

## 15. TIMETABLE OF WORKS

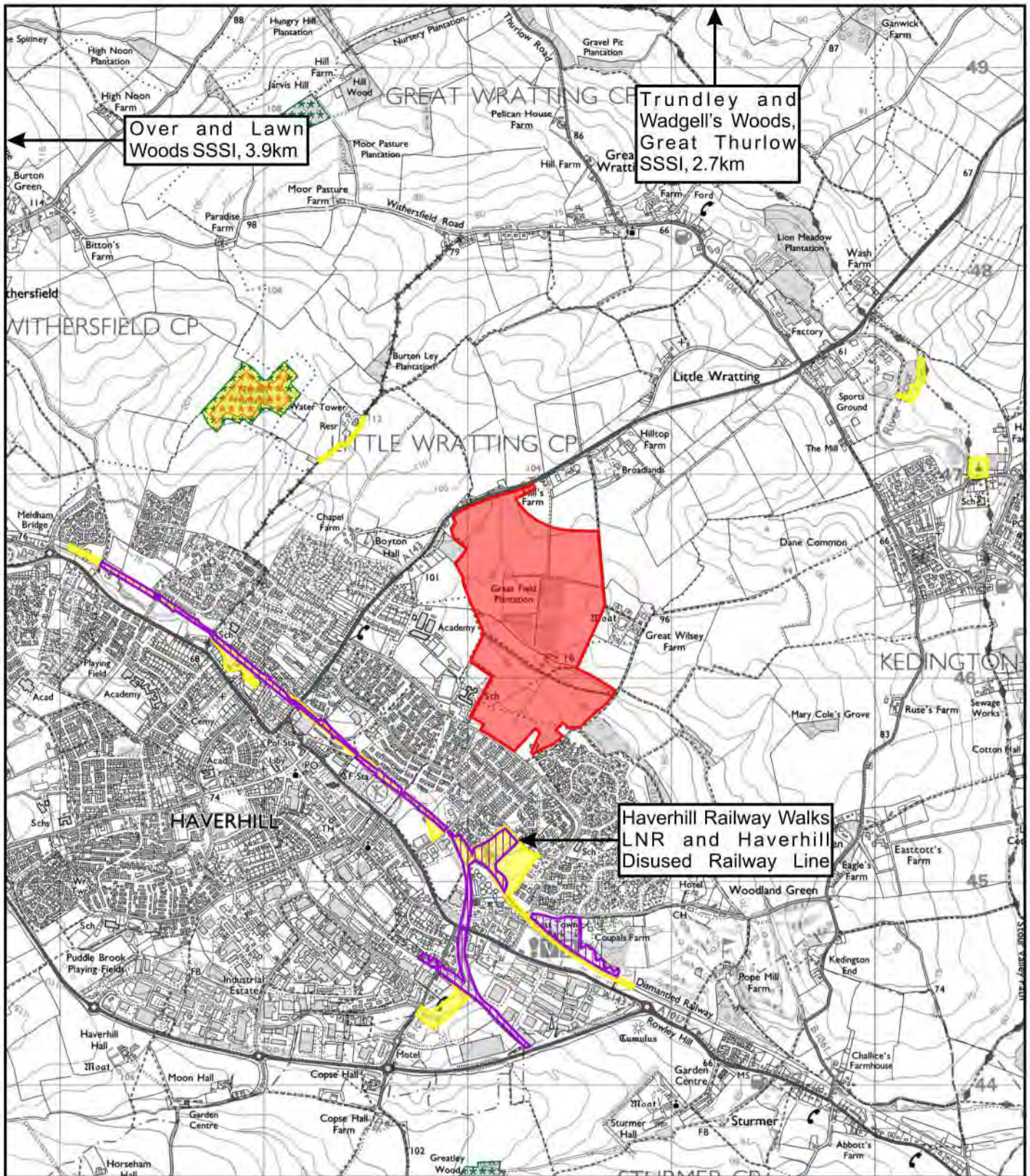
Receptor	Action	Timing
Habitats	Habitat creation and enhancement for each phase	In concert with construction
	Understorey screening of sett area	As part of habitat enhancement works, from summer 2019 onwards
Bats	Bat box installation	On retained trees as part of habitat enhancement works, summer 2019
	Establishment of hop-overs	To be established in first phase of landscaping works associated with Infrastructure RMA
Otters	Pre-construction checks of suitable habitat	Prior to commencement of works
Water Voles	Pre-construction checks of suitable habitat	Prior to commencement of works
Dormice	Seasonal vegetation clearance	Winter clearance to be completed November to March inclusive. Stumps to be removed April to October under full supervision of an EcoW. Summer clearance May to late September under full supervision of an EcoW.
	Dormouse nest box installation	On retained trees summer 2019
Hedgehogs	Clearance of log piles and other hibernation features	Under full supervision by ECoW between October and April; certified by ECoW between May and September
	Hedgehog hibernation box installation	In suitable habitat, from summer 2019 onwards
Birds	Nesting bird checks of vegetation to be removed	March to July inclusive, as required
	Bird box installation	On retained trees from summer 2019 onwards
	Swift pole installation	On completion of initial landscaping works in each area
Reptiles	Clearance of log piles and other hibernation features	Under full supervision by ECoW between November and March; certified by ECoW between April and October
	Passive displacement	Under full supervision by EcoW when reptiles are active (between mid-March and October) and during favourable weather conditions
	Hibernacula installation	From summer 2019 onwards, in line with landscaping works
Amphibians	Road crossings	In concert with construction
	Hibernacula installation	From summer 2019 onwards, in line with landscaping works
Invertebrates	Nesting aid installation	In suitable habitat from summer 2019 onwards
	Bee bank construction	As part of landscaping works, from summer 2019 onwards

**Table 15.1.** Timetable for ecological mitigation and enhancement measures.

## PLANS

## **PLAN ECO1**

Site Location and Ecological Designations



**KEY:**

-  SITE LOCATION
-  LOCAL NATURE RESERVE (LNR)
-  COUNTY WILDLIFE SITE (CWS)
-  ANCIENT WOODLAND
-  ANCIENT REPLANTED WOODLAND

