MKA

Landscape and Ecology Management Plan

Jesmond, Pulpit Lane, Oving

Site	*Jesmond, Pulpit Lane, Oving, Aylesbury, HP22 4HB*
Project number	*145623*
Client name / Address	*Welland, 9L Earlstrees Court, Corby, Northamptonshire, NN17 4AX*

Version number	**Date of issue**	**Revisions**
1.0	*23 August 2023*	*Original*

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Declaration of compliance

The information which we have provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

MKA Ecology Ltd is a CIEEM Registered Practice. This means that MKA Ecology Ltd are formally recognised for high professional standards, working at the forefront of our profession.

CONTENTS

1. INTRODUCTION

1.1. Aims and objectives

This Landscape and Ecology Management Plan (LEMP) will provide recommendations to enable the maintenance and enhancement of key ecological features during the proposed development of three new residential dwellings at the site of Jesmond, Pulpit Lane, Oving. The aims are:

> To create, maintain or enhance features of benefit to protected species known to be present within the local area, as well as providing general enhancements for the wider benefit of local fauna.

This Landscape Ecology Management Plan is required in order to ensure that development is undertaken in a manner which ensures important wildlife is not adversely impacted, in accordance with policy NE1 of the Vale of Aylesbury Local Plan and the National Planning Policy Framework.
Stating that:

"The Landscape and Ecological Management Plan (LEMP) shall be submitted to, and be approved in writing by, the local planning authority prior to the commencement of the development. The content of the LEMP shall include the following:

a) Description and evaluation of features to be managed.
b) Ecological trends and constraints on site that might influence management.
c) Aims and objectives of management.
d) Appropriate management options for achieving aims and objectives.
e) Prescriptions for management actions.
f) Preparation of a work schedule (including an annual work plan capable of being rolled forward over a five-year period).
g) Details of the body or organization responsible for implementation of the plan.
h) Ongoing monitoring and remedial measures.

The LEMP shall also include details of the legal and funding mechanism by which the long-term implementation of the plan will be secured by the developer with the management body responsible for its delivery.

The plan shall also set out (where the results from monitoring show that conservation aims and objectives of the LEMP are not being met) how contingencies or remedial action will be identified, agreed, and implemented so that the development still delivers the fully functioning biodiversity

objectives of the originally approved scheme. The approved plan will be implemented in accordance with the approved details.

Reason: *To ensure that development is undertaken in a manner which ensures important wildlife is not adversely impacted, in accordance with policy NE1 of the Vale of Aylesbury Local Plan and the National Planning Policy Framework."*

This Landscape Ecology Management Plan is submitted pursuant to these requirements and will outline specific objectives for the enhancement and maintenance of biodiversity at the Site, and the means by which these are to be achieved. This will include long-term design objectives, management responsibilities and maintenance schedules.

1.2. Management responsibility

Management of ecological features will be the responsibility of the allocated management company once appointed and following completion of the project.

1.3. Timescales for implementation

The exact timescales for construction are not known at this stage.

1.4. Existing on-site ecology

A Preliminary Ecological Appraisal (PEA) was completed in January 2023 (Greenwood Environmental, 2023a) to support the application for the demolition of the existing Jesmond property and subsequent creation of three residential dwellings within its site boundary.

The location of the current Site and its features is shown on the map in Figure 1. Within this plan, the red-line boundary submitted for the planning application is referred to as 'the Site' or 'Jesmond, Pulpit Lane, Oving'. The Site covers 0.12ha, and is located at central grid reference (SP 78731 21754), under the authority of Buckinghamshire Council. It comprises the existing Jesmond property and its surrounding amenity/garden grounds of a u1d Suburban/mosaic of developed/natural surface habitat type. There are also hedgerows and trees on the site boundary's perimeter, and trees positioned throughout the grounds.

