LIZARD
Landscape Design and Ecology

BIODIVERSITY ENHANCEMENT STRATEGY

Oaklands, Henfield Road, Small Dole, West Sussex

On behalf of: Mr J Meaker

Client:	Mr J Meaker			
Project:	Oaklands, Henfield Road, Small Dole, West Sussex			
Reference:	LLD2366-ECO-REP-004-00-EDS			
Revision:	**Date:**	**Author**	**Proof**	**Approved**
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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.

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Contents

		Page No.
1.0	Introduction	01
2.0	Site Context	02
3.0	Baseline Ecological Conditions	03
4.0	Compensation and Enhancement Measures	04
5.0	Evaluation, Constraints and Recommendations	05
6.0	Management Prescriptions	08
7.0	Long-term Management and Monitoring	11
8.0	Implementation Schedule	13

FIGURES

Figure No. 01 – Ecological Enhancement Plan

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1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned by Mr J Meaker to provide an Ecological Design Strategy (EDS) for Oaklands, Henfield Road, Small Dole, West Sussex (*Grid Reference: TQ 20971 11998– hereafter referred to as 'the site'*).

1.2 This report has been produced to allow the discharge of condition 4 which states:

> *Pre-commencement (Slab Level) Condition: Prior to any works above slab level a Biodiversity Enhancement Strategy for protected and priority species prepared by a suitably qualified ecologist shall be submitted to and approved in writing by the local planning authority.*
>
> *The content of the Biodiversity Enhancement Strategy shall include the following: a)Purpose and conservation objectives for the proposed enhancement measures; b)detailed designs or product descriptions to achieve stated objectives; c)locations, orientations and heights of proposed enhancement measures by appropriate maps and plans (where relevant); d)persons responsible for implementing the enhancement measures; and e)details of initial aftercare and long-term maintenance (where relevant).*
>
> *The works shall be implemented in accordance with the approved details shall be retained in that manner thereafter.*
>
> ***Reason**: To enhance protected and Priority species & habitats and allow the Local Planning Authority to discharge its duties under the NPPF 2023 and s40 of the NERC Act 2006 (as amended)*

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

- Preliminary Ecological Appraisal Report (LLD3177-ECO-REP-00Y-02-PEA)
- Bat Emergence Survey Report (LLD3177-ECO-REP-003-00-BES)

1.4 This report has been based on data from these previous surveys: and reports and should be read in conjunction with the above.

Roles and responsibilities

1.5 Maintenance prescriptions have been formulated to maximise the biodiversity value of the site and ensure healthy plant growth. 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 this 12-month period all management as detailed within this report will be undertaken by a suitable management company as appointed by the contractor.

2.0 SITE CONTEXT

Site Description

2.1 The site covers an area of c. 0.2 ha and consists of a roughly square-shaped plot. It is located within the village of Small Dole, which is situated to the south-east of the Horsham district. The site is a complex of grazing pasture, a single residential dwelling, associated gardens and parking, and outbuildings. The gardens are comprised of modified grassland, introduced shrubs, native hedgerow, with sporadic trees present.

Surrounding Landscape

2.2 The surrounding landscape is largely rural, the majority of which is comprised of arable farmland and grazing pasture divided by hedgerows. Scattered patches of woodland are present throughout the local area. Tottington (SSSI) and Longlands woods are located c.570m to the east. The site is located c.3.8km northeast of the town of Steyning, and c.12.2km southwest of Burgess Hill. The site is situated c.140m to the west of the A2037 Henfield Road and the Mackley Industrial Estate, lies c.470m northeast.

2.3 There are 2no. ponds within 250.0m, based on OS mapping and Satellite imagery. The closest pond (P1) is located 104m west of the site and P2 is located 155m west of the site. All ponds were found to be negative for the presence of GCN eDNA.

Development Proposals

2.4 It is understood that the proposals are for the demolition of the existing residential dwelling and the construction of 1no. replacement residential dwelling, with associated parking and gardens.

3.0 BASELINE ECOLOGICAL CONDITIONS

3.1 The existing site is dominated by modified grassland, introduced shrubs, native hedgerow, a line of trees, and individual trees, with an area of artificial unvegetated, unsealed surface. There are 3no. buildings onsite, including a residential dwelling, summer house and child's playhouse. There are 2no. ponds within 250.0m of the site.

3.2 The dwelling is of brick construction with a pitched roof. A single soprano pipistrelle *Pipistrellus pygmeaus* was observed emerging from underneath a hanging tile along the southern elevation, during a dusk survey undertaken on the 21st May 2024. The summer house and playhouse were assessed as offering 'negligible' bat roost suitability. A licence will be sought from Natural England prior to removal of this dwelling.

