



ECOLOGICAL DESIGN STRATEGY

Denver, Okehurst Lane, Billingshurst

On behalf of: Folkes Architects

Client:	Folkes Architects			
Project:	Denver, Okehurst Lane, Billingshurst			
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Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

Contents

	Page No.
1.0 Introduction	01
2.0 Site Context	02
3.0 Baseline Ecological Conditions	03
4.0 Aims And Objectives	04
5.0 Creation and Enhancement Measures	05
6.0 Management and Monitoring Prescriptions	13
7.0 Monitoring and Reporting	19
8.0 Implementation Schedule	20



1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned by Folkes Architects to provide an Ecological Design Strategy (EDS) for Denver, Okehurst Lane, Billingshurst (*Grid Reference: TQ 26509 18043– hereafter referred to as ‘the site’*).

1.2 This report has been produced to allow the discharge of condition 11 which states:

No development shall take place until an ecological design strategy (EDS) addressing enhancement of the site to provide biodiversity net gain, including the recommendations in the Ecological Impact Assessment report (Phlorum, 25/06/21), has been submitted to and approved in writing by the local planning authority.

The EDS shall include the following:

- a) purpose and conservation objectives for the proposed works;*
- b) review of site potential and constraints;*
- c) detailed design(s) and/or working method(s) to achieve stated objectives;*
- d) extent and location /area of proposed works on appropriate scale maps and plans;*
- e) type and source of materials to be used where appropriate, e.g. native species of local provenance;*
- f) timetable for implementation demonstrating that works are aligned with the proposed phasing of development;*
- g) persons responsible for implementing the works;*
- h) details of initial aftercare and long-term maintenance;*
- i) details for monitoring and remedial measures;*
- j) details for disposal of any wastes arising from works.*

The EDS shall be implemented in accordance with the approved details and all features shall be retained in that manner thereafter.

Reason: *To ensure that any adverse environmental impacts of development activities can be mitigated, compensated and restored and that the proposed design, specification and implementation can demonstrate this, and to provide a net gain for biodiversity as required by Section 40 of the Natural Environment and Rural Communities Act 2006, paragraphs 174 and 180 of the National Planning Policy Framework, and Core Policy CP10 of the Lewes District Local Plan 2016.*

1.3 This report has been produced based on the following data and surveys:

- LLD2288-FIG-001 - Site Habitat Plan
- LLD2288-ECO-REP-002 - Ecological Impact Assessment
- LLD2288-ECO-REP-003 - Preliminary Roost Assessment
- LLD2288-ECO-REP-004 - Bat Emergence Survey Report
- LLD2288-ARB-SCH-001 - Existing Tree Schedule
- LLD2288-ARB-DWG-002 - Tree Retention and Protection Plan
- LLD2288-LAN-REP-001 - Landscape Design Strategy

- 1.4 This report has been based on data from these previous surveys and reports and should be read in conjunction with the above.
- 1.5 Prescriptions have been formulated to ensure measures that enhance local biodiversity through the creation and/or management of native habitats. It is anticipated that the initial landscape contractor, as appointed by the main contractor, will be responsible for any defects identified within 12 months of implementation. After these 12 months, all management as detailed in this report will be undertaken by a suitable management company as appointed by the contractor.

2.0 SITE CONTEXT

Site Description

- 2.1 The survey area covers c. 0.67 hectares (ha) and originally consisted of a large chicken shed and its immediate surroundings. The building is now permitted for use as a storage building. The site is dominated by low grassland and ruderal habitats and bare ground. A line of mature oak trees runs around the eastern, southern and western boundaries whilst a coniferous treeline forms the northern boundary. The site is enclosed by chain-link fencing to all aspects. The eastern and western aspects are bounded by detached residential properties; the south abuts an arable field and Okehurst road delineates the northern boundary.

Surrounding Landscape

- 2.2 The site is west of the A29 Stane Street, midway between Billingshurst and Five Oaks, in a largely rural area. The surrounding land uses are predominantly agricultural, with large pastoral fields and arable cropland divided by wooded shaws, hedges and blocks of woodland.
- 2.3 There are four waterbodies located within 500 metres (m) of the site – an ephemeral dew pond/broad ditch 75.0 m north-west; a large garden pond 105.0 m north-east; small dew ponds 250.0 m and 400.0 m north; a dry farm pond 400.0 m north-west.

Development Proposals

- 2.4 It is understood that the development proposals are to demolish the existing chicken shed and create new flexible commercial units.