1.5. Proposed site ecology

The application seeks permission for the demolition of the existing Jesmond property and its separate shed in the north west corner, and development of three new residential dwellings, including paving and car-parking areas on the east half of the Site. The proposed development plan for the three dwellings

is shown in Figure 2, based on the original proposed site plan by S Arnold Developments Ltd, Welland (Figure 3)**.**

The semi-mature/mature native trees and hedges will be retained wherever possible as per the PEA's recommendation. The soft landscaping plans contain the new habitat of mixed scrub and new trees to be planted in the north east and south west corners of the Site. Overall, the scheme was calculated to deliver an 11.80% increase in biodiversity units and a 42.27% increase in hedgerow units in a calculation carried out by Greenwood Environmental using the biodiversity Metric 3.1 (Greenwood Environmental Ltd, 2023b).

Further biodiversity enhancement will include bird and bat boxes, as recommended in the PEA (Greenwood Environmental, 2023a). The landscaping, bird box, and bat box plans are shown in Figure 2 – Figure 6.

These biodiversity enhancements are in line with the National Planning Policy Framework (NPPF), which states that ecological enhancements should aim to deliver biodiversity gains for the proposed development Site.

2. ESTABLISHING NEW ECOLOGICAL FEATURES

Following the issue of the updated National Planning Policy Framework (NPPF) on 20 July 2021, all planning decisions should aim to maintain and enhance, restore or add to biodiversity and geological conservation interests, and provide net gains in biodiversity where possible. A Biodiversity Net Gain assessment has been carried out separately for this project (Greenwood Environmental, 2023b), and the details listed within this report are in line with all commitments which have been made relating to biodiversity net gain.

Recommendations for ecological enhancements at the site include incorporating new trees and mixed scrub into the landscape design and the provision of bird and bat boxes at the site post-development. The following ecological features will be created at the Site:

- Bird boxes
- Bat boxes
- Tree planting
- Native mixed scrub
- Wood piles

The areas of planting are presented in Figure 2 and Figure 3. Other biodiversity enhancements, such as bird and bat boxes, are also to be included and specific recommended boxes are described in Appendix 2.

Each of these are discussed separately below, with sections describing the target structure for the Site and planting techniques. Management of these habitats is discussed in Section 3.

2.1. Bird boxes

Objective

We recommend that bird nest boxes which can be built directly into the walls of new developments, such as bird bricks, be used. Our specific recommendation is for the Action for Swifts S-Brick Swift Brick Nest Box.

The existing bird boxes seen in the trees at the north east and west edges of the site boundary (Figure 1 and Figure 4) are to be replaced with new Schwegler No. 1B 32mm General Purpose nest boxes, providing that the existing boxes are not in use during the breeding bird season (March – August inclusive).

Preparation

Swift: Action for Swifts S-Brick Swift Brick Nest Box – **three boxes**

Generalist: 1B Schwegler Nest Box – 32mm – **two boxes**

Figure 4**,**
Figure 5, and Figure 6 detail the positioning of these boxes on the new developments.

Installation

Bird nest boxes should be installed out of direct sunlight, prevailing winds, and easy reach of predators. The replacement generalist tree-mounted bird boxes should be positioned high on trees (at least two metres above ground level) and facing north-west, north, or north-east. The recommended box types are detailed further in Appendix 2.

2.2. Bat boxes

Objective

We recommend that bat boxes which can be built directly into the walls of new developments be used to provide enhanced roosting opportunities for bats in the surrounding area. Our specific recommendation is for the 2FR Schwegler Bat Tube. Figure 4 and Figure 6 detail the positioning of these boxes on the new developments.

Preparation

Bats: 2FR Schwegler Bat Tube – **two tubes**

These recommended bat tubes are detailed further in Appendix 2.

Installation

The tubes should be built into the wall at eaves level, at least two metres above the ground and on the south-west aspect to ensure they are exposed to the sun for part of the day. Access to any bat roosting features will not be lit, and there should be at least two metres of free flying space below the box entrance for bats to fly up and into the tubes.

2.3. Lighting

Lighting is known to adversely affect bat foraging behaviour, along with negatively affecting other wildlife including birds. A sensitive lighting strategy should be prepared for this site, which should consider the following factors:

Careful selection and consideration of placement of luminaries. Exterior lighting will have large peak wavelength emissions greater than 550nm and colour warmth of 3000 Kelvin.