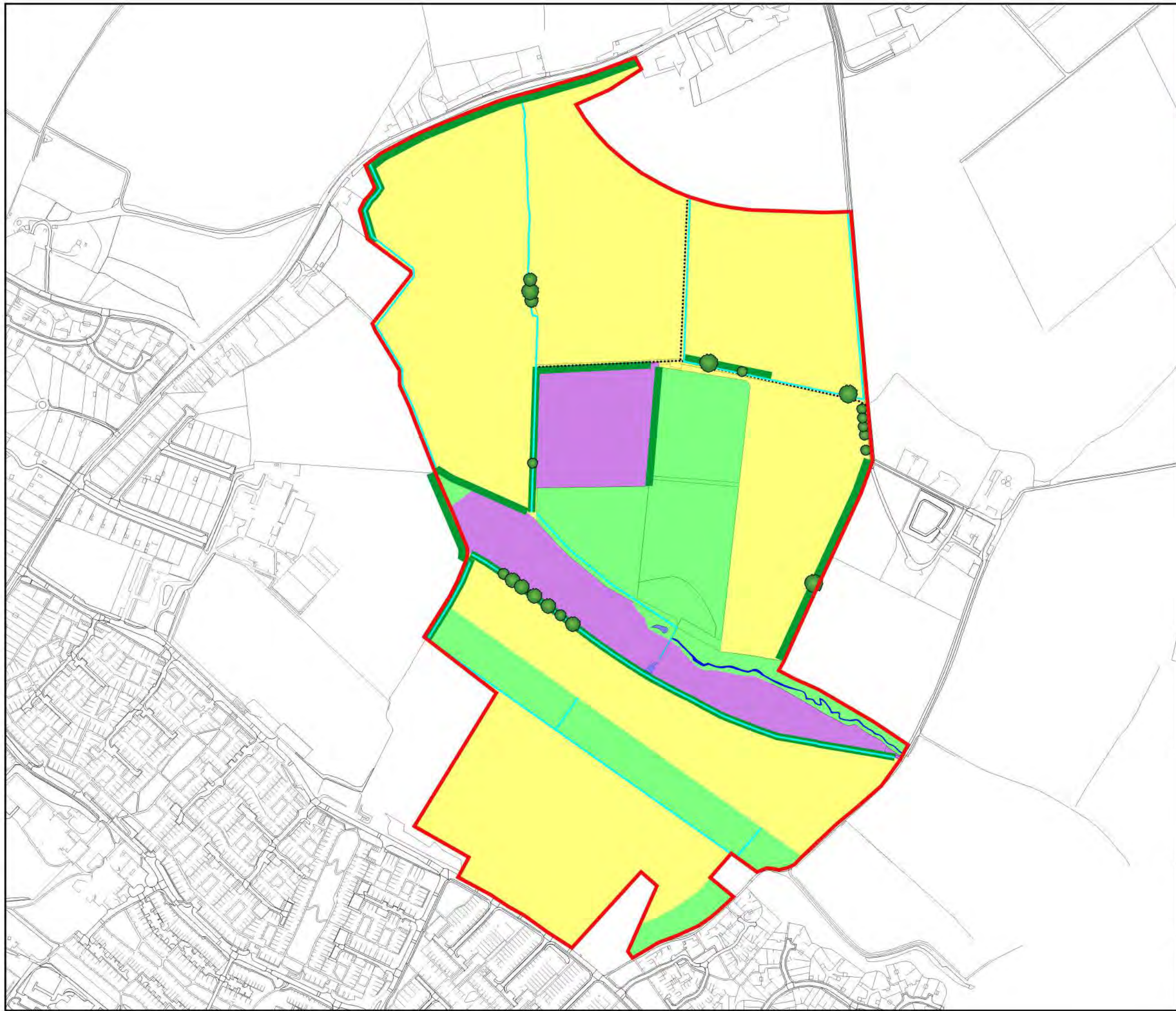


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HAVERHILL

PLAN ECO1: SITE LOCATION  
AND ECOLOGICAL DESIGNATIONS

## **PLAN ECO2**

Ecological Features



- KEY:**
-  SITE BOUNDARY
  -  ARABLE LAND
  -  WOODLAND
  -  IMPROVED GRASSLAND
  -  DITCH
  -  STOUR BROOK TRIBUTARY
  -  POND
  -  HEDGEROW
  -  TREE
  -  TRACK