3.0 BASELINE ECOLOGICAL CONDITIONS

- 3.1 The site was comprised of a single building, in the form of an old chicken shed, an outer edge of poor semi-improved grassland with a c. 15cm sward height, bracken and bramble forming an area of tall ruderal at the east, and areas of bare ground consisting of compacted hardcore.
- 3.2 The site boundary is comprised of scattered trees, primarily oak with a small section of conifer in the north, a section of defunct species poor hedge in the eastern and southern boundaries, and a wet ditch running under the tree and hedge line on the east and south boundaries, they were all assessed as being of site value.
- 3.3 The old chicken shed was assessed for roost suitability which identified a 'moderate' suitability. The building was then subject to an emergence survey, determining the likely absence of bats roosting on the site.
- 3.4 The areas of semi-improved grassland were assessed to have the potential to support some common reptile species, however surveys determined that no reptiles were present on site.
- 3.5 The site contains some habitat suitable for GCN and ponds were found within the local area, however, more suitable habitat exists closer to the ponds and eDNA analysis found GCN absent from the two ponds closest to the site.
- 3.6 The treeline surrounding the site has the potential to support roosting and foraging bats, with some trees found to have a high potential for bat roosts. A day roost of pipistrelle was recorded within an ash tree proposed for removal.

4.0 AIMS AND OBJECTIVES

4.1 Aims

4.1.1 The aim of the EDS has been to:

- Maximise biodiversity value of the scheme;
- Ensure sensitive management of new and existing features to maximise their biodiversity value;
- Ensure that proposed enhancement measures are appropriately managed into the future; and
- Provide a long-term management plan of the site.

4.2 Objectives of the Proposals

4.2.1 The below objectives have been identified, which when implemented, shall ensure the aims of the EDS are achieved:

- To provide areas of suitable soft landscaping suitable for use within a commercial development.
- To provide a landscape scheme which provides shelter and foraging opportunities for a range of species. This is achieved through the provision of species which offer a known wildlife value, such as those listed on 'RHS Plants for Pollinators'.
- To create habitat areas at the optimal time of year for their successful establishment.
- To manage areas of grassland, hedges, shrubs and trees to maximise flowering and fruiting abundance.
- To provide additional habitat opportunities for birds, bats and invertebrates through the provision of suitable boxes.

5.0 CREATION AND ENHANCEMENT MEASURES

- 5.1 The following features are proposed as compensation and enhancement measures. For the location of planting areas please refer to the Outline Landscape Plan.

5.2 Native Hedgerow

- 5.2.1 The western section of the Layland cypress on the northern boundary would be replaced with a native mixed-species hedgerow of feathered stock and native trees.
- 5.2.2 A mixed-species native hedge line would extend along the inside of the proposed permanent diversion of the Public Bridleway on the western side of the site to provide natural character along the bridleway and extend connectivity to wider habitats.
- 5.2.3 The existing hedgerow along the east and south boundary is to be planted with a native hedge species mix to improve its overall quality and enhance its ecological value and connectivity to broader habitats.
- 5.2.4 Both created and reinforced hedgerows will be seeded with species including:
- *Acer campestre*
 - *Carpinus betulus*
 - *Crataegus monogyna*
 - *Fagus sylvatica*
 - *Malus sylvestris*

Preparation and Planting

- 5.2.5 The ground around planting areas should be cleared and weeds removed without using herbicides or pesticides. The ground removal should be conducted in suitable conditions i.e., not during or shortly after rainfall or in high winds. A minimum soil depth of 900mm will be provided within a 1m radius of each whip/feathered stock, taking care not to disturb any Root Protection Areas.
- 5.2.6 Care must be taken when transporting and temporarily storing

whips/feathered stock and a quality check conducted prior to planting.

- 5.2.7 The whip/feathered stock shall be planted at a depth that completely covers the root system with the collar of the plant (the mark where it has been growing above ground) level with the top of the soil. Planting should be conducted during the appropriate season (November to March inclusive) and only when the soil is free from frost and waterlogging. Careful backfilling of soil should be completed in layers and firmed down after each layer to ensure the plant remains upright. A cane or timber stake with ties shall be used to support the plant and protection from herbivores encasing each plant. Whips/feathered stock shall be watered immediately after planting and then regularly for the preceding 6 months; additional watering may be required, after this time, during unreasonably hot and/or dry spells.
- 5.2.8 Where new hedgerow is to be created, whips/feathered stock shall be planted zig zagged, in double rows at a density of five plants per meter square, leaving a gap of 500mm between each plant. All planting should be covered in a 75mm layer of mulch to help protect against weed growth and provide slow-release fertiliser.