Use of LED luminaires with specific optical control to minimise the potential for obtrusive light due to their light distribution.

Optimising luminaire angles to minimise light spill.

Directing luminaires away from sensitive receptors.

Consider the timings of lighting required, where possible avoiding lighting in the hours

In particular, it should be ensured that the hedgerows remain unlit, as should the new trees which are to be planted.

Further information is available from the Bat Conservation Trust (BCT 2018).

2.4. Tree planting

The trees set to be planted can be seen in Figure 2 and Figure 3. Trees will be planted within the defined areas of mixed scrub to encourage wildlife to the Site by providing cover and nesting habitat for birds and improved foraging areas for bats once these saplings have matured.

Target structure

The trees will be composed of a mix of native and non-native species. The species proposed to be planted are detailed in Table 1 below.

Table 1: Proposed species for tree planting

Systematic name	Common name
Malus domestica	Apple
Betula spp.	Birches
Acer pseudoplatanus	Sycamore
Prunus avium	Wild cherry

Preparation for planting

Root-balled trees will be planted between October to March, avoiding periods of heavy frost. It is recommended that well established specimens are selected and plants are of UK provenance. It is essential to ensure the trees are bought from reputable providers. There are increasing numbers of tree pests and diseases in the UK and so it is important to be able to trace the tree from seed collection through to final planting.

Prior to planting, a pit should be dug which is two to three times as wide as the root ball and the same depth of the root ball so that the root collar sits at or slightly above the ground level. The pit should have

sloping sides and the soil at the bottom of the pit should not be disturbed. If possible, rototilling the soil up to five times the diameter of the root ball will facilitate digging and encourage lateral root growth.

Planting

Once in position, ensure the tree is straight and back fill the hole with soil or a mix of 50% soil and 50% organic matter such as peat-free compost. Gently firm the soil around the root ball to ensure there are no air gaps and the roots have good contact with the soil.

Shape the soil on the surface to create a water-holding basin around the tree and water in the tree well. Add 65mm of mulch around the tree to help retain moisture.

2.5. Native mixed scrub

Objective

Areas of native mixed scrub are to be included within the landscaping design. Species have been selected for the visual display that they provide, however a number of these species will also provide suitable habitat for a variety of invertebrates, birds and small mammals.

Within the Biodiversity Net Gain assessment (Metric 3.1), the mixed scrub is predicted to meet 'moderate' condition with a total of 1.1 habitat units delivered, passing criteria 1, 2, and 3 in Table 2 below.

Table 2: Mixed scrub condition criteria

Assessment criteria	Description
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.

Target structure

To create a successfully biodiverse shrub habitat, this area should be well connected to other vegetated areas nearby and contain a variety of native shrub species. The species proposed to be planted are detailed in Table 3 below.

Table 3: Proposed species for mixed scrub

Systematic name	Common name
Buxus sempervirens	Box
Cornus sanguinea	Dogwood
Viburnum opulus	Guelder rose
Corylus avellana	Hazel
Ilex aquifolium	Holly
Euonymus europaeus	Spindle tree
Viburnum lantana	Wayfaring tree
Ligustrum vulgare	Wild privet

Preparation

If the ground has grass or herbs present, clear the Site by hand. Bare-root shrubs and shrubs in pots should be well-watered prior to planting. Where the ground currently comprises hardstanding, this should be removed and a suitable substrate created in the areas of planting, whereby the existing underlying soil is turned over and additional soil comprising of low nutrient organic matter applied. When ready to plant, dig a hole a little deeper than pot depth and three times as wide. Hard, compacted soil should be forked to loosen it to help the roots penetrate.

Planting

Tip the plant out of its pot. If the roots are very congested, tease out to help the plant grow into the soil more quickly. Place the shrub into the prepared hole at the same ground-level as it was in its pot, avoiding burying the stems. Refill the hole and heel in the soil around the shrub without pressing on the root ball. Water well and add a 50mm-80mm layer of mulch, leaving a 100mm mulch-free collar around base of stems. Most plants growing in these habitat types are adapted to low-nutrient conditions, so no fertiliser is required. Fertiliser should not be applied as this may encourage the growth of vigorous herbs that thrive in high nutrient conditions, such as common nettle *Urtica dioica*.

