use and the condition of the boxes. Appendix 2 includes the maintenance schedule.
- 3.4.2 If any boxes are identified as damaged or missing, they are to be replaced with a box of similar specification.
- 3.4.3 Note only those holding the appropriate Natural England Class 2 bat licence may open and inspect these boxes. It is an offence for anyone without this licence to open a bat box. If a bat box becomes occupied by a bird the nest must be left *in situ* until after the bird nesting season (March to September inclusive).

4 Bird Boxes

- 4.1.1 The development has the potential to enhance bird nesting opportunities through the provision of bird nest boxes. The number of integral nest boxes on new residential developments shall at least equal the number of dwellings, i.e the ratio of integral boxes to dwellings is 1:1. It has been considered suitable that a total of 111 bird boxes are to be installed across the site, comprising twelve external bird boxes and 99 integrated bird boxes.
- 4.1.2 The Derbyshire Wildlife Trust has specifically requested the implementation of integrated bird boxes following the newly published British Standard (BS 42021:2022 Integral nest boxes – Selection and installation for new developments). This publication provides specifications on the number of and type of integral boxes that should be sought within new developments.
- 4.1.3 Bird boxes come in various types and sizes, which vary in their suitability from species to species. Table 2 provides details of bird nest box types and the likely species they attract. Bird species that are known to inhabit the local area and readily utilise artificial nest boxes have been selected. Boxes of similar specifications as those detailed in table 3 can be selected, in the case the example boxes are not available.

Table 2 - Bird nest box hole sizes and associated species

Box entrance hole size	Associated species
28mm	Common passerines such as Great tit (<i>Parus major</i>), bullfinch, Tree Sparrow (<i>Passer montanus</i>), song thrush and dunnock.
32mm	House sparrow
45mm	Starling
50mm	Swift
13cm high x 12 cm wide	Barn owl

Table 3 – Bird nest boxes that can be bought from websites such as nhbs.com, habibat.co.uk or other online retailers

Bird box type	Image	Number of boxes
<p>Woodstone® Seville Nest Box 28mm</p> <p><u>Dimensions:</u></p> <ul style="list-style-type: none"> • Entrance hole diameter: 28mm • Width: 20cm • Height: 31cm Length: 20cm • Weight: 5.9kg • Material: WoodStone® 		4
<p>Vivara Pro Woodstone starling nest box (externally mounted)</p> <p><u>Dimensions:</u></p> <ul style="list-style-type: none"> • Height: 385mm • Width: 220mm • Depth: 215mm • Weight: 7.4 kg • Entrance hole diameter: 45mm • Material: WoodStone® 		2
<p>Vivara Pro Woodstone 32mm nest box (externally mounted)</p> <p><u>Dimensions:</u></p> <ul style="list-style-type: none"> • Entrance hole diameter: 32mm • Width: 20cm • Height: 31cm • Length: 20cm • Weight: 6.9kg • Material: WoodStone® 		4
<p>Barn Owl Nest Box</p> <p><u>Dimensions:</u></p> <ul style="list-style-type: none"> • Height: 74cm • Width: 59cm • Depth: 50cm • Depth of enclosed box: 34cm • Entrance hole: 13cm high x 12cm width • Weight: 8kg approx. • Material: FSC certified exterior grade plywood 		1
<p>Integrated Brick Slip Facing 50mm Cavity S Brick</p> <p><u>Dimensions:</u></p> <ul style="list-style-type: none"> • Length: 347.5mm • Diameter: 130mm • Height: 85mm • Bricksip: 18mm • Weight <2kg 		99 (one per building)

4.2 Positioning of Bird Boxes

- 4.2.1 Bird boxes are most effective when positioned on a north-east to north-west facing aspect to prevent overheating during the summer nesting season. Care should be taken to make sure boxes are not angled in such a manner to allow rain to enter them. Nest boxes are to be affixed to vertical surfaces on retained trees at a minimum height of 3m. Boxes of similar specifications should not be placed in close proximity to one another, as to avoid conflict between territorial species.
- 4.2.2 Owl boxes must be installed onto large retained mature trees or pole mounted. The associated map recommends the owl box be placed on the western woodland border, away from urban disturbance.
- 4.2.3 Please refer to Appendix 3 for the Location Plan.