5.3 Native Trees

- 5.3.1 The planting of native trees is proposed at the southern end of the western boundary of the site to provide additional foraging and habitat opportunities for wildlife within the local area; field maple (*Acer campestre*) and oak (*Quercus robur*) are proposed.

Preparation and Planting

- 5.3.2 The soil shall then be levelled and graded as necessary taking care not to disturb any tree RPA's. If the soil has been badly compacted this should be alleviated using subsoiling or slitting. Planting pits for trees shall be excavated to accommodate the root ball of trees with c.20% space to each side and the base. The base of the pit shall be backfilled with loose topsoil until the root ball can be accommodated at the correct height.
- 5.3.3 Proposals recommend the use of extra heavy standard trees so that maturation time is reduced, as such transportation to the site must be

conducted with due care to prevent damage of any kind, with offloading ensuring taking additional care not to damage the root ball, crown or stem. Any plants stored on-site must be done so in appropriate conditions to ensure the health of the plants.

- 5.3.4 Planting must take place during the appropriate season (November to March inclusive) with trees planted into pre-prepared tree pits as described above, taking care to ensure the soil will be level with the root collar and that the tree is upright with no air pockets beneath the root ball. Soil shall be backfilled either by hand or in 200mm increments by mechanical bucket, with topsoil being gently compacted/tamped down to ensure good root contact. Once the rootball is backfilled the tree shall be secured with double timber stakes of 1.5 m height. Ties shall either be biodegradable or shall be monitored and removed once the tree is established or if ties constrict the growth of the tree.
- 5.3.5 Planting shall be covered by a 75mm layer of mulch to protect against weed growth and provide slow-release fertiliser. After this layer degrades, it can either be maintained and topped up annually or native grass can be established around the base. If required a 1200mm tree guard shall be implemented to protect the tree, if non-biodegradable it must be monitored and removed once the tree is established or it starts impacting tree growth.
- 5.3.6 All trees must be watered regularly for 6 months following planting to promote growth and establishment. After such time watering will only be necessary during extreme weather conditions such as heatwaves and dry spells.

5.4 Wildflower Grassland

- 5.4.1 The remaining areas of soft landscaping will be seeded with a wildflower grassland mix, reinforcing existing vegetation and ultimately providing shelter and foraging opportunities for wildlife to enhance biodiversity in and around the site.
- 5.4.2 The majority of the proposed wildflower grassland would be seeded with a native 20% flower and 80% grass mix, consisting of:
- 0.80% *Achillea millefolium* – Yarrow

- 0.60% *Agrimonia eupatoria* – Agrimony
- 1.00% *Betonica officinalis* – Betony
- 2.80% *Centaurea nigra* – Common Knapweed
- 0.60% *Galium verum* – Lady's Bedstraw
- 0.40% *Geranium pratense* – Meadow Crane's-bill
- 1.00% *Lathyrus pratensis* – Meadow Vetchling
- 0.30% *Leontodon hispidus* – Rough Hawkbit
- 1.80% *Leucanthemum vulgare* – Oxeye Daisy
- 0.30% *Lotus corniculatus* – Bird's-foot Trefoil
- 1.40% *Malva moschata* – Musk Mallow
- 0.70% *Medicago lupulina* – Black Medick
- 2.80% *Plantago lanceolata* – Ribwort Plantain
- 0.80% *Primula veris* – Cowslip
- 1.10% *Prunella vulgaris* – Selfheal
- 1.10% *Ranunculus acris* – Meadow Buttercup
- 1.00% *Rhinanthus minor* – Yellow Rattle
- 0.20% *Sanguisorba officinalis* – Great Burnet
- 0.10% *Silaum silaus* – Pepper-saxifrage
- 0.40% *Silene flos-cuculi* – Ragged Robin
- 0.80% *Vicia cracca* – Tufted Vetch
- 8.00% *Agrostis capillaris* – Common Bent
- 2.40% *Anthoxanthum odoratum* – Sweet Vernal-grass (w)
- 4.00% *Briza media* – Quaking Grass (w)
- 40.00% *Cynosurus cristatus* – Crested Dogtail
- 20.00% *Festuca rubra* – Red Fescue
- 2.80% *Alopecurus pratensis* – Meadow Foxtail (w)
- 2.80% *Schedonorus pratensis* – Meadow Fescue

5.4.3 Areas along the hedge line would be seeded with a native mix of 20% flower and 80% slow-growing grasses, including:

- 0.50% *Agrimonia eupatoria* – Agrimony
- 1.00% *Alliaria petiolata* – Garlic Mustard
- 0.50% *Anthriscus sylvestris* – Cow Parsley
- 1.00% *Arctium minus* – Lesser Burdock
- 2.00% *Centaurea nigra* – Common Knapweed
- 0.40% *Chaerophyllum temulum* – Rough Chervil
- 0.80% *Cruciata laevipes* – Crosswort

- 0.80% *Daucus carota* – Wild Carrot
- 1.50% *Dipsacus fullonum* – Wild Teasel
- 0.40% *Filipendula ulmaria* – Meadowsweet
- 1.50% *Galium album* – Hedge Bedstraw
- 0.40% *Geum urbanum* – Wood Avens
- 0.30% *Geranium pratense* – Meadow Crane's-bill
- 1.00% *Lathyrus sylvestris* – Narrow-leaved Everlasting-pea
- 1.20% *Leucanthemum vulgare* – Moon Daisy
- 1.00% *Malva moschata* – Musk Mallow
- 0.30% *Origanum vulgare* – Wild Marjoram
- 0.80% *Plantago lanceolata* – Ribwort Plantain
- 0.60% *Primula veris* – Cowslip
- 0.40% *Rumex acetosa* – Common Sorrel
- 2.00% *Silene dioica* – Red Champion
- 0.80% *Silene vulgaris* – Bladder Champion
- 0.80% *Vicia cracca* – Tufted Vetch
- 2.40% *Agrostis capillaris* – Common Bent (w)
- 1.60% *Anthoxanthum odoratum* – Sweet Vernal-grass (w)
- 0.80% *Brachypodium sylvaticum* – False Brome (w)
- 48.00% *Cynosurus cristatus* – Crested Dogstail
- 1.60% *Deschampsia cespitosa* – Tufted Hair-grass (w)
- 19.20% *Festuca rubra* – Red Fescue
- 6.40% *Poa nemoralis* – Wood Meadow-grass

5.4.4 The area surrounding the proposed attenuation pond would also be seeded with a native mix of 20% flower and 80% slow-growing grasses, including:

- 0.70% *Achillea Millefolium* – Yarrow
- 0.60% *Agrimonia eupatoria* – Agrimony
- 0.10% *Angelica sylvestris* – Wild Angelica
- 0.20% *Betonica officinalis* – Betony
- 3.20% *Centaurea nigra* – Common Knapweed
- 1.40% *Filipendula ularia* – Meadowsweet
- 0.40% *Galium album* – Hedge Bedstraw
- 2.00% *Galium verum* – Lady's Bedstraw
- 0.80% *Lathyrus pratensis* – Meadow Vetchling
- 0.60% *Leontodon hispidus* – Rough Hawkbit
- 1.20% *Leucanthemum vulgare* – Oxeye Daisy (Moon Daisy)

- 0.60% *Lotus corniculatus* – Birdsfoot Trefoil
- 0.10% *Lotus pedunculatus* – Greater Birdsfoot Trefoil
- 1.00% *Medicago lupulina* – Black Medick
- 2.00% *Plantago lanceolata* – Ribwort Plantain
- 0.40% *Primula veris* – Cowslip
- 0.80% *Prunella vulgaris* – Selfheal
- 1.20% *Ranunculus acris* – Meadow Buttercup
- 0.80% *Rhinanthus minor* – Yellow Rattle
- 0.60% *Rumex acetosa* – Common Sorrel
- 0.30% *Sanguisorba officinalis* – Great Burnet
- 0.50% *Silene flos-cuculi* – Ragged Robin
- 0.20% *Taraxacum officinale* – Dandelion
- 0.30% *Vicia cracca* – Tufted Vetch
- 4.00% *Agrostis capillaris* – Common Bent (w)
- 4.00% *Anthoxanthum odoratum* – Sweet Vernal-grass (w)
- 0.80% *Carex divulsa subsp. divulsa* – Grey Sedge (w)
- 33.60% *Cynosurus cristatus* – Crested Dogstail
- 1.60% *Deschampsia cespitosa* – Tufted Hair-grass (w)
- 20.00% *Festuca rubra* – Red Fescue
- 3.20% *Hordeum secalinum* – Meadow Barley (w)
- 5.60% *Phleum bertolonii* – Smaller Cat's-tail (w)
- 5.60% *Poa trivialis* – Rough-stalked Meadow-grass
- 1.60% *Schedonorus arundinaceus* – Tall Fescue

Preparation and Planting

- 5.4.5 The ground must undergo removal of all vegetation prior to planting. The soil shall then be lightly cultivated to a 'breadcrumb' texture, with cultivation close to established trees/hedgerows avoided to prevent unnecessary damage. The ground shall then be left for 2 weeks to allow any remaining weed burden within the soil to germinate. This vegetation should again be removed prior to re-cultivation and seeding.