2.6. Wood piles

Due to the aged and heavily-lichenised nature of the apple trees to be removed from the Site, their wood will be of great value to decomposing fungus, lichens, and invertebrates. It is recommended that

this wood goes towards creating wood piles around the boundary of the Site on the retained grassland or within the mixed scrub. This will serve as food for wood-eating organisms, and hibernation sites for invertebrates, reptiles, amphibians, rodents, shrews, and hedgehogs.

2.7. Establishing new ecological features timings

An indication of the timings for the various biodiversity management actions to be undertaken during the development phase is shown in Table 4. These should be used to inform the scheduling of development works at the site.

Table 4: Establishing new ecological features timings

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bird box installation												
Bat box installation												
Tree planting												
Mixed scrub planting												
Wood pile creation												

Key

Appropriate timing of works	

3. POST-DEVELOPMENT MANAGEMENT

The new ecological features require specific management once established. This section discusses management up to and after thirty years for the following features:

Bird boxes
Bat boxes
Tree planting
Native mixed scrub

3.1. Bird boxes

If it is required, nest boxes should be cleaned at the end of each bird breeding season. All nesting material and other debris should be removed from the box. It should then be scrubbed clean with boiling water to kill any parasites (avoid using any chemicals). Once the box is clean, it should be left to dry out thoroughly. Under the Wildlife and Countryside Act 1981 it is an offence to disturb breeding birds and therefore annual cleaning is best undertaken from October to January when there is no risk of disturbing breeding birds. Ideally, bird nest boxes should be cleaned in October to prevent the build-up of nest parasites in the boxes whilst avoiding the risk of disturbing birds that may use the boxes as a roost site during the cold winter months. In-built boxes do not require cleaning.

3.2. Bat boxes

Boxes are generally unlikely to be used by hibernating bats and winter (i.e. November to February inclusive), and this is therefore generally the best time of year to undertake any maintenance. However, the recommended bat tubes are self-cleaning and do not require any interference unless there is visible external damage to the tube and wall encompassing it.

Additional information
For bat boxes not inbuilt into walls, a special licence is required in the UK to disturb and handle bats and therefore the cleaning of bat boxes should be managed carefully. If bats are discovered during the maintenance process staff should replace the box as found and withdraw immediately. An annual check should be made each winter to ensure that all boxes are still in position and secure.

MKA Ecology Ltd can monitor the use of bat boxes should you wish to maintain a record, or your local bat group may be able to assist with the work.

3.3. General vegetation management

Under the Wildlife and Countryside Act (1981) as amended it is an offence to deliberately, or recklessly kill or injure any wild bird or damage or destroy any active nest or eggs of a wild bird and therefore control and maintenance of the trees, hedges and shrubs should be undertaken outside of the bird breeding season (which runs from March to August inclusive). If works are unavoidable within the bird breeding season, a suitably experienced ornithologist will be required to confirm that no resident birds will be affected by the proposed work before works commence.

3.4. Trees

Initial management (1-2 years)
If tree ties are used, inspect tree ties in spring and autumn and adjust ties to prevent constriction of the stem. After two growing seasons the tree should make sufficient root growth to anchor the tree and the stake can be removed.

Long-term management (2-30 years)
All trees should be checked annually for dead, diseased or damaged limbs; all such limbs should be removed in order to maintain the trees in good health. Within a period of 30 years after the completion of the development landscaped areas, all dead, dying, diseased, and vandalised trees will be replaced in the next planting season with others of similar size and the same species.

3.5. Mixed scrub

Initial management (1-5 years)
The areas of mixed scrub will require little management. Occasional watering may be required in the first year of establishment if the weather is particularly dry. Bramble may grow through these areas, and is a valuable foraging habitat for many bird species, but its growth may need controlling and this should be undertaken in the winter months.

