



## **Biodiversity Enhancement Scheme**

**Land to the Rear of Ynysygored Cottages,  
Bronheulog Terrace,  
Aberfan,  
Merthyr Tydfil,  
CF48 4QD**

**September 2023**

**Prepared by  
Wendy J Larcombe on behalf of I&G Ecological Consulting Ltd**

| Version Number | Date Issued |
|----------------|-------------|
| 1.0            | 14/09/23    |

**Contact:**

Glyn Lloyd-Jones [glyn.igecol@gmail.com](mailto:glyn.igecol@gmail.com) 07973 685423  
Iestyn Evans [iestyn.igecol@gmail.com](mailto:iestyn.igecol@gmail.com) 07733 214829  
Office [office.igecol@gmail.com](mailto:office.igecol@gmail.com)

## Contents

|                               |   |
|-------------------------------|---|
| Summary.....                  | 3 |
| Introduction.....             | 3 |
| Scope for Enhancement.....    | 4 |
| Enhancements For Species..... | 6 |
| Birds.....                    | 6 |
| Bats .....                    | 7 |
| Hedgehogs.....                | 8 |
| Invertebrates.....            | 8 |
| Reptiles .....                | 9 |

APPENDIX 1 – Recommended Enhancements Plans

APPENDIX 2 - Artificial Bird Nesting/Bat/Invertebrates products

APPENDIX 3 – Hedgehog hibernaculum/Shelter

APPENDIX 4 – Reptile/Amphibian Hibernacula

APPENDIX 5 - Timing of Enhancement Actions/typical ecological works

APPENDIX 6 – Native Tree, Shrub and Wildflower planting resources

## Summary

I & G Ecological Consulting Ltd were commissioned to produce a Biodiversity Enhancement Scheme (BES) in connection with an ongoing planning application for a Traveller pitch and Day Room.

The BES is to include key impacts and mitigation measures to comply with the general principals set out in *Policy 9 of Future Wales (2040)*.

The site is approximately 0.06ha. The site itself consists predominantly of bare ground. The habitats present within the wider survey area include neutral semi-improved grassland, amenity grassland, and bare ground, with boundary features including fencing.

## 1. INTRODUCTION

- 1.1.1 I & G Ecological Consulting were commissioned to produce a Biodiversity Enhancement Scheme in relation to a planning application for the creation of a Traveller pitch.
- 1.1.2 This report is to satisfy requirements for Biodiversity Enhancement and to ensure no detrimental impact on local ecology.
- 1.1.3 The Preliminary Ecological Assessment (I&G Aug. 2023) describes the habitats within the site as predominantly bare ground, with the wider survey area as neutral semi-improved grassland, amenity grassland and bare ground. Boundary features include fencing.

See Fig. 1 for location and Fig. 3 for habitats.

- 1.1.4 This report presents a Biodiversity Enhancement Scheme to provide habitat and forage for the following:

- Nesting Birds
- Bats
- Hedgehogs
- Invertebrates
- Reptiles

- 1.1.5 The site is situated within off Bronheulog Terrace, in Aberfan, Merthyr Tydfil. The site is located between the two small towns of Aberfan and Troedyrhiw. It is within a rural setting, surrounded by pasture and mature woodland belts. It is within 220m of a riparian corridor (River Taff). It is flanked to the west by the A470.



Figure 1. Location of the site. Grid Ref: - SO 07309 01439

## 2. SCOPE FOR ENHANCEMENT

- 2.1 Site Boundary map (from PEA I&G Aug 2023) shows the location of the proposed pitch (red boundary), within the surveyed area (PEA Survey boundary shown blue). See Fig. 2.