3.3 The trees, hedgerow and shrub habitat on site are likely to be of value to common and widespread bird species. To prevent any possible contravention of *The Wildlife and Countryside Act 1981* the removal of these habitats will be outside the bird nesting season or checked for active bird nests prior to removal.

3.4 The 2no. ponds were surveyed and found to be negative for the presence of GCN eDNA with all tests passing sample degradation and inhibition tests.

3.5 The length of the sward of the modified grassland habitat is too short to support foraging or commuting amphibians, however the shrub and hedgerows may provide some suitable habitat.

4.0 AIMS AND OBJECTIVES

4.1 Aims

4.1.1 The aim of the EDS has been to;

- To maximise biodiversity value of the scheme.
- To ensure sensitive management of new and existing features to maximise their biodiversity value.
- To ensure that proposed enhancement measures are appropriately managed into the future.
- To 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 maximise biodiversity value of the scheme.
- To ensure sensitive management of new and existing features to maximise their biodiversity value.
- To provide additional habitat opportunities for birds and bats through the provision of suitable boxes.

5.0 COMPENSATION AND ENHANCEMENT MEASURES

5.1 The following features are proposed as compensation and enhancement measures. For location of planting areas please refer to figure No. 01 below.

Flowering lawn

5.2 Areas of damaged grassland resulting from construction shall be repaired with a flowering lawn mix such as '*Emorsgate EL1 – Flowering Lawn Mixture*', or similar and approved. This mix comprises c. 80% slow growing grasses (EG1) and 20% native wildflowers (EL1F) by weight and is intended for the creation of diverse grasslands that respond well to regular short mowing.

5.3 The grass mix is as follows:

- 28.00% Crested Dogstail *Cynosurus cristatus*
- 24.00% Red Fescue *Festuca rubra*
- 16.00% Smooth-stalked Meadow-grass *Poa pratensis*
- 8.00% Common Bent *Agrostis capillaris*
- 4.00% Smaller Cat's-tail *Phleum bertolonii*

5.4 The wildflower component would comprise:

- 4.00% White Clover *Trifolium repens*
- 2.00% Cowslip *Primula veris*
- 2.00% Hoary Plantain *Plantago media*
- 1.50% Common Knapweed *Centurea nigra*
- 1.50% Lady's Bedstraw *Galium verum*
- 1.00% Black Medick *Medicago lupulina*
- 1.00% Kidney Vetch *Anthyllis vulneraria*
- 1.00% Oxeye Daisy *Leucanthemum vulgare*
- 1.00% Yarrow *Achillea millefolium*
- 0.50% Rough Hawkbit *Leontodon hispidus*
- 0.40% Betony *Betonica officinalis*
- 0.40% Field Scabious *Knautia arvensis*
- 0.40% Hedge Bedstraw *Galium album*
- 0.40% Meadow Buttercup *Ranunculus acris*
- 0.40% Ribwort Plantain *Plantago lanceolata*
- 0.40% Selfheal *Prunella vulgaris*

- 1.60% Bulbous Buttercup *Ranunculus bulbosus*

Native Tree Planting

5.5 1no. rowan *Sorbus aucuparia* and 1no. wild cherry *Prunus avium* Species have been chosen to provide a nectar resource for invertebrates, as well as seeds and berrys to support foraging birds.

Log Piles

5.6 1no. log pile of a minimum $1m^3$ is to be created to the northern margin of the on-site pond. This area shall provide shelter and hibernation opportunities for invertebrates, reptiles and amphibians

Bat & Bird Boxes

5.7 1no. integrated bat box as supplied by bird brick houses (or equivalent and approved) shall be installed to the southern aspect of the new dwelling. See Fig. 01 for approximate location.

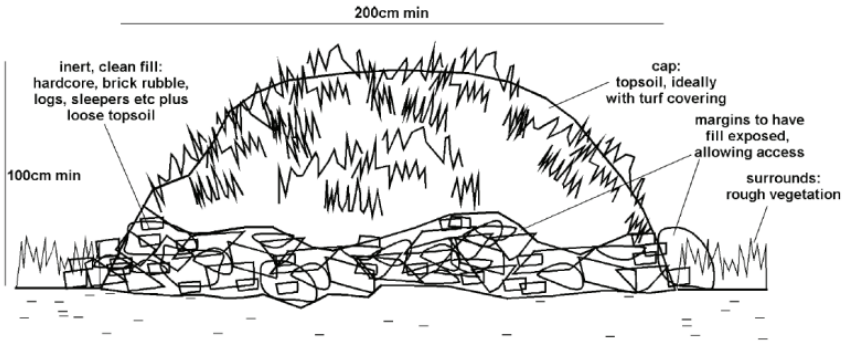
5.8 1no. crevice bat box as supplied by Greenwoods Ecohabitat (or equivalent and approved) is proposed to be attached to a mature tree within the wider garden area. This shall be installed between 3.0m – 6.0m high in an open and sunny position. See Fig. 01 for approximate location.