Long-term management (5-30 years)
Shrubs will require some annual pruning to contain growth and prevent any single species becoming too dominant. This should be carried out during the winter months. Scrub should be cut in rotation to keep a range of different maturities present to maximise diversity. Scrub typically matures in 15 years, and approximately one third of scrub should be fully mature, one third half mature and one third recently cut back. This can be achieved by rotationally cutting back one third of the scrub every five years.

Plants may also require some watering during extended dry periods in the summer. Any invasive non-native plants should be removed in the autumn. It is strongly recommended that invasive non-native plant species are eradicated as soon as they are discovered.

3.6. Monitoring and evaluation

A site visit should be undertaken by an ecologist following completion of the development, to inspect the ecological features established and ensure they meet the specifications in this LEMP.

Further monitoring visits should be undertaken after ten years and twenty years following completion of the development, to assess the uptake of bird and bat boxes, and assess adherence to this plan by the occupiers.

Any necessary actions or remedial measures to maintain the ecological value of the enhancement features identified during these visits will be detailed in a revised version of this management plan.

3.7. Post development management timings

An indication of the timings for the ecological management actions to be undertaken at the Site post-development is shown in Table 5.

Table 5: Post development management timings

Activity	Frequency	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maintenance of bird boxes	Annual												
Maintenance of bat boxes	N/A												
Mixed scrub management	As needed												
Tree management	As needed												
Wood piles	N/A												

Key

Appropriate timing of works	

4. REFERENCES

Buckinghamshire Council (2021) *Vale of Aylesbury Local Plan (VALP) 2013 – 3022 Adopted Plan*. [ONLINE] Available at: https://buckinghamshire-gov-uk.s3.amazonaws.com/documents/Aylesbury_local_plan_L46JWaT.pdf

Greenwood Environmental (2023a) *Preliminary Ecological Assessment of of proposed residential development at Land at Jesmond, Pulpit Lane, Oving, Bucks HP22 4EZ.* Greenwood Environmental: Milton Keynes

Greenwood Environmental (2023b) *Biodiversity Net Gain Metric 3.1 - Land at Jesmond, Pulpit Lane, Oving, Bucks HP22 4EZ.* Greenwood Environmental: Milton Keynes

MKA Ecology Ltd (2023) *Construction Environmental Management Plan: Biodiversity Jesmond, Pulpit Lane, Oving*. MKA Ecology Ltd: Cambridge.

Panks, S., White, N., Newsome, A., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Scott, S., Heaver, M., Scott SH., Treweek, J., Butcher, B. & Stone, D. (2022b). Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide. Natural England.

5. APPENDICES

Appendix 1: Figures

Figure 1: Habitat map of Jesmond, Pulpit Lane, Oving

Figure 2: Post-development plan for Jesmond, Pulpit Lane, Oving

Figure 3: Proposed site plan for Jesmond, Pulpit Lane, Oving, by S Arnold Developments Ltd, Welland

Figure 4: Proposed bird and bat box plan for Jesmond, Pulpit Lane, Oving

Figure 5: Proposed bird box plan for Type B Houses at Jesmond, Pulpit Lane, Oving

Figure 6: Proposed bat box plan for Type C House at Jesmond, Pulpit Lane, Oving

Appendix 2: Bird and bat box details

Bird box recommendations

A large number of bird boxes are available, designed for the specific needs of individual species. These are normally either designed to be mounted onto trees, external walls or integrated into a building. In general, bird boxes should be mounted out of direct sunlight and prevailing winds, out of reach of predators, with suitable foraging habitat for the subject species close by. Bird boxes should also be left up over winter as they can provide useful roosting sites for birds in bad weather.

Nest boxes should be cleaned at the end of each bird breeding season. All nesting material and other debris should be removed from the box. It should then be scrubbed clean with boiling water to kill any parasites (avoid using any chemicals). Once the box is clean, it should be left to dry out thoroughly. Under the Wildlife and Countryside Act 1981 it is an offence to disturb breeding birds and therefore annual cleaning is best undertaken from October to January when there is no risk of disturbing breeding birds.