Figure 2. PEA Site Boundary (Blue), and the Proposed Development Footprint (red) (taken from PEA I&G Aug.2023)

2.2. Habitats within and adjacent to the site can be seen at Fig. 3 below.



Figure 3. Aerial image of site showing habitats: Grassland, wooded belts and riparian corridor

### 3. ENHANCEMENTS FOR SPECIES (see ENHANCEMENT PLAN AT APPENDIX 1)

- 3.1 The current site layout provides limited resources for enhancement, being predominantly, bare ground, grazed grassland, and semi-improved grassland. However, the land within ownership has scope for small areas of additional planting and hibernacula siting.
- 3.1.2 Additional native wildflower and tree planting will benefit birds, providing food, nesting and shelter. Such planting will also benefit a range of other animal groups such as invertebrates, reptiles and small mammals.
- 3.1.3 The proposed development will utilise native tree planting and earth banks as a form of semi-natural screening, surrounding the pitch. Resources for birds, insects and small mammals will also be greatly improved if such screening includes other under-storey species such as native Honeysuckle and Dog Rose.
- 3.1.4 No site visit has been made in relation to this report. Therefore, recommendations have been made based upon desk-based resources, including Ecological Appraisal (I&G Aug. 2023), Architectural Plans and online maps.

#### 3.2 Nesting Birds

- 3.2.1 Provision for bird nesting can be achieved by incorporating integral boxes for species such Swifts, Swallows, and Martins which could be using the open agricultural land and reclaimed spoil heaps nearby. See Appendix 2 for suggested designs and products. Please see Appendix 4 for timing of works to avoid the bird nesting season.
- 3.2.2 Proposed Enhancement Provision:

#### **Recommendation 1:**

2 x [Swift bricks](#) to be incorporated into the Day Room. The Swift Brick should be located high within the gable wall of the building, ideally at 5 metres high and above and over the level of the insulation zone. Where possible, install in locations that are unlikely to receive large amounts of direct sunlight during the hottest times of the day, ideal places include below the overhang of the verge and barge board.

- 3.2.3 The above example – the Manthorpe Swift Brick is made of uPVC and Polypropylene. Overall dimensions (mm): 347 x 200 x 153. For further details, see Appendix 2.
- 3.2.4 Positioning of bird boxes will be based on advice from on-site ecologist and supplier support (E.g., WildCare.co.uk, RSPB, NHBS.com or another specialist provider).
- 3.2.5 Annual maintenance (e.g., cleaning out, checking attachment is secure) where necessary, depending on design, will be undertaken by site occupant, outside of the bird breeding season.
- 3.2.6 Management of existing trees will be minimal and only as necessary to maintain the health of trees and prevent unacceptable encroachment onto property/public areas, where it may present a safety risk. All such management will be undertaken outside of the bird breeding season (1<sup>st</sup> March to 31<sup>st</sup> August).

### **3.3 Bats**

- 3.3.1 Bats may utilise the site for foraging and roosting. Additional capacity can be provided by incorporating suitable artificial roosts/Bat Boxes within/on new buildings and on trees within the site boundary if present, at a minimum height of two meters, and without obstruction (clear flight line to front of box). The lighting scheme shall demonstrate that dark corridors for bat foraging/commuting will be maintained and that the access points to bat boxes remain un-illuminated. Any site lighting will be kept to a minimum and be low level, down facing lights. If any external artificial light at night is to be used, it must conform to the following guidance:<https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/> Please see Appendix 4 for timing of works to avoid the bat hibernation season.
- 3.3.2 Proposed Enhancement Provision:

#### ***Recommendation 1:***

1 x integral bat box (for example [Vivara Pro Build-in bat Box](#)) on the west facing elevation of the building. To be integrated in a sheltered, elevated (2–7m and ideally 4m) position away from artificial light and potential predation, and ideally not above any windows or doors. There must be a dark route into feeding areas, and clear flight path to the bat box.

***Recommendation 2:***

2 x [Harlech Woodstone Bat Box](#) (or similar) to be affixed on mature trees within the curtilage of land ownership. The boxes should be sited in a sheltered, elevated (2–7m and ideally 4m) position away from artificial light and potential predation. Boxes to face different directions to one another, so long as there is a clear flight line into each.