- 5.4.6 Appropriate quantities of seed mix (given a sowing rate of 5g/m²) should be prepared in spring or autumn (April to May OR August to September). When seeding, half the mix shall be broadcast, using a broadcast spreader, onto the cultivated ground, which should have 10 to 20mm of loose soil, then lightly worked into the soil with a cultivator. The remaining half of the mix will be dispersed across the area in the same way once the first layer has been worked into the soil. This will ensure an even distribution of the mix, at different depths, and in good contact with the soil.
- 5.4.7 Immediately after sowing the seeded area should be kept well-watered to ensure the best chance for the plants to establish. Up to a year after seeding, it may be necessary to provide additional watering during extreme weather conditions such as heatwaves and dry spells.

5.5 Log and Compost Piles

- 5.5.1 Log piles will be implemented within the proposed wildflower grassland and the corners of the site to provide additional opportunities for wildlife, further enhancing local biodiversity.
- 5.5.2 Compost piles would also be implemented within the corners of the site to provide refugia for reptiles and amphibians.

Preparation and Implementation

- 5.5.3 Piles should be implemented after habitats have been given time to establish. Compost, if possible, should be composed of vegetation cleared from the site. Log piles are to be 1m³, comprised of logs a minimum of 100mm diameter, and shall include areas of buried wood. Wood for the log piles is to be sourced primarily from the site.

5.6 Wildlife Pond

- 5.6.1 A pond shall be implemented outside root protection areas of bordering trees, in the south of the proposed wildflower grassland. The pond shall be designed to incorporate shallow draw down zones, with areas of deeper water and a stepped profile for establishment of emergent vegetation.

Preparation and Implementation

- 5.6.2 Before the commencement of landscaping, all vegetation within the proposed area shall be cleared to ground level with arisings removed from the area to reveal the bare substrate (a walkover should be conducted first if the area is likely to support nesting birds). The ground can then be levelled and graded to achieve the proposed profile, taking care to avoid any root protection areas or established planting in the process. Soil shall be gently firmed to prevent the erosion of embankments. Profiling of the pond should be carried out before the seeding of wildflower grassland to avoid unnecessary disturbance. Repeated mowing may be required to remove any established weeds during this time. Cultivation of the ground shall follow the above wildflower grassland preparations.
- 5.6.3 The margins shall be sown with a suitable native wetland seed mix in the spring (i.e. March to April) at a sowing rate in accordance with manufacturers instructions. Seeding and establishment shall follow the same process outlined above for wildflower grassland. Areas of native oxygenating, emergent and marginal vegetation shall be planted, including species such as water violet, water mint, marsh marigold and purple loosestrife.

5.7 Feature Ornamental Planting

- 5.7.1 Internal areas of the development would be enhanced with planters of shrubs and herbaceous perennials. Emphasis would be placed on selecting native plant species from the 'RHS Plants for Pollinators' list to add to biodiversity across the site. Species would include:

- *Cornus sanguinea*
- *Cornus sericea* 'Flaviramea'
- *Euonymus europaeus*
- *Salix purpurea*
- *Viburnum opulus*

Preparation and Implementation

- 5.7.2 For guidance on the preparation and implementation of feature planters, consult landscape management plans.

5.8 Wildlife Boxes

- 5.8.1 1 no. swift box shall positioned on the northern aspect of the proposed building and 1no. Vivara Pro Seville 32mm bird box shall be installed to the north-eastern aspect of a mature tree along the eastern boundary, to provide additional nesting opportunities for birds. Boxes are to be installed at 2-4m height.
- 5.8.2 2 no. Greenwoods Ecohabitat crevice bat boxes are to be installed on site, one to be positioned at the southern aspect of the building and the other on the southern aspect of a mature tree along the site's southern boundary, to encourage bat roosting. Boxes are to be installed at 3-6m height.
- 5.8.3 1 no. hedgehog box, such as a hogitat igloo, to be positioned in proximity to the boundary vegetation at the southeast corner of the site to provide refuge for hedgehogs.

Preparation and Implementation

- 5.8.4 Wildlife boxes can be installed at the earliest convenience, after an assessment of suitable locations. Exact location is to be agreed by the project ecologist before installation.