4.3 Timing of Installation

- 4.3.1 Bird boxes are to be installed prior to the occupation of the selected dwellings the boxes are to be situated upon. Appendix 2 includes the Schedule of Works.

4.4 Maintenance of Bird Boxes

- 4.4.1 The following maintenance measures are to be completed, following the installation of the boxes:
- Bird boxes will require periodic checking and cleaning, (e.g. once every two years).
 - Unhatched eggs may be removed legally between September and January and must then be disposed of.
 - Disused nests must be removed and cleaned using boiling water to remove parasites. Boxes should be left to dry before replacing the lid. Insecticides and flea powders must not be used.
 - If any boxes are identified as damaged or missing, they are to be replaced with a box of similar specification.
- 4.4.2 Note bird boxes must only be opened and cleaned outside the bird nesting season (which is between March to September inclusive). Owl boxes must only be opened and inspected by suitably licensed individuals.



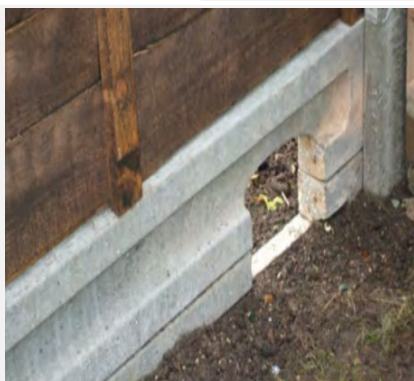
5 Hedgehog

- 5.1.1 The site is considered to have potential to support hedgehogs, therefore, hedgehog highways are to be installed across the site to improve connectivity. Additionally, hedgehog homes are to be installed within suitable areas for hedgehogs within the site to provide additional hibernation features.
- 5.1.2 Appendix 3 details the location of the proposed hedgehog homes to be installed within the site. If hedgehog homes are not available, brash/wood piles can be used instead in similar locations.
- 5.1.3 Specifications for hedgehog enhancements are detailed in Table 4.

5.2 Hedgehog Highways

- 5.2.1 The inclusion of 'hedgehog highways' to facilitate movement across the site should be installed within all garden fencing. This includes holes of 13 x 13cm at the bases of fence panels, leaving a sufficient gap beneath gates and/or leaving brick spaces at the bases of brick walls to prevent habitat fragmentation occurring. A variety of fence suppliers stock specific hedgehog-friendly fencing options, which can be easily incorporated at little or no additional cost. Hedgehog holes should be positioned to connect as much of the landscape as possible and can be mapped prior to construction.
- 5.2.2 Similarly, where essential ground level changes may create barriers to movement (e.g. high kerbs, steps, terracing, sunken patios, gullies and drains), the landscaping should ensure sloped access/escape routes for ground dwelling species.

Table 4- Hedgehog houses and highways; more information can be found from websites such as britishhedgehogs.org.uk, arkwildlife.co.uk and other online retailers.

Specification	Image		Number of homes
Hoglio Hedgehog Home Approximately 23 x 52 x 40cm (9" x 20 1/2" x 16").			6
Hedgehog Highway Height: 13cm Width: 15cm Image for illustrative purposes only, sign not required			Within all garden fences