- 3.3.3 If it is evident that the boxes are in use by bats, they must not be disturbed and only moved/cleaned under the supervision of or by a licensed bat ecologist.

**3.4 Hedgehogs**

- 3.4.1 Any boundary structures will be of a style that will allow Hedgehogs free access throughout the site, ensuring they can benefit from habitat and forage resources found both on and off site, e.g., surrounding gardens, open habitats, hedge-banks and ponds.

- 3.4.2 Proposed Enhancement Provision:

***Recommendation 1***

All property/field boundaries, will allow free movement of animals, particularly Hedgehogs. Any such boundaries should have sufficient ground-level gaps to allow commuting to the surrounding habitat.

***Recommendation 2***

If available space can be identified within the site layout, then it is recommended that a purpose-built [hedgehog refuge](#) can be installed in a secluded/undisturbed location within the site. Simple designs using bricks can be constructed or purpose-made wooden boxes are readily available. See Appendix 3 for construction design and ready-made examples.

**3.5 Invertebrates (pollinator provision)**

- 3.5.1 The forage and habitat provision lost from the development will be minimal, however, resources can be enhanced by additional planting of native flowers, trees and shrubs to benefit invertebrates. See Appendix 5 for recommended species and management.

### 3.5.2 Proposed Enhancement Provision:

#### **Additional pollinator resources will be provided by native shrub/tree planting:**

- Native hedgerow trees (including Guelder Rose, Hawthorn, Rowan, Hazel), and native shrubs to be used to create the screen around the site. These should be planted in a double staggered row along the top of the earth bank.
- Understory planting of species such as native Honeysuckle, Dog rose and Wild Clematis to the screen hedging.
- 2 x Insect Shelter/Hotel to be sited (on posts until trees are mature enough) in a sheltered location, away from any disturbance, amongst the planted screening around the Site. See Appendix 1. For positioning and Appendix 2 for product example.

#### **Planting of native wildflowers – either by seed, turf, bulb and/or plug planting:**

- Native wildflowers (either turf, or seed) to be planted on the earth banks around the pitch.
- Native, **organic** bulbs to be planted within the earth banks.
- Management of wildflower planting will depend on the species/mix used. Advice for species choice, planting location and management can be sought from local suppliers such as Celtic Wildflowers based in Gorseinon (<https://celticwildflowers.co.uk/>).
- See Appendix 6 for recommended species and management.

## **3.6 Reptiles**

- 3.6.1 A Reptile Mitigation Method Statement has been produced (I&G Sept 2023), which details the specific timing and management of any site clearance, resource enhancement and siting of artificial hibernacula.

### 3.6.2 Proposed Enhancement Provision

#### ***Recommendation 1***

- Creation of 1 number reptile and amphibian refugia/hibernacula (log, rock and turf pile). See Appendix 4 for design and Appendix 1 for location. Materials such as stone, brash and logs can be used, so long as this material is 'clean', i.e. devoid of invasive non native species.
- A minimum of 2m vegetated (unmanaged grassland) buffer zone is recommended, and within this the amphibian and reptile refugia/hibernacula can be placed. (See Appendix 1).

## APPENDIX 1

### Recommended Enhancements Plans

Symbols representing the Artificial Refugia, trees, and shrubs show approximate locations. Symbol representing Wildflower planting indicates general area to be planted rather than specific individual 'patches' of planting. For key, see below. Please note this is a generic Key and not all symbols may be present on the Enhancement Plan.