5.9 1no. integrated s-brick as supplied by action for swifts (or equivalent and approved) shall be installed to the northern aspect of the new dwelling. The box is to be installed beneath the eaves with a minimum of 5m clear drop beneath. See Fig. 01 for approximate location.

5.10 1no. nest box for small passerine bird species as supplied by Vivara Pro Seville (or equivalent) shall be attached to a mature tree within the wider garden area. This should be installed at least 1.50m above ground, where it will be sheltered from the prevailing wind, rain and strong sunlight. See Fig. 01 for approximate location.

Hibernacula

5.11 1no. above ground hibernacula is to the eastern margin of the on-site pond. The hibernacula is to be of standard design, 2x1x1m, formed of logs and rubble topped with soil and turf, as per the below diagram.



Implementation Schedule

5.12 The construction works are scheduled to begin from March 2025. The planting of trees and seeding of grassland shall be completed as soon as practicable within the construction programme, during the optimal planting season. This is anticipated to include seeding of grassland in the spring of 2026, and tree and shrub planting during the dormant season of late Autumn / Winter 2025/26.

Roles and responsibilities

5.13 The main contractor shall be responsible for installation of integrated bird and bat boxes, and making good of surrounding land with flowering lawn mix as soon as practical within the construction programme. The landowner shall be responsible for implementing the tree planting and installation of hibernacula, log piles and bird and bat boxes. On-going maintenance and rectification of defects shall be the responsibility of the landowner.

6.0 MANAGEMENT PRESCRIPTIONS

6.1 In order to ensure the long-term viability and maximum ecological value of the scheme, detailed prescriptions for initial establishment and long-term management are provided within this section.

6.2 Flowering Lawn

Sowing

6.2.1 A weed and vegetation free substrate will be prepared through mechanical / physical cultivation and the use of herbicides and pesticides should be avoided. The lightest machine practicable to complete the job should be used in order to limit the adverse impacts of soil compaction. The soil will be lightly cultivated to produce a 'breadcrumb' like texture with a medium tilth and any large stones / other debris shall be removed.

6.2.2 Two equal sowings shall be carried out at right angles to each other, either broadcast manually or using a seed drill. Seed is to be sown at a rate of 5g / m^2. The seed bed is to be raked, levelled and rolled following sowing to ensure good seed to soil contact.

Establishment

6.2.3 Immediately after sowing the grassland areas should be kept well-watered as most of the sown seed species are perennial and are slow to establish.

6.2.4 The newly sown lawn should be cut to 40-60mm every 7 -10 days during growing season throughout the first year of establishment with all cuttings collected and removed. This will gradually develop a good sward structure, help maintain balance between faster growing grasses and slower developing wild flowers, and control annual weeds. Any residual perennial weeds such as docks are to be dug out by hand.

Cutting once Established

6.2.5 The lawn should be mown regularly to 25-40mm during the growing season. To permit flowering, mowing should be relaxed from late June for 4-8 weeks. Mowing may be suspended earlier in the year to allow cowslips to flower. Grass cuttings should be collected and removed.

Weed Removal

6.2.6 The sward shall be maintained free of unwanted species by hand pulling or use of a selective spot herbicide where necessary. Once established, the requirement for weed removal shall be minimal.

Rectification of Defects

6.2.7 Should bare patches of grass develop, area is to be cultivated to 150mm and then seeded with amenity grass seed. To be cross-sown in two directions at right angles to each other, (half the seed being used in each direction) at the rate of 35 gm per square meter and the ground lightly raked over on a still, dry day.

6.3 Native Trees

Planting and Establishment

6.3.1 Planting pits shall be excavated to a depth and size that contains the plant's root system and allows the collar of the plant (*the mark on the tree where it has been growing above ground*) to be level with the top of the soil. The soil shall be carefully backfilled in layers, ensuring the plant is held upright. Plants are to be supported by stakes and ties as appropriate. All tree ties are to be checked twice yearly or following bad weather for their soundness and effectiveness. Any defective ties or stakes are to be removed and replaced as appropriate.