6.0 MANAGEMENT PRESCRIPTIONS

- 6.1 To ensure the long-term viability and maximum ecological value of the scheme, detailed prescriptions for long-term management and monitoring are provided within this section.

6.2 Native Hedgerow

- 6.2.1 Hedgerows will be checked biannually for general condition and size. Any defects should be rectified by a qualified tree surgeon. Failed plants shall be replaced at the earliest date during the suitable planting season with a suitable native alternative, to prevent the formation of gaps in the habitat.

Pruning

- 6.2.2 The hedgerow should be pruned, as necessary, to create a dense healthy canopy which will provide visual appeal and valuable habitat for wildlife. Trimming must be performed outside of nesting season (i.e. no cutting from March to August inclusive) thus an annual cut during February is recommended with the top of the hedge trimmed to a tapering apex to maintain a healthy structure. In the event of deterioration, the prune may be changed to every other year OR alternate sides each year to allow for species to flower and fruit on the previous year's growth. Arisings should be collected and utilised within wood/brush piles on site.

Weeding

- 6.2.3 During the initial 3 years after planting, the area at the base of the hedge should be kept clear of debris and weeded biannually during April and September. Mulch can also be assessed and topped up as and when necessary, during this time.

Stakes/Canes

- 6.2.4 For the first two years, stakes/canes should be inspected regularly and replaced or adjusted when necessary. By year three, stakes/canes can be removed, based on an assessment of height and susceptibility to herbivores of each plant.

Watering

- 6.2.5 After the plants are established, watering will likely become necessary only in times of extreme heat or prolonged periods with no rainfall.

Adaptive Management

- 6.2.6 Into years 5 and beyond less predictable conditions may arise such as the spread of disease, in these cases consultation and adaptive management are advised at the earliest opportunity.

6.3 Native Trees

- 6.3.1 The trees shall be checked bi-annually, or following periods of high winds, for signs of poor health or defects; remedial action will be taken where required. All work is to be undertaken by a suitably qualified tree surgeon. Likewise, on a 5-year cycle, trees shall be reviewed for size and spacing and any requirement for removal and thinning should be assessed. Arisings should be collected and utilised within wood/brash piles on site.

Weeding

- 6.3.2 Areas around the new plants should be kept clear of weeds to allow the plants to establish by weeding twice a year in the Spring and Autumn. Any litter or debris should be removed as soon as it is found.

Pruning

- 6.3.3 Pruning must be performed outside of nesting season (i.e. no cutting from March to August inclusive) and only conducted if necessary, based on the above-mentioned 5-year review.

6.4 Wildflower Grassland

- 6.4.1 A regular assessment of the habitat shall be conducted annually up to year 5 then once every proceeding 5 years, to ascertain the plant diversity and overall habitat quality. This will inform of any remedial or adaptive management measures required to maintain this habitat and maximise its value to wildlife.

- 6.4.2 Once the area is established, watering will only be necessary during particularly hot and/or dry conditions usually from June to August.

Strimming

- 6.4.3 The wildflower grassland shall be cut to 100mm biannually, at the start of the growing season and again at the end, ideally in March and September. A cut between these months shall be avoided unless the growth is particularly vigorous, in this case, a single cut to no less than 7cm may be conducted in April or May. All arisings from mowing must be removed from the grassland to prevent nutrient enrichment and re-establishment of weeds; arisings from the September cut can be left for 5 to 7 days to allow the seeds to shed

before being removed from the grassland. Arisings shall be utilised within the compost heaps on site wherever possible.

Weeding

- 6.4.4 Weeding is vital during the initial establishment of the habitat as weeds have the potential to out-compete, overtake and prevent the growth of wildflowers, as such weeding shall be conducted as and when weeds are identified. Perennials such as docks, nettles and thistles, if present, shall be topped to a height between 7 and 10cm before they cover more than 30% of the grassland area; topping is particularly important in June to prevent the growth of thistles. More problematic species like ragwort and bramble shall be spot-treated by manually cutting back, pulling up or digging out in early August. The use of herbicides and pesticides must be avoided unless all other methods have proven ineffective. As the habitat develops, weeds may become less common, but their removal should remain a priority if discovered.

Seeding/Rectification of Defects

- 6.4.5 Should areas of the wildflower mix fail to establish, or patches of bare ground develop at any time, reseeding with the same native seed mix shall be employed to rectify. This must be conducted in line with the methods stated in the above section, during the optimal time, as and when required. Where botanical diversity is found to be poor, the same methods may be employed to improve species diversity.