5.3 Hedgehog Home Locations

- 5.3.1 A hedgehog house contains a narrow or tunnel-like entrance, which is essential to prevent predators such as foxes and badgers gaining access to the hedgehog house. In addition, camouflaging the top and sides of house with soil and leaves can also help to reduce the chance of predation, ensuring that the entrance remains clear at all times for hedgehog access.
- 5.3.2 Hedgehog homes are to be placed out of direct sunlight and must not face the north or north-east aspects (to avoid cold winter winds) and where it will not be disturbed, such as against a wall, bank, or fence (British Hedgehog Preservation Society, 2018).
- 5.3.3 To prolong the longevity, hedgehog homes must be emptied (if absent from hedgehog presence) annually in April or October, to reduce the infestation of fleas and ticks that can be transferred through nest use. If hedgehog presence is confirmed within hedgehog homes from initial inspection (upon gently removing the lid), then this hedgehog home must be exempt from the annual clean until the following year (subject to presence of a hedgehog).
- 5.3.4 If possible, the addition of hay or straw must be added to each hedgehog home for insulation and replaced after an annual clean has been completed. Further information is available on the Hedgehog Street website (<https://www.hedgehogstreet.org/cleaning-out-boxes/>), and within the Work Schedule located in Appendix 2.

6 Native Planting

- 6.1.1 The post-development landscape proposals should include native species planting where possible. The planting of native species provides more ecological value to site and wider landscape than non-native/introduced shrubs. Native plants co-evolved alongside native fauna such as birds, insects, and mammals and as such provide specific benefits to such species that are not necessarily offered by non-native/introduced shrubs, for example many of our invertebrate species depend on specific native plant species. Benefits include:
- Nectar for pollinators
 - Promotes invertebrate use of the site (which could also benefit local bat and bird species)
 - Shelter for mammals
 - Food source (nuts, seeds and fruits) for all wildlife
- 6.1.2 Native plant species are adapted to local environmental conditions and therefore require less water to remain healthy than many of the non-native counterparts.
- 6.1.3 As the proposals for the site include the development of several industrial units there is limited space that may be used for landscaping. However, the landscape designs should seek to implement the following:
- Planting of native tree species within Public Open Space (POS), i.e., field maple (*Acer campestre*), hawthorn (*Crataegus monogyna*), oak (*Quercus* sp.), cherry (*Prunus* sp.), birch (*Betula* sp.), and rowan (*Sorbus aucuparia*).
 - The planting of native mixed scrub within POS, i.e., hazel (*Corylus avellana*), willow (*Salix* sp.), guelder rose (*Viburnum opulus*), birch, and dog rose (*Rosa canina*).
 - Areas of grassland should be created that include native seed mixes, targeting wildflowers and grasses.
 - Planting of linear features such as hedgerows and trees between garden plots where possible.

7 Conclusion

7.1.1 This plan has demonstrated that the requirements of the relevant application, have been met by demonstrating the following:

- A specification concerning the type of features to be used, as detailed in Section 3, 4 and 5. Specifically targeting species identified on site during previous ecological surveys (detailed in Section 2) and associated with residential areas.
- Recommendations of native planting to be included within the landscape plan, detailed in Section 6.
- Implementation programme as detailed in Appendix 2.
- A layout plan detailing where the nesting/roost/hedgehog features to be positioned, detailed in Appendix 3.

8 References

Action for Swifts Brick Slip Facing 50mm Cavity S Brick. Available at: [Galvanised Steel S Brick — S Brick \(actionforswifts.com\)](http://actionforswifts.com)

Barrat Homes Manchester (2023). Planning Layout. Drawing reference 499-P-PLo1_Hogshaw Nunsfield

British Trust for Ornithology (n.d.). Plants for fruits and seeds [Online]. Available from: <http://www.bto.org/our-science/projects/gbw/gardens-wildlife/gardening/plants-fruits-seeds>

Greenwoods EcoHabitats. Small Hollow Bat Box. Available at: <https://www.greenwoodsecohabitats.co.uk/shop>

NHBS. *Barn Owl Nest Box*. Available URL: <https://www.nhbs.com/barn-owl-nest-box>

NHBS. Low Profile Woodstone Bat Box. Available at: <https://www.nhbs.com/low-profile-woodstone-bat-box>