Watering

6.3.2 All plants shall be watered as may be required to maintain healthy growth following planting, during the maintenance period and subsequently in cases of extreme drought (Trees – 5Ltr's per tree, Shrubs 1Ltr each, Grass 5Ltr's/m2). Watering to commence following 10 consecutive days of no rainfall, during the months of June to August.

Pruning / Trimming – Ongoing

6.3.3 Pruning and trimming of trees should be carried out outside of the bird breeding season (*nesting season: March – August inclusive).* Trees and shrubs should be checked bi-annually for shape, form and size, and pruned accordingly.

Weeding

6.3.4 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.

Fertiliser

6.3.5 Slow-release 11:22:9 NPK fertiliser at a rate of 50g / tree to be applied annually to the base of each tree. Fertiliser is to be applied in spring.

6.4 Log Piles

Creation and Maintenance

6.4.1 Log piles are to be made from a wood a minimum of 100mm diameter. The log pile shall include elements of buried wood for species such as stag beetle. Log piles are to be checked annually and topped up as necessary. Wire securing piles should be checked for safely and remedial measures taken as and when required.

6.5 Bat Boxes

Maintenance

6.5.1 The bat boxes specified above do not require any cleaning. A visual inspection should be carried out annually to ensure the boxes remain in good condition and securely affixed to the trees. Integrated boxes should be checked to ensure that access points remain open.

6.6 Bird Boxes

Maintenance

6.6.1 No maintenance necessary. A visual inspection should be carried out annually to ensure the boxes remain in good condition and securely affixed to the trees. Integrated boxes should be checked to ensure that access points remain open.

6.7 Hibernacula

Maintenance

6.7.1 No maintenance necessary. A visual inspection should be carried out annually to ensure the hibernacula remains in good condition. Access routes at the base of the hibernacula are to be kept free of vegetation. The hibernacula may require topping up as required to ensure it remains at the minimum recommended size.

7.0 LONG-TERM MANAGEMENT AND MONITORING

7.1 Flowering Lawn

Rectification of Defects

7.1.1 The condition of the amenity lawn overall should be inspected and monitored on an annual basis. Should bare patches of grass develop, the area is to be cultivated to 150mm and then seeded with amenity grass seed; to be cross-sown in two directions at right angles to each other (half the seed being used in each direction) at the rate of 5 gm per square metre and the ground lightly raked over on a still, dry day when the top 25 mm of soil is dry.

7.2 Native Trees

Thinning, Pruning, and Plant Replacement

7.2.1 Existing mature trees are to be inspected 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. Any failures should be replaced on a like for like basis.

7.3 Log Piles, Bird, and Bat Boxes

Inspection and Replacement

7.3.1 Log Piles - areas of dead wood should be replenished as the logs breakdown. The condition of log piles should be checked on an annual basis and replenished where necessary.

7.3.2 If the boxes have broken down or disintegrated, they should be replaced on a like for like basis. A visual inspection should be carried out annually to ensure the boxes remain in good condition.

7.4 Monitoring and Reporting

7.4.1 A completion visit shall be completed to confirm compliance with this report, and a letter produced for issue to the local planning authority.

8.0 IMPLIMENTATION SCHEDULE

Table No. 01 – Annual Maintenance Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
FLOWERING LAWN												
Mowing				X	X	X	X	X	X	X		
Strimming												
Weed Control					X					X		
Scarifying and Spiking										X		
NATIVE TREES												
Watering (as required)				X	X	X	X	X	X	X		
Pruning			X									
Check Ties / Stakes (1st yr.)				X						X		
Replace Losses											X	
Maintain 500mm dia. clear base				X		X		X				
Weeding					X				X			
BIRD AND BAT BOXES												
Cleaning (bird boxes)										X		
Check condition											X	
LOG PILES AND HIBERNACULA												
Check Integrity			X							X		
Re-stock if needed			X							X		

Table No. 02 – Long-Term Monitoring and Management Plan

	Y 1	Y 2	Y3	Y 5	Y7	Y10	Y15	Y20	Y25	Y30
FLOWERING GRASS										
Rectification of Defects	X	X	X	X	X	X	X	X	X	X
Review of Lawn Condition	X	X	X	X	X	X	X	X	X	X
NATIVE TREES										
Tree Pruning / Thinning	X	X	X	X	X	X	X	X	X	X
Review of Tree Planting Overall	X	X	X	X	X	X	X	X	X	X
Replacement of Defective Planting	X	X	X	X	X	X	X	X	X	X
BIRD AND BAT BOXES										
Check Condition / Replace	X	X	X	X	X	X	X	X	X	X
LOG PILES AND HIBERNACULA										
Re-stock If Needed	X	X	X	X	X	X	X	X	X	X

Figure 1 – Ecological Enhancement Plan