The final position of Bat and Bird Boxes will be agreed with the advice of I&G Ecological Consulting Ltd.

|                                                                                     |                                |
|-------------------------------------------------------------------------------------|--------------------------------|
|    | Native Trees                   |
|    | Native Shrubs                  |
|    | Native Wildflowers/Plugs/Bulbs |
|    | Reptile Hibernacula            |
|    | Integral Swift Brick           |
|    | Hedgehog Refuge                |
|  | Integral Bat Box               |
|  | Insect Refuge                  |
|  | Tree mounted Bat Box           |



Base image extracted from Architect Plans Drawing Number 05b

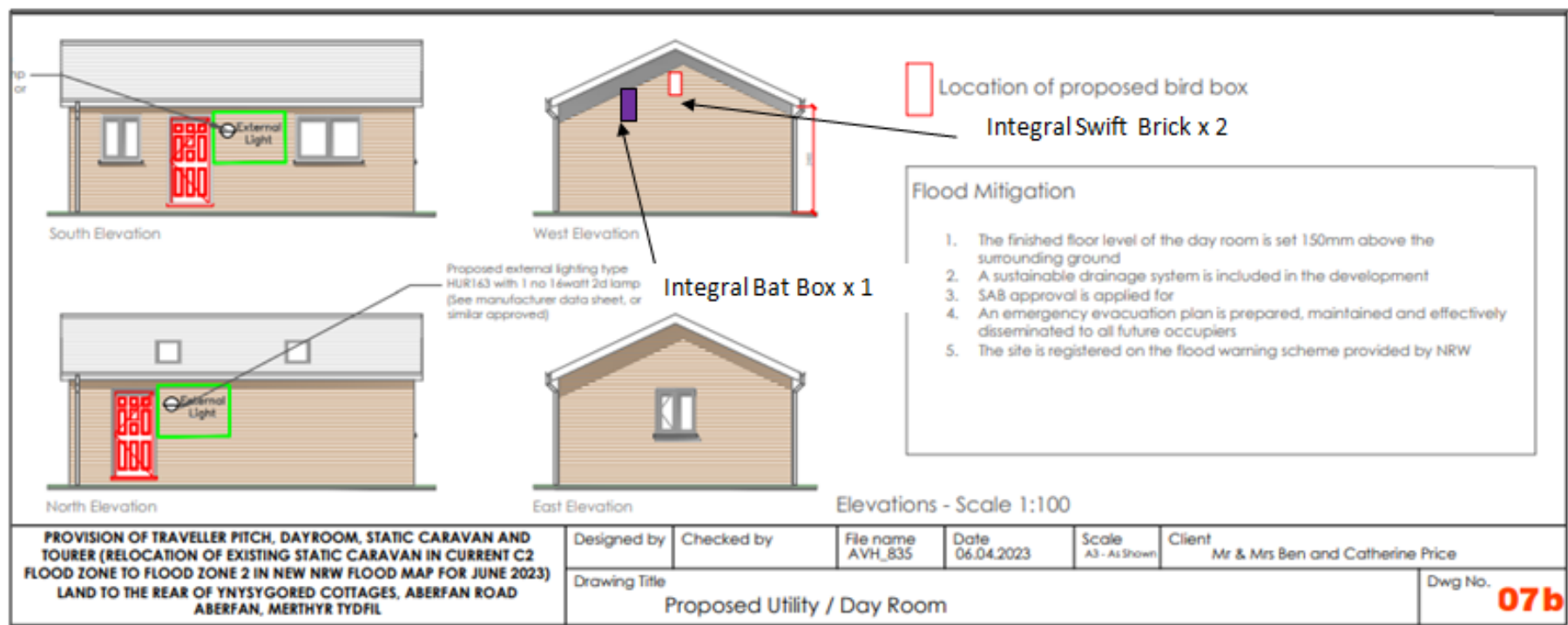
Reptile Hibernaculum within grassland, surrounded with at least 2m of uncut vegetation remaining

Bat Boxes in trees, if within curtilage of site ownership

Hedgehog Refuge sited within grassland. If this area is to be grazed, then a moveable style is preferred. Do not move during hibernation period (late autumn-spring)