Adaptive Management

- 6.4.6 Grassland habitats can be unpredictable, as such, it is recommended that plans be more adaptive than prescriptive. The initial effort should be on managing the habitat to reduce nutrient content and control perennial weed growth; once a grassland sward has developed, the diversity and health of the habitat will improve over time with the continuation of the progressive measures outlined above.

6.4.7 Some potential options for adaptive management are provided below which may be implemented at the ecologist's discretion. In instances where the addition of new plants is proposed, the species chosen must be determined by a suitably qualified and experienced ecologist to ensure they are appropriate to the area, such as:

- If grass growth/cover is too vigorous, yellow rattle should be sown, which is a hemiparasite and helps to reduce the vigour of grasses.
- If the diversity of herbs is poor, additional native herbs may be sown.
- If thatch accumulations appear at the base of the sward, harrowing the field in late autumn may help to create gaps which remain open to flower germination from autumn through to spring and add an opportunity for additional seeds to be introduced into the grassland.
- Small amounts of scrub are acceptable and provide opportunities for invertebrates and wild birds. However, cover of >5% is likely to be detrimental as the grassland can become encroached upon and should be cleared outside of the main bird nesting season (avoid February – September inclusive).

6.5 Log and Compost Piles

Maintenance

- 6.5.1 Wood piles are to be checked annually and topped up as necessary. No vegetation shall be removed from the piles as this will reduce the log pile's value to wildlife. Wire securing of piles should be checked for safety and remedial measures taken as and when required, such as securing loose logs.
- 6.5.2 Brash and compost piles are to be checked annually and topped up, preferably with vegetation sourced from site management, as necessary. Compost piles should be turned, preferably by hand or with plastic hand tools, once annually in September taking care not to disrupt any wildlife using the piles.

6.6 Wildlife Pond

- 6.6.1 Regular inspections of the pond, including the bank and plant condition should be conducted monthly between April and October and at least once outside these months, preferably in January, with any issues reported and/or addressed where necessary.

Maintenance

- 6.6.2 Some degree of annual work to the basin shall be required to ensure that the pond remains viable. This work should be informed by routine inspections, as outlined above and conducted in September or October when vegetation is at its lowest point. However, less time-restricted maintenance schedules can be implemented where needed.
- 6.6.3 In the event the basin becomes built up with debris, an effort to clear it shall be made between November – February. Any removed silt or debris shall be left on the bankside for 5 nights to allow any invertebrates or amphibians to move back into the pond. After this period, all material shall be removed from the site to prevent nutrient enrichment of the water.
- 6.6.4 Vegetation shall be managed to ensure that no single species dominates the basin/bankside. This management shall require evaluating the present condition to determine the appropriate remedial action, with clearance of bankside vegetation following similar methods outlined for the wildflower grassland. Thinning of oxygenating plants is to be completed over the winter months. Weeding may also be necessary as part of management and should be done by pulling or digging up weeds when discovered; herbicides and pesticides shall strictly not be used in this process to avoid contamination of the pond.

6.7 Wildlife Boxes

- 6.7.1 Boxes shall be subject to a visual inspection from the ground, annually to ensure the boxes remain fixed to the desired location and are in good condition with the entrance hole clear/open. Remedial measures should be undertaken to refix/replace these if necessary.

7.0 MONITORING AND REPORTING

- 7.1 Monitoring of ecological compensation and enhancement measures shall take place each year on years 1 to 3 after completion, and each 5 year interval thereafter.
- 7.2 Any remedial measures which are identified as required shall be undertaken at the earliest appropriate opportunity following any inspection.

8.0 IMPLEMENTATION SCHEDULE

Table No. 01 – Year 1 Management Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HEDGEROWS												
Planting/replacement	X	X	X								X	X
Watering (6 months following planting)	X	X	X	X	X	X	X	X	X	X	X	X
Weeding				X						X		
TREES												
Planting/replacement	X	X	X								X	X
Watering (6 months following planting)	X	X	X	X	X	X	X	X	X	X	X	X
Weeding				X						X		
WILDFLOWER MEADOW												
Seeding				X	X			X	X			
Strimming			X						X			
Adaptive Management (i.e. watering and weeding)	X	X	X	X	X	X	X	X	X	X	X	X
WOOD/BRASH PILES												
Implementation	X	X	X	X	X	X	X	X	X	X	X	X
COMPOST												
Implementation	X	X	X	X	X	X	X	X	X	X	X	X
Management (i.e. turning)									X			
WILDLIFE POND												
Ground Preparation	X	X	X	X	X	X	X	X	X	X	X	X
Adaptive Management (i.e. mowing and weeding)	X	X								X	X	X
Seeding			X	X				X	X			
Planting			X	X	X			X	X			
Watering (after seeding)	X	X	X	X	X	X	X	X	X	X	X	X
WILDLIFE BOXES												
Installation	X	X	X	X	X	X	X	X	X	X	X	X