NHBS. Vivara Pro Woodstone 32mm Nest Box. Available at: <https://www.nhbs.com/vivara-pro-seville-32mm-woodstone-nest-box>

NHBS. *Vivara Pro WoodStone Starling Nest Box*. Available URL: <https://www.nhbs.com/vivara-pro-woodstone-starling-nest-box>

NHBS. Woodstone Seville Nest Box 28mm. Available at: <https://www.nhbs.com/vivara-pro-seville-28mm-woodstone-nest-box>

The British Hedgehog Preservation Society (britishhedgehogs.org.uk)

Urban Green (2022). Preliminary Ecological Assessment. UG_1795_ECO_PEA_o4

Urban Green (2024). Arboriculture Impact Assessment. UG_1795_ARB_AIA_REV_o4_FINAL.

Urban Green (2024). Bat Survey Report. UG_1795_ECO_BSR_o1

Appendix 1 – Relevant Legislation

Breeding Birds

With certain exceptions¹, all wild birds, their nests and eggs are protected by Section 1 of the *Wildlife and Countryside Act 1981* (as amended). Therefore, it is an offence to:

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

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls.

Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- intentionally or recklessly disturb the dependent young of any such bird.

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to:

- Intentionally kill, injure or take certain animals listed in Schedule 5;
- Intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to sale, possession and control of wild animals listed in Schedule 5.

- Under the Conservation of Habitats and Species Regulations 2017 it is an offence to:
- Deliberately capture, injure or kill any wild animal listed as a European Protected Species;
- Deliberately disturb wild animals of any such species in such a way as to be likely:
- to impair their ability:
 - to survive, to breed or reproduce, or to rear or nurture their young, or;
 - in the case of animals of a hibernating or migratory species, to hibernate or migrate, or;
- to affect significantly the local distribution or abundance of the species to which they belong.
- Deliberately take or destroy the eggs of such an animal, or;
- Damage or destroy a breeding site or resting place of such an animal.

¹ Some species, such as game birds, are exempt in certain circumstances.

Appendix 2 - Timings of Works

Box Positioning

During construction works	J	F	M	A	M	J	J	A	S	O	N	D
Erect boxes / Install swift bricks/ Deploy hedgehog houses	Prior to the occupation of the buildings the boxes are to be situated upon.											