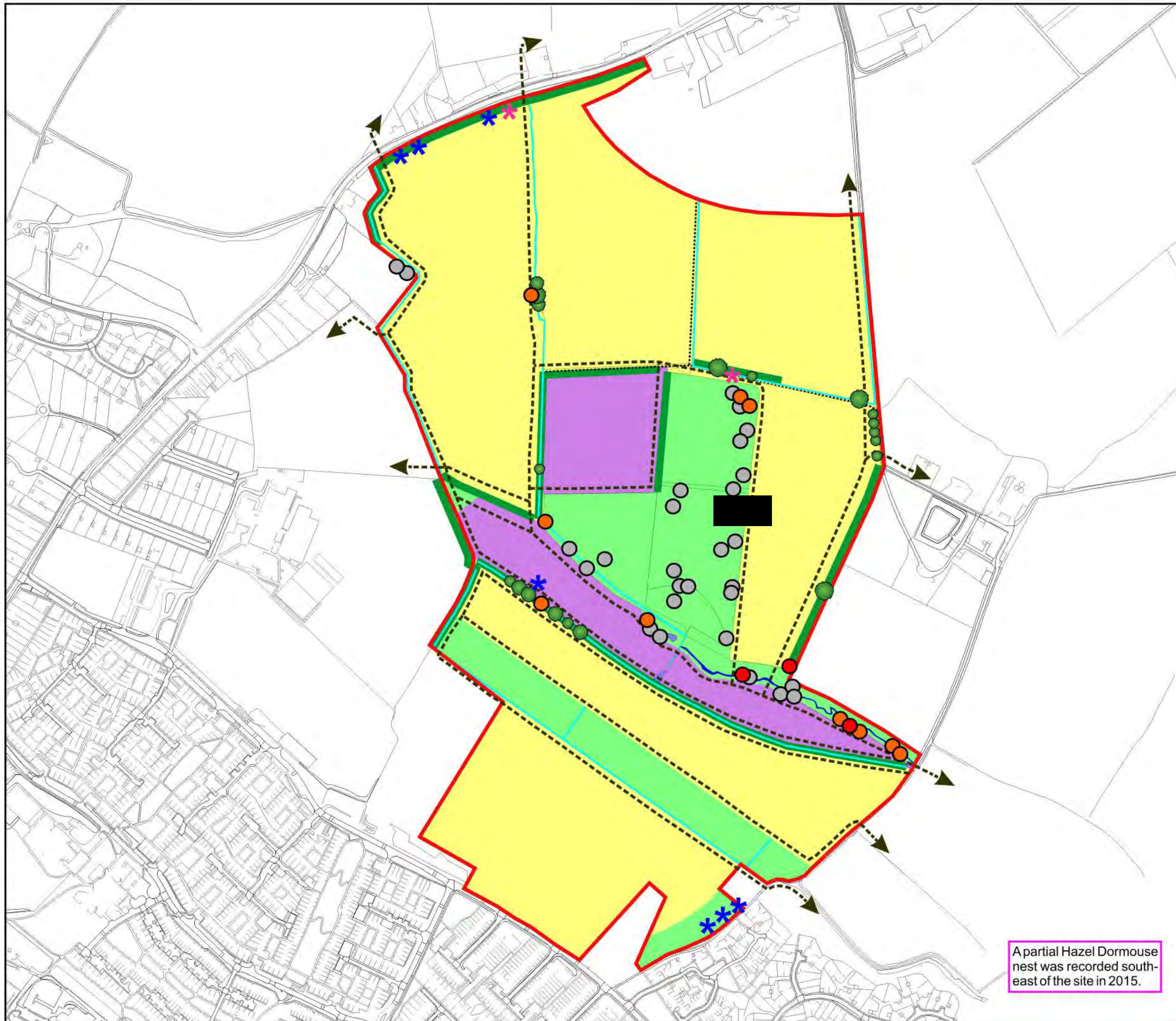


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PLAN ECO2:  
ECOLOGICAL FEATURES

## **PLAN ECO3**

Ecological Constraints



A partial Hazel Dormouse nest was recorded south-east of the site in 2015.

- KEY:**
- SITE BOUNDARY
  - ARABLE LAND
  - WOODLAND
  - IMPROVED GRASSLAND
  - DITCH
  - STOUR BROOK TRIBUTARY
  - POND
  - HEDGEROW
  - TREE
  - TRACK
  - GRASS SNAKE SIGHTING
  - COMMON LIZARD SIGHTING
  - CONFIRMED BAT ROOST
  - HIGH / MODERATE BAT ROOSTING POTENTIAL TREE
  - LOW BAT ROOSTING POTENTIAL TREE
  - BAT FORAGING ROUTES
  -



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PLAN ECO3:  
ECOLOGICAL CONSTRAINTS



## **PLAN ECO4a**

Ecological Implementation Strategy 1



**KEY:**

- BAT HOP-OVER
- ★ 2X HEDGEHOG HIBERNATION BOX
- ⊙ REPTILE HIBERNACULUM
- BEE BANK
- BUG HOTEL
- 9X SCHWEGLER 2F, 1FF AND 1FW BAT BOX
- 11X SCHWEGLER 2H, 1N AND 1B BIRD BOX
- 1X SWIFT POLE
- 2X SCHWEGLER CLAY AND REED INVERTEBRATE NESTING AID
- MITIGATION MEASURE
- ENHANCEMENT MEASURE