Insect refugia sited on posts within the newly created hedge

Native trees and shrubs planted all along the earth bund, with native understory planting and native, wildflower planting (turf, plugs, seeds, organic bulbs)

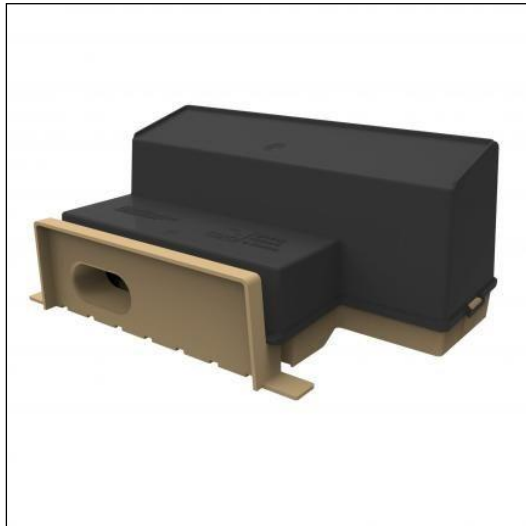


Base image extracted from Architect Plans Drawing Number 07b

## APPENDIX 2

### Artificial Bird Nesting products

Example of an integrated Swift Box – [Manthorpe Swift Box from Wilcare](#)



**DIMENSIONS OF THE BRICK (MM):** 227 x 80

**FLOOR AREA:** 413cm<sup>2</sup>

**ENTRANCE:** OVAL; 29 x 65

**CHAMBERS:** 1

**WEIGHT (KG):** 1.48

**COLOURS:** Buff, terracotta, antique red, slate grey

**MATERIAL:** uPVC Top material: Polypropylene

Further siting advice can be found at [Where To Put A Bird Box | Nestboxes - The RSPB](#) or [BTO.org](#).

### Artificial Bat Roots

Integral style boxes: Below: [Vivara Pro Build-in bat Box](#) (left), and in situ (right), from NHBS.com



Dimensions: Bottom section: 14cm x 21cm x 15cm Top section: 50cm x 21cm x 5cm



**Left: [Harlech Woodstone Bat Box](#)**

MATERIAL: WOODSTONE

GUARANTEE: 10 YEARS

DIMENSIONS: 150 x 275 x 160; 110 x 190 x 110  
(INNER)

ENTRANCE: 20 x 80

WEIGHT (KG): 4

(from Wildcare.co.uk)

**Artificial Insect Refugia**



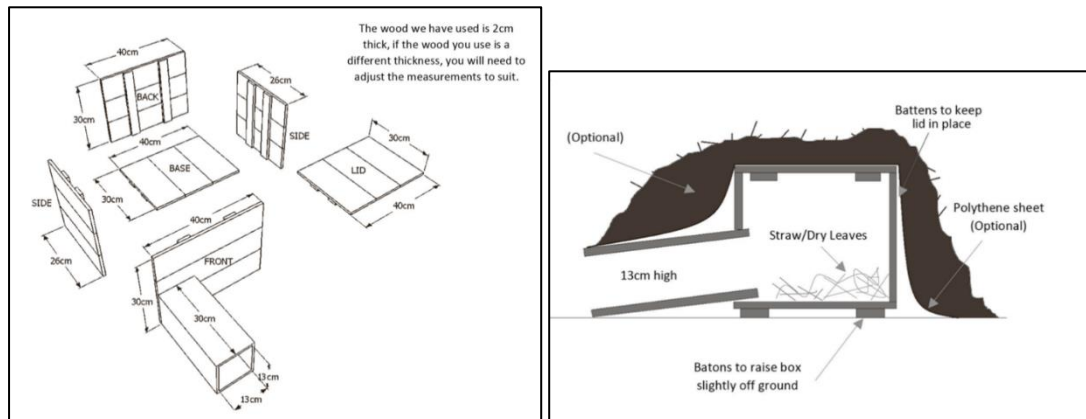
[Schwegler Insect Nesting Aid](#) – can be affixed to established tree or a post.