Box Maintenance

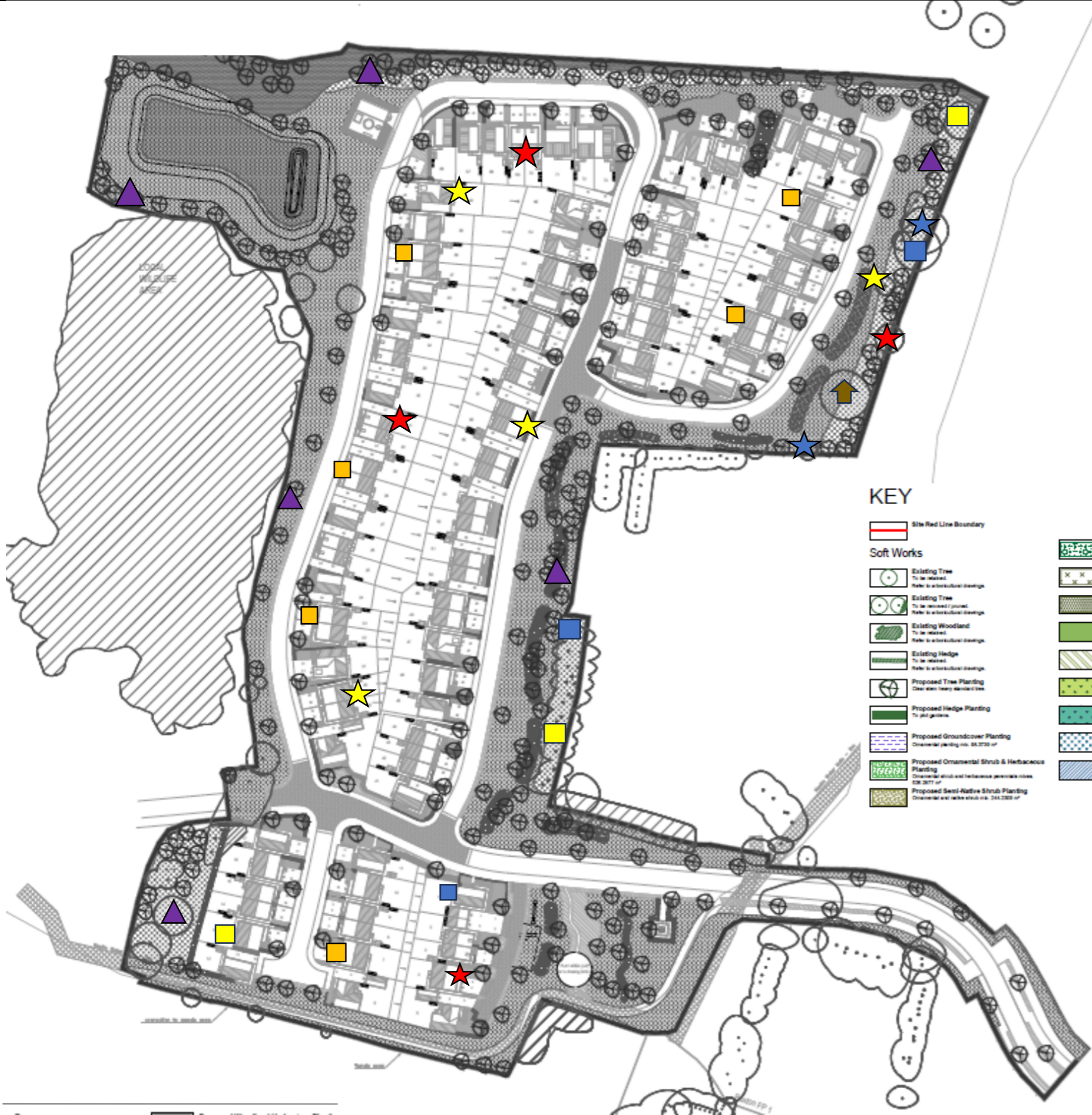
Habitat box maintenance	Year 1	Year 2	Year 3	Year 4
Box checks to see if boxes are in good condition and working appropriately		Operational phase Sept - Oct		Operational phase Sept - Oct
Bird box cleaning		Operational phase Sept - Oct		Operational phase Sept - Oct

Post construction maintenance for hedgehog homes.	J	F	M	A	M	J	J	A	S	O	N	D
Annual hedgehog house clean and replacement of bedding (if absent from hedgehog presence)												

Key

	Recommended times when works can be conducted
	Times to avoid work either through recommendation or under licence

Appendix 3 – Bird, Bat Box and Hedgehog Home Location Plan



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Contractors must check all dimensions from site

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Graphical representations of equipment on this drawing have been co-ordinated, but are approximations only. Please refer to the specifications and / or details for actual sizes and / or specific contractor construction information.

- Low Profile Woostone Bat Box (Placed in pairs)
- Small Hollow Bat Box (Placed in pairs)
- Ibstock Enclosed Bat Box 'C'
- Woodstone Seville Nest Box (28mm)
- Vivara Pro Woodstone Nest Box (32mm)
- Vivara Pro Woodstone starling Nest Box
- Barn Owl Nest Box
- Hedgehog House

Note:
Integrated Swift bricks are to be implemented into every proposed building.
Hedgehog Highways are to be implemented into all fences.

**U R B A N
G R E E N**

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Title:	Ecological Enhancement Plan	
Issue:	01	
Drawn:	OJ	Checked: JH Approved: BIG
Project:	UG1795	Scale @ A:3: 1:5,000 Date: 07/03/2024
Dwg No:	Drawing reference 499-P-PL01-Hogshaw	
	01	