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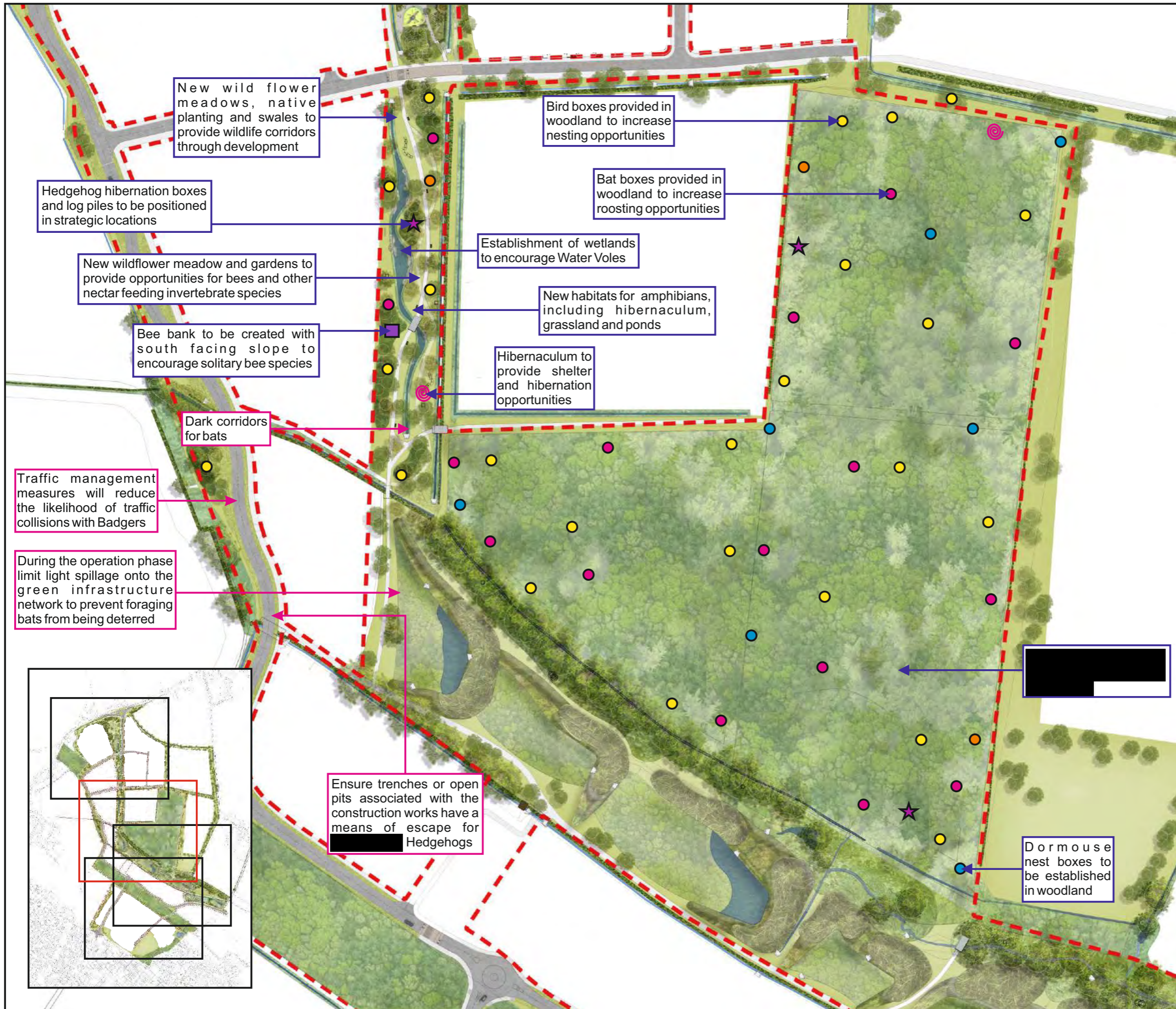


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PLAN ECO4a: ECOLOGICAL IMPLEMENTATION STRATEGY 1

## **PLAN ECO4b**

Ecological Implementation Strategy 2



**KEY:**

-  3X HEDGEHOG HIBERNATION BOX
-  REPTILE HIBERNACULUM
-  BEE BANK
-  7X DORMOUSE NEST BOX
-  16X SCHWEGLER 2F, 1FF AND 1FW BAT BOX
-  24X SCHWEGLER 2H, 1N AND 1B BIRD BOX
-  3X SCHWEGLER CLAY AND REED INVERTEBRATE NESTING AID
-  MITIGATION MEASURE
-  ENHANCEMENT MEASURE



Based on Exterior Architecture Drawing No. ExA\_1868\_Illustrative Masterplan



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PLAN ECO4b: ECOLOGICAL IMPLEMENTATION STRATEGY 2



Ensure trenches or open pits associated with the construction works have a means of escape for Hedgehogs

Dormouse nest boxes to be established in woodland

New wild flower meadows, native planting and swales to provide wildlife corridors through development

Hedgehog hibernation boxes and log piles to be positioned in strategic locations

New wildflower meadow and gardens to provide opportunities for bees and other nectar feeding invertebrate species

Bee bank to be created with south facing slope to encourage solitary bee species

Dark corridors for bats

Traffic management measures will reduce the likelihood of traffic collisions with Badgers

During the operation phase limit light spillage onto the green infrastructure network to prevent foraging bats from being deterred

Bird boxes provided in woodland to increase nesting opportunities

Bat boxes provided in woodland to increase roosting opportunities

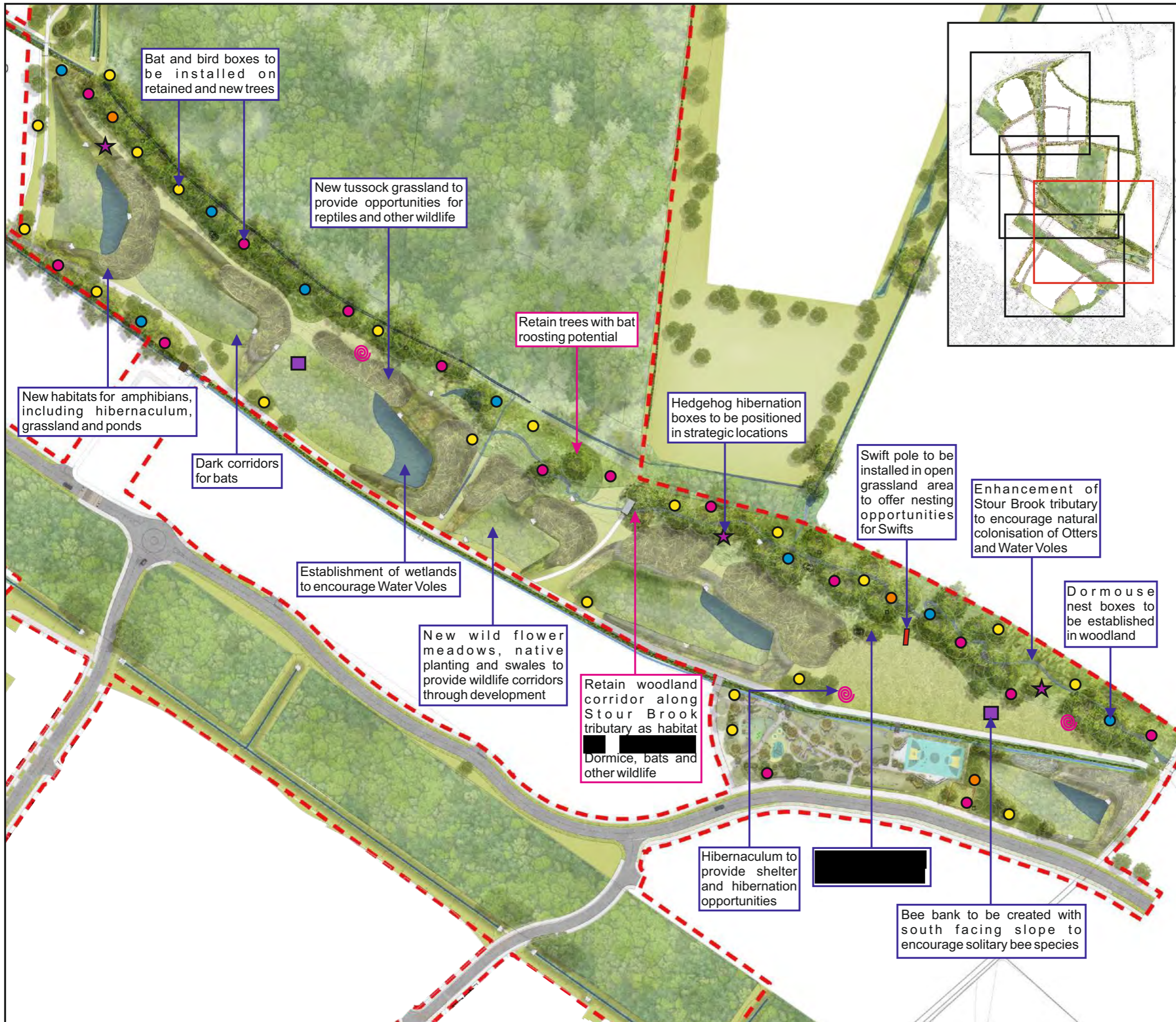
Establishment of wetlands to encourage Water Voles