Table No. 02 – Year 2 - 3 Management Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HEDGEROWS												
Inspection			X						X			
Remove Stakes (year 3)	X	X	X	X	X	X	X	X	X	X	X	X
Pruning (as needed)		X										
Weeding				X					X			
TREES												
Inspection			X						X			
Pruning (if necessary)		X										
WILDFLOWER MEADOW												
Assessment					X	X						
Strimming			X						X			

Weed Control (as required)	X	X	X	X	X	X	X	X	X	X	X	X
Watering (as needed)						X	X	X				
WOOD/BRASH PILES												
Topping Up (as needed)	X	X	X	X	X	X	X	X	X	X	X	X
Inspection									X	X		
COMPOST												
Topping Up (as needed)	X	X	X	X	X	X	X	X	X	X	X	X
Management (i.e. turning)												
Inspection									X	X	X	
WILDLIFE POND												
Inspection	X			X	X	X	X	X	X	X		
Maintenance									X	X		
Basin Clearance	X	X									X	X
Adaptive Management (i.e. vegetation control)	X	X	X	X	X	X	X	X	X	X	X	X
WILDLIFE BOXES												
Inspection	X	X	X	X	X	X	X	X	X	X	X	X
Cleaning/Maintenance (bird boxes only)									X	X	X	
Cleaning/Maintenance (hedgehog box)				X						X		
Remedial Maintenance (bat boxes)	X	X									X	X

Table No. 03 – Year 3 - 5 Management Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HEDGEROWS												
Inspection			X						X			
Remove Stakes (year 3)	X	X	X	X	X	X	X	X	X	X	X	X
Pruning (as needed)		X										
TREES												
Inspection			X						X			
Pruning (if necessary)		X										
WILDFLOWER MEADOW												
Assessment					X	X						
Strimming			X							X		
Adaptive Management (i.e. vegetation control)	X	X	X	X	X	X	X	X	X	X	X	X
WOOD/BRASH PILES												
Topping Up (as needed)	X	X	X	X	X	X	X	X	X	X	X	X
Inspection									X	X		
COMPOST												
Topping Up (as needed)	X	X	X	X	X	X	X	X	X	X	X	X
Management (i.e. turning)									X			
Inspection									X	X	X	
WILDLIFE POND												
Inspection	X			X	X	X	X	X	X	X		
Maintenance									X	X		

Basin Clearance	X	X									X	X
Adaptive Management (i.e. vegetation control)	X	X	X	X	X	X	X	X	X	X	X	X
WILDLIFE BOXES												
Inspection	X	X	X	X	X	X	X	X	X	X	X	X
Cleaning/Maintenance (bird boxes only)									X	X	X	
Cleaning/Maintenance (hedgehog box)				X						X		
Remedial Maintenance (bat boxes)	X	X									X	X

Table No. 04 – Year 5+ Management Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HEDGEROWS												
Inspection			X						X			
Pruning (as needed)		X										
Adaptive Management (i.e. disease control)	X	X	X	X	X	X	X	X	X	X	X	X
TREES												
Inspection			X						X			
Pruning (if necessary)		X										
WILDFLOWER MEADOW												
Assessment					X	X						
Strimming			X							X		
Adaptive Management (i.e. vegetation control)	X	X	X	X	X	X	X	X	X	X	X	X
WOOD/BRASH PILES												
Topping Up (as needed)	X	X	X	X	X	X	X	X	X	X	X	X
Inspection									X	X		
COMPOST												
Topping Up (as needed)	X	X	X	X	X	X	X	X	X	X	X	X
Management (i.e. turning)									X			
Inspection									X	X	X	
WILDLIFE POND												
Inspection	X			X	X	X	X	X	X	X		
Maintenance									X	X		
Basin Clearance	X	X									X	X
Adaptive Management (i.e. vegetation control)	X	X	X	X	X	X	X	X	X	X	X	X
WILDLIFE BOXES												
Inspection	X	X	X	X	X	X	X	X	X	X	X	X
Cleaning/Maintenance (bird boxes only)									X	X	X	
Cleaning/Maintenance (hedgehog box)				X						X		
Remedial Maintenance (bat boxes)	X	X									X	X