

Landscape and Ecological Management Plan

Survey site: St Joseph's Covent Prep School, Old Lane East, Gravesend, DA12 1NR

Client: Galliard (Gravesend) Ltd

Date: 7th April 2026

Project:

This report is prepared to inform a planning application with **Gravesham Borough Council**. The proposal is described as: *Conversion of existing Victorian building into 6 flats. Demolition of existing outbuildings. Erection of a 3 storey medical centre. Erection of a building containing 7no flats. Erection of 41no houses. Associated works to include; access, public open space and landscaping.*

Planning Application Number:

20240013.

Introduction

This Landscape and Ecological Management Plan (LEMP) has been prepared for the above-named client to outline measures to be implemented prior to and during construction works at the above-named site.

The purpose of this plan is to ensure the protection and mitigation of ecological receptors, adhere to best practices and industry standards, and provide adequate supervision by licensed professionals. The LEMP also outlines the management frameworks required for the planning and implementation of construction activities that comply with legislation and the environmental commitments.

Site Context and Landscape History	
A detailed description of the site is provided in the Preliminary Ecological Appraisal. (Arbtech Consulting Limited, 2023). Additional documents that should be read in conjunction with this report, relating to the site, include the following: • Bat Emergence Survey Report (Arbtech Consulting Limited, 2023). • Arboricultural Survey (PJC, 2023). • Arboricultural Impact Assessment, Method Statement and Tree Protection Plan (PJC, 2023). • Construction Environmental Management Plan (Galliard Construction, 2026). • Wildlife Sensitive Lighting Scheme (Arbtech Consulting Limited, 2026).	
Planning Conditions	
Condition 12	No development shall commence (including site clearance) until a Landscape and Ecological Management Plan (LEMP) has been submitted to, and approved in writing by, the Local Planning Authority. The Plan will include the following: • Details of a diverse native-species only planting scheme (including initial planting of residential plots) to maintain and enhance biodiversity; • Details of additional biodiversity enhancements to be provided including type, number and location of measures in accordance with Section 4.2, Table 8 of the Preliminary Ecological Appraisal, Arbtech, May 2023. Boxes for breeding birds will be targeted at those S41 priority species / red/amber listed species likely to occur within the development. Felled tree cordwood will be used to create standing deadwood features and log piles. All boxes included for wildlife will be Woodstone/woodcrete to ensure durability; • Aims and objectives of management;

	• Appropriate management prescriptions for achieving aims and objectives; • Description and evaluation of all features to be managed; • Details of information to be provided to residents regarding potential impacts of domestic pets on