New habitats for amphibians, including hibernaculum, grassland and ponds

Hibernaculum to provide shelter and hibernation opportunities

## **PLAN ECO4c**

Ecological Implementation Strategy 3



- KEY:**
-  3X HEDGEHOG HIBERNATION BOX
  -  REPTILE HIBERNACULUM
  -  BEE BANK
  -  8X DORMOUSE NEST BOX
  -  15X SCHWEGLER 2F, 1FF AND 1FW BAT BOX
  -  20X SCHWEGLER 2H, 1N AND 1B BIRD BOX
  -  1X SWIFT POLE
  -  3X SCHWEGLER CLAY AND REED INVERTEBRATE NESTING AID
  -  MITIGATION MEASURE
  -  ENHANCEMENT MEASURE



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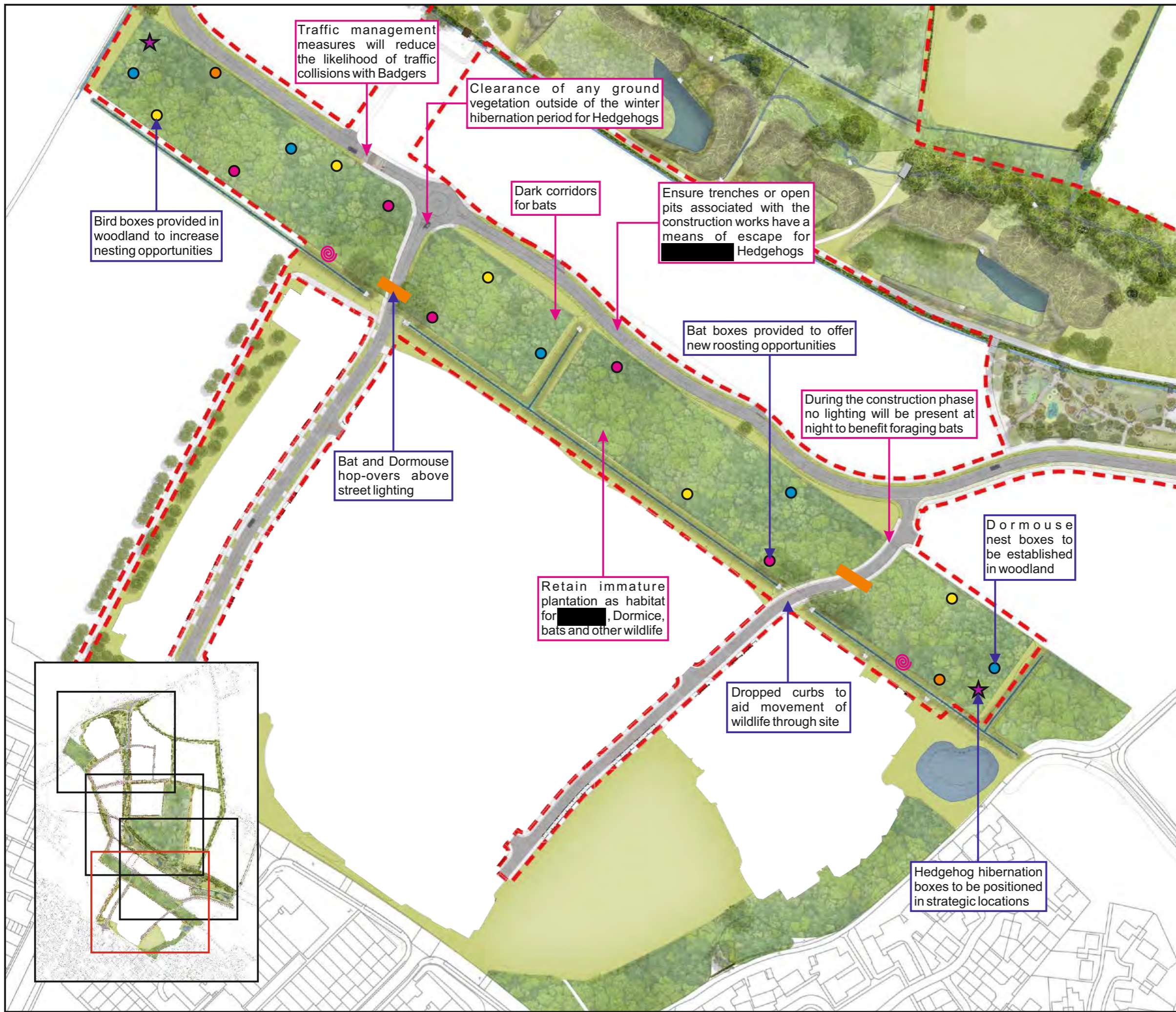
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PLAN ECO4c: ECOLOGICAL IMPLEMENTATION STRATEGY 3