For further information about invertebrates and how you can help them, see <https://www.buglife.org.uk/>

## APPENDIX 3

### Hedgehog Hibernaculum/Shelter design

<https://www.britishhedgehogs.org.uk/hedgehog-homes/>

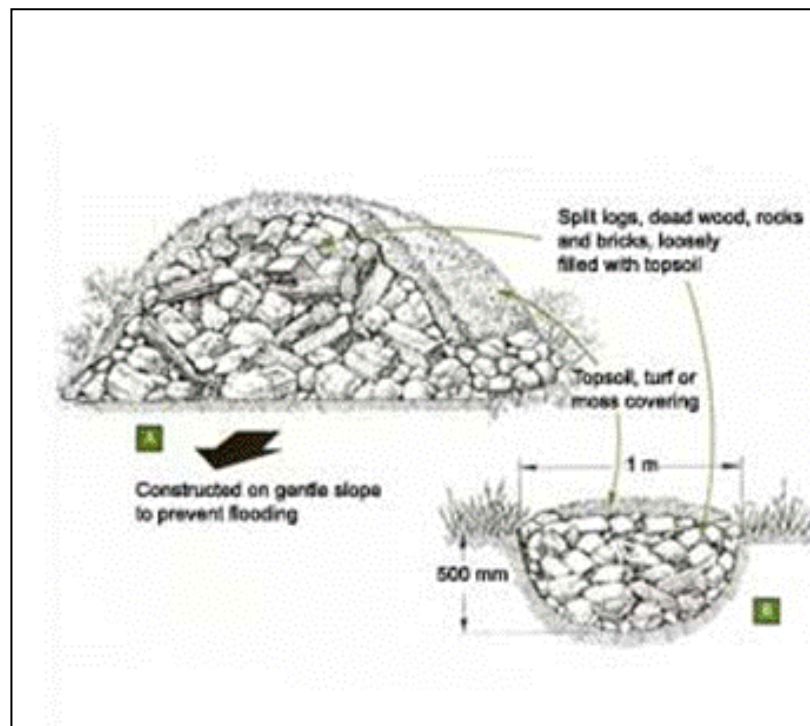


Brick built Hedgehog home - <https://wildlifegadgetman.com/project-wildpatch/how-to-guides/make-a-hedgehog-home-using-bricks/>



## APPENDIX 4

### Reptile Hibernacula design



An example of a suitable hibernaculum for the use of hibernating reptiles/amphibians to be employed within the grassland buffer zone. (Illustration from Great Crested Newt Conservation Handbook, available from Froglife [www.froglife.org](http://www.froglife.org))

## APPENDIX 5

### TIMING OF ENHANCEMENT ACTIONS

**Table 1. Timing of ecological works commonly undertaken, to ensure minimal impact to biodiversity**

| Action                                                                   | J | F | M | A | M | J | J | A | S | O | N | D |
|--------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Hedgerow/scrub management (avoiding birds/dormice)                       |   |   |   |   |   |   |   |   |   |   |   |   |
| Habitat manipulation (reptiles)                                          |   |   |   |   |   |   |   |   |   |   |   |   |
| Grassland clearance (reptiles, Dormice)                                  |   |   |   |   |   |   |   |   |   |   |   |   |
| Translocation of trees                                                   |   |   |   |   |   |   |   |   |   |   |   |   |
| Planting of new hedgerow shrubs and trees                                |   |   |   |   |   |   |   |   |   |   |   |   |
| Erection of bat and bird boxes, creation of reptile and hedgehog refugia |   |   |   |   |   |   |   |   |   |   |   |   |
| New wildflower seeding/planting                                          |   |   |   |   |   |   |   |   |   |   |   |   |