Generalist boxes

Boxes to attract garden birds and woodland breeding species such as tits, nuthatch, redstart and pied flycatcher can be placed in gardens, orchards, woodlands and a wide variety of other habitats. The species of birds attracted to the box will depend upon the size of the entrance hole (see table below).

Boxes should be fixed two to five metres up a tree or wall, out of the reach of predators such as domestic cats. Unless there are trees or buildings, which give permanent shelter, it is best facing between north and east.

General		
Example	**Description**	**Picture**
Schwegler No. 1B General Purpose Nest box	www.schwegler-nature.com Suitable for various garden and woodland birds, created with different sized entrance holes to avoid competition between species. Other variations (e.g. 2M) can be free hanging, to deter predators.	

Entrance Hole	Species
26 mm	Blue, marsh, and coal tit, possibly wren. All other species are prevented from using the nest box due to this smaller entrance hole
32 mm	Great, blue, marsh and coal tit, nuthatch, tree and house sparrows.
Oval	Redstart; also used by species that nest in the diameter 32 mm boxes. However, because more light enters the brood chamber, it is preferred by Redstarts.

Swift boxes

Swifts are colonial nesters and it is important to have several nest sites in one area. It is recommended that most buildings should have between 4 and 10 nest provisions. Swifts also feed almost exclusively on the aerial plankton of flying insects and airborne spiders of small to moderate size, so therefore require habitats which support these invertebrates.

Nest boxes designed for swifts should be installed at least 5m high, around the eaves of the building or under deeply overhanging eaves to allow swifts to drop into the air to forage. The boxes should be positioned away from climbing plants to avoid access for predators such as rodents.

Swifts typically nest in flat spaces within buildings or within a crevice or cavity. The ideal nest box should have an oval or rectangular hole around 30mm (h) x 65mm (w). The internal dimensions of the box should be approximately 400mm (w) x 200mm (d) x 150mm (h).

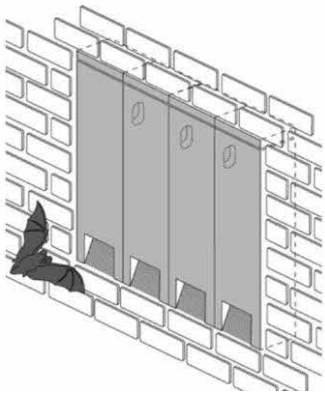
Swifts can be attracted to areas that they have not previously colonised using ‘swift response calls’. Audio CDs are available for this purpose and are available on the Schwegler website (www.schwegler-nature.com).

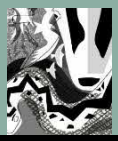
Swift		
Example	**Description**	**Picture**
Action for Swifts S-Brick Swift Brick Box	https://www.actionforswifts.com/ This swift brick can be built into the walls of new buildings.	 

Bat box recommendations

A wide range of bat boxes are available to suit a variety of species and design requirements. Bat boxes can be mounted externally on buildings, built directly into the wall structure or mounted on trees (dependent on box design).

Boxes are more likely to be inhabited if they are located where bats feed and it may help to place the box close to features such as tree lines or hedgerows, which bats are known to use for navigation and can provide immediate cover for bats leaving the roost. Boxes should be placed in areas sheltered from strong winds and are exposed to the sun for part of the day. Access to any bat roosting features should not be lit and should also be at a reasonable height to avoid predation (at least 2m if possible, preferably 4-5m).

Example	Description	Picture
2FR Schwegler Bat Tube	www.schwegler-nature.com Dimensions: 47(h) x 20(w) x 12.5(d) Weight: 9.8kg Installation: Can be installed on external walls – either flush or beneath a rendered surface in concrete and, during renovation work, under wooden panelling or in building cavities. Several tubes should be installed together (recommended three). This box is ideal for all types of bats that inhabit buildings. By installing boxes side by side a colony roosts can be created with any size requirement. This box has three different environmental partitions inside, attracting different species. The box is self-cleaning.	 



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