## **PLAN ECO4d**

Ecological Implementation Strategy 4

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- KEY:**
-  BAT HOP-OVER
  -  2X HEDGEHOG HIBERNATION BOX
  -  REPTILE HIBERNACULUM
  -  5X DORMOUSE NEST BOX
  -  5X SCHWEGLER 2F, 1FF AND 1FW BAT BOX
  -  5X SCHWEGLER 2H, 1N AND 1B BIRD BOX
  -  2X SCHWEGLER CLAY AND REED INVERTEBRATE NESTING AID
  -  MITIGATION MEASURE
  -  ENHANCEMENT MEASURE



Based on Exterior Architecture Drawing No. ExA\_1868\_Illustrative Masterplan



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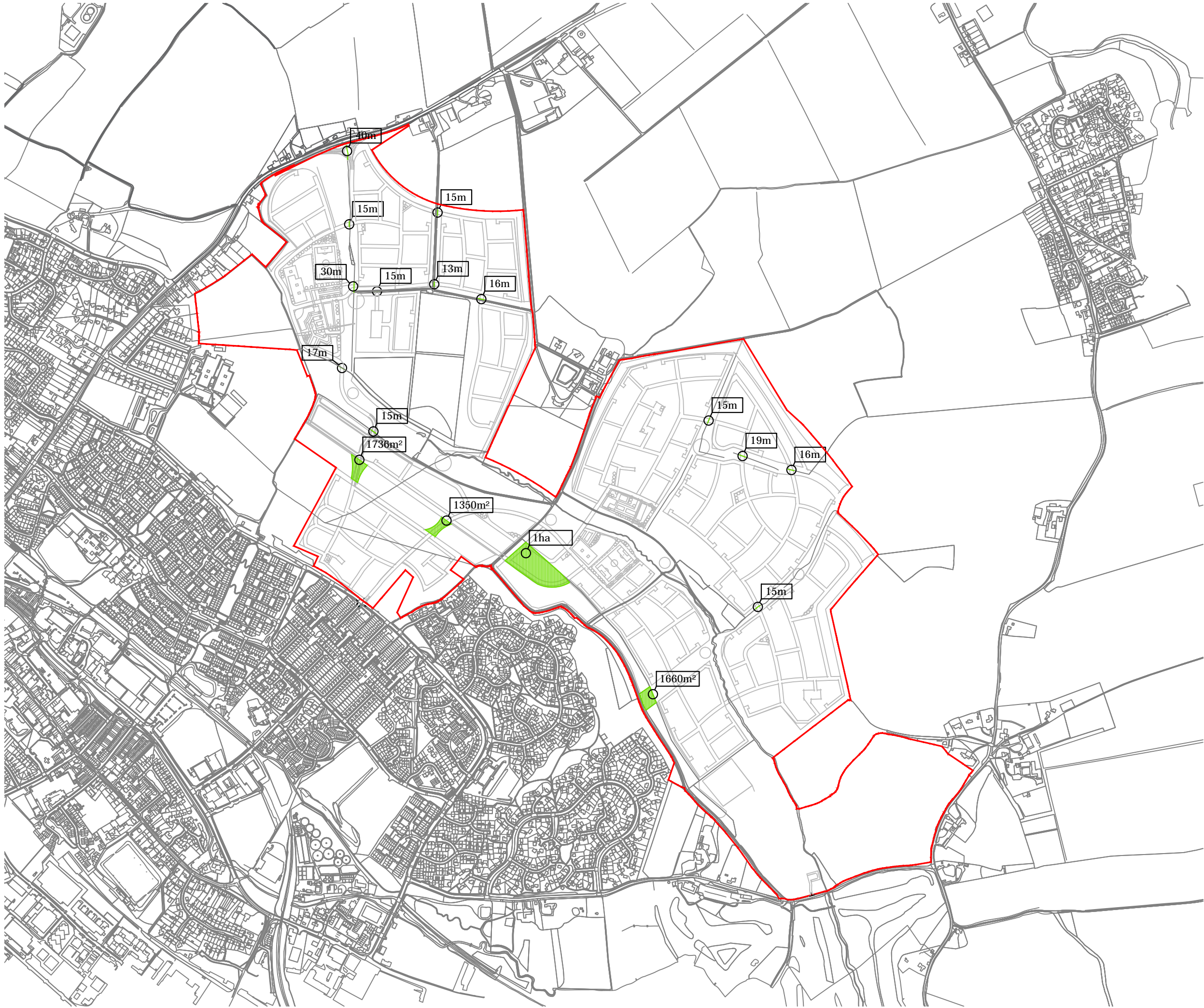
PLAN ECO4d: ECOLOGICAL IMPLEMENTATION STRATEGY 4



## **APPENDICES**

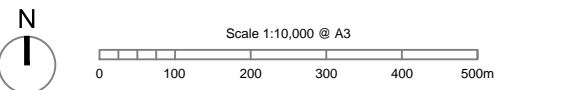
## **APPENDIX 1**

Hedgerow Removal Plan 5055-L-112 rev C



**NOTES**

All dimensions to be verified on site. Do not scale this drawing.  
 All discrepancies to be clarified with project Landscape Architect.  
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- Application boundary 168.34ha
- Hedgerow to be removed to facilitate road access (Total length) 241m  
(Assumed 2.5 roadside clearance for visibility)
- Woodland to be removed (Total area) 1.47ha

rev	date	description	by
C	10.08.15	Couplups Road access / car park included	NJE
B	06.08.15	Change to site access	NJE
A	21.07.15	Change to road layout	SJ

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project  
**Great Wilsey Park  
 Haverhill**

drawing title  
**Hedgerow Removal Plan**

scale  
 1:10,000@A3

drawn  
 NJE

date  
 July 2015

drawing number  
**5055-L-112**

rev  
**C**

## **APPENDIX 2**

### Bat Box Specifications

# Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.

The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.



## 2F Bat Box

A standard bat box, attractive to the smaller British bat species. Simple design with a narrow entrance slit on the front.

*Woodcrete construction, 16cm diameter, height 33cm.*



## 1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or on sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

*Woodcrete construction.*

*Width: 27cm*

*Height: 43cm*

*Weight: 8.3kg*

# Bat Boxes

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The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.

## 1FW Bat Hibernation Box

This huge box is designed to provide a protected environment which is particularly important through the cold winter months when bats are hibernating. Three wooden panels within the box imitate crevices for roosting.

*Woodcrete construction, 38cm diameter, height 50cm, weight 28kg.*

*This heavy box requires secure mounting if placed above the ground and should be sited away from public areas.*



## **APPENDIX 3**

### Hedgehog Gateway Specification

# Hedgehog Gateways

A 13 x 13 cm section cut out at the base of the gravel board or directly into the fence panel creating links between residential gardens and the surrounding landscape.

This will facilitate the dispersal of Hedgehogs and other small animals and enhance the permeability of the new development for wildlife.





## **APPENDIX 4**

### Hedgehog House Specifications

# Hedgehog Houses

## Schwegler Hedgehog Dome

The Schwegler Hedgehog Dome encourages Hedgehogs to settle in a particular area and provides year-round shelter featuring a weather proof cover and insulated floor.



## Ecoplate Hedgehog House

This large, environmentally friendly house is made from recycled plastic and is weather resistant and very durable. A hidden entrance tunnel inside makes it more difficult for predators to reach Hedgehogs inside.



## **APPENDIX 5**

### Bird Box Specifications

# Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box.

They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting.

Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.

## 2H Open Fronted Bird Box

This box is attractive to robins, pied wagtails, spotted flycatcher, wrens and black redstarts.

*Dimensions 15 x 20 x 20 cm*



## 1N Deep Nest Box

A deeper than standard nest box which is ideal for Robins, Spotted Flycatchers, Pied Wagtails, Tits and Sparrows. Its depth offers protection from cats, Magpies, Jays and Martens.

*Two entrance holes, 30 x 50mm. Nesting area 15 x 21cm.*

# Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.

## 1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

*Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts for example.*



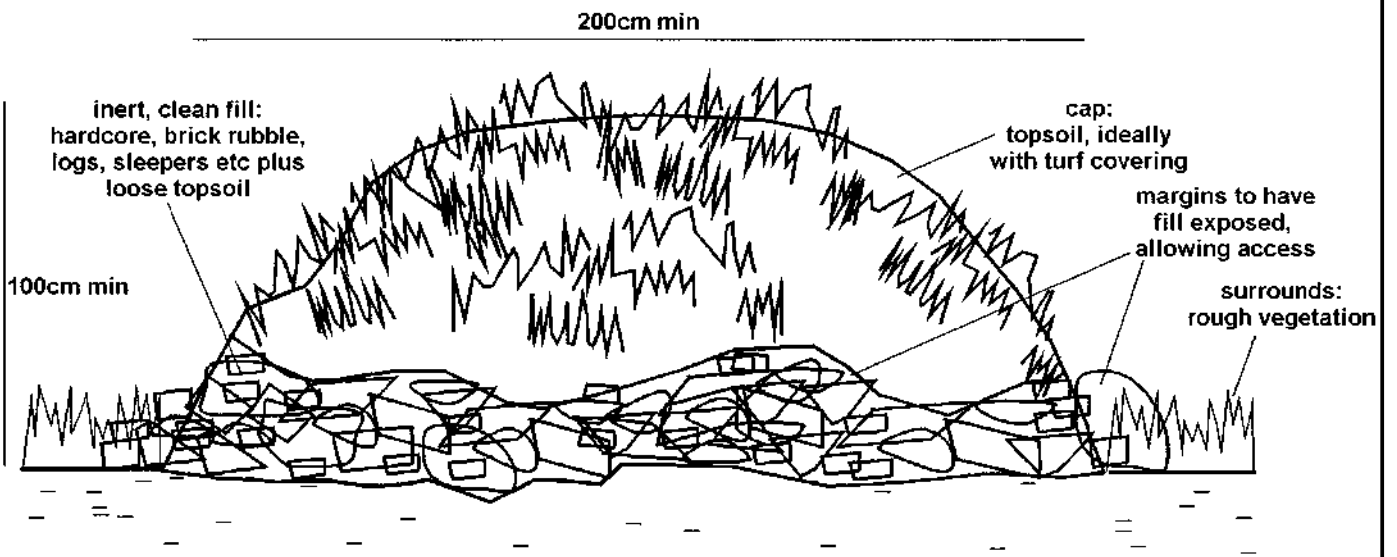
## Swift Pole / Tower

A Swift nest colony can be fitted to a steel lamp post or a timber telegraph pole. This provides nest sites for a colony of Swifts in an area with no suitable buildings present. The minimum height for a Swift Pole / Tower is 7m, but the higher the better.

*Multiple entrance holes, 55 x 33mm.*

## **APPENDIX 6**

### Reptile Hibernacula Specification



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HIBERNACULA SPECIFICATION

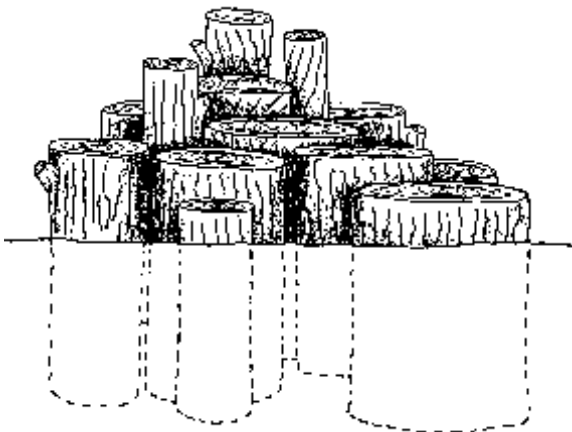
## **APPENDIX 7**

### Stag Beetle Loggery Specification



# Stag Beetle Loggery

Stag Beetles require dead wood to complete their life cycle, laying eggs underground by logs or stumps of dead trees. The larvae will then spend up to seven years slowly growing in size. A wide range of woods are used, especially Oak, but also Ash, Elm, Sycamore, Lime, Hornbeam, Apple and Cherry. Coniferous species are generally avoided. Adults emerge from the soil beneath logs or stumps from mid-May until July.



## Loggery

Large logs (10-50cm diameter) of hardwood (e.g. Oak, Beech, Sycamore, Ash) with bark still attached sunk c. 60cm into the ground, in partially shaded areas. Treated wood should not be used.

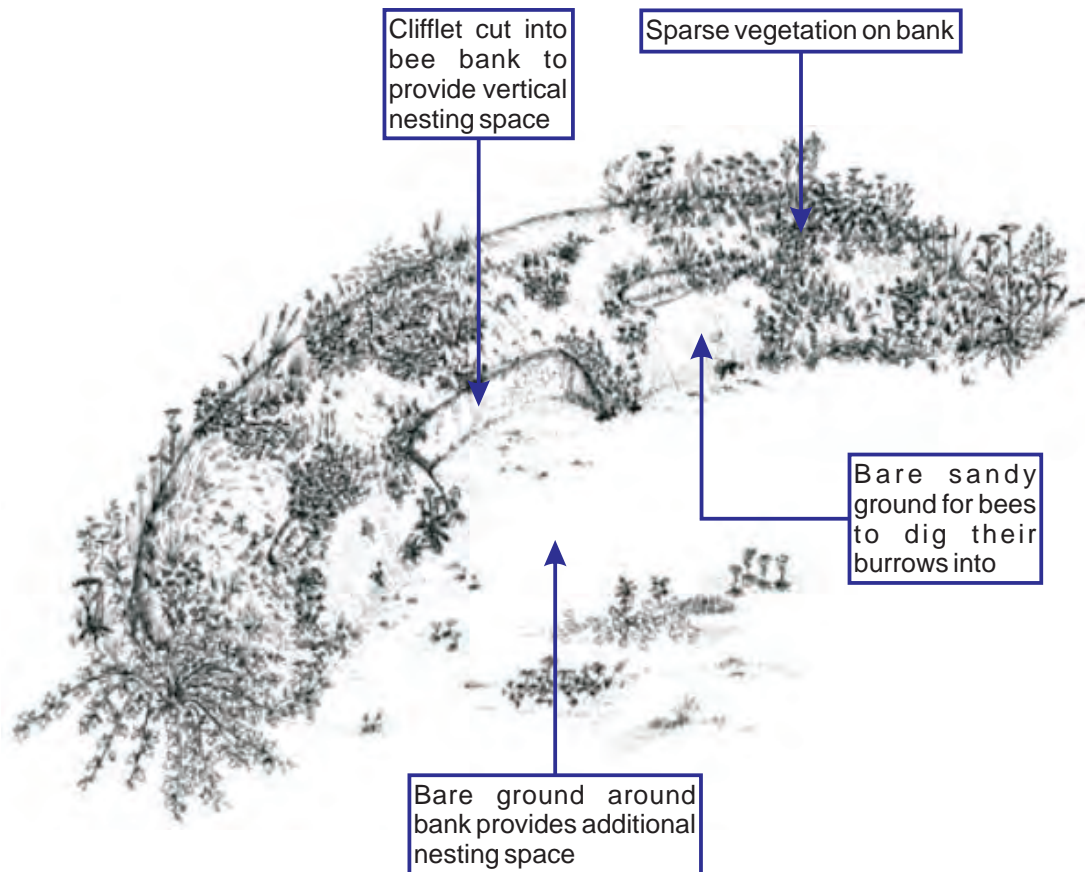
## **APPENDIX 8**

### Invertebrate Nesting Aid Specifications

# Invertebrate Nesting Aids

## Bee Bank

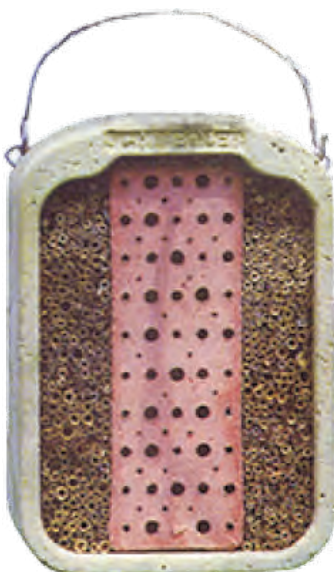
Provides warm, sheltered patches of bare ground where solitary mining bees and other invertebrates nest. Made from sand, stones and other loose aggregates. Vegetation will be cut on a rotational basis so bare ground is always visible. Bee banks will be positioned in a wildflower meadow area to provide a nearby source of nectar and pollen for bees. The bee bank will be aligned to face south or south-east for maximum sunshine.



# Invertebrate Nesting Aids

## Bug Hotel

Manmade structure providing nesting sites for solitary bees and wasps and hibernacula for ladybirds, woodlice and butterflies. It will be constructed using a variety of natural materials including logs, bark and bamboo sticks, to provide as many sheltering opportunities as possible.



## Schwegler Clay and Reed Insect Nest

An attractive insect nest which can be hung in any sunny, sheltered spot. Reeds on either side of a clay central section provide a range of environments to suit different insects (designed to attract only harmless insects).

*Dimensions: 290 x 225 x 205 mm*

*Weight: 5.7 kg*

*Schwegler woodcrete, clay, and reeds*



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