## APPENDIX 6

### Planting List and Management Guide

**Native Trees, which have limited final height, will include:**

| Native Trees and Shrub | Latin Name                   | Plant size (cm) |
|------------------------|------------------------------|-----------------|
| Hawthorn               | <i>Crataegus monogyna</i>    | 60-90           |
| Holly                  | <i>Ilex aquifolium</i>       | >50 1L pot      |
| Field maple            | <i>Acer campestre</i>        | 60-90           |
| Hazel                  | <i>Corylus avellana</i>      | 60-90           |
| Guelder rose           | <i>Viburnum oculus</i>       | 60-90           |
| Blackthorn             | <i>Prunus spinosa</i>        | 60-90           |
| <b>Climbers</b>        |                              |                 |
| Wild honeysuckle       | <i>Lonicera periclymenum</i> |                 |
| Dog rose               | <i>Rosa canina</i>           |                 |

#### **All hedging will be:**

- planted between 1 November and 31 March.
- at least 2-year-old, bare-root transplants of local provenance. Coeden Fach Tree Nursery in Bishopston, are suggested suppliers.
- planted in a double staggered row 40cm apart with a minimum of 5 plants per metre and planted in groups of at least 3 of the same species apart from climbers which should be planted singly.
- planted at least 1 metre within boundary to allow for growth.
- protected with non-plastic, biodegradable spiral rabbit guards and supported with canes.
- protected from competitive weed growth with non-plastic mulch-matting, at least 0.5 metres coverage around each plant. A 1.5m wide strip of matting is proposed and plants slit-planted through the matting. The matting will be secured with mulch mat pins at every 0.3m.
- In the long term, it is envisaged that all the boundary hedges will be managed to a minimum of 2.5m in height and at least 2m wide.

Trees should be sourced responsibly so as not to introduce pests or diseases. See <https://www.woodlandtrust.org.uk/plant-trees/uk-sourced-and-grown/>.

Species should be advised by supplier/landscape architect, depending on soil type, topography and other growing factors such as shade levels etc. Recommended supplier – Woodland Trust. Planting location and spacing will depend on the species selected, and the maturity of those plants. Whips will require tree guards until they are mature enough to withstand attack from rabbits, deer etc. Larger trees may require supporting stakes and protective wire guards initially. Trees should be planted in areas where there is little foot-fall, to avoid compaction of root systems, and far enough away from taller established trees to ensure adequate and even growth. Trees should be maintained according to supplier

guidance and will ensure berries and hips are left to mature, to provide food for birds. All maintenance will be timed to avoid disturbance to wildlife (See Appendix 4 for timings). Shrubs should be shaped and maintained, as appropriate for species.

### **Perennial Wildflower Areas**

**(If buying Native Meadow seed mix, annual flowers are often present too)**

#### **Perennials will include:**

Trefoils  
Knapweed  
Vetches  
Clovers  
Oxeye Daisy  
Hawkbits

Seeds, bulbs and plugs must be organic and of local provenance, and the specific mix as advised by supplier/landscape architect, depending on soil type, topography and other growing factors such as shade levels etc. Recommended supplier – Celtic Wildflowers of Gorseinon, Swansea <https://celticwildflowers.co.uk>. Specific planting and maintenance advice can be sought from supplier.

Depending on species recommended by supplier, management will likely be an annual cut in late Summer/early autumn, with arisings removed after a few dry days to allow any seeds to drop from cut stems. Whilst wildflower swathes/meadow areas are establishing, it may be recommended to cut two or more times before the first flowering to encourage deep root establishment. No fertilisers will be required and usually no watering required once established. Carefully eradicate unwanted plants such as Dock or Nettle by digging out when small.

### **Further Information**

#### **Wildflowers**

See <https://www.rhs.org.uk/lawns/wildflower-meadow-establishment> and <https://www.rhs.org.uk/lawns/wildflower-meadow-maintenance> for further guidance.

#### **Native Trees and Shrubs**

<https://www.rhs.org.uk/plants/types/trees/native-tree-shrubs>

<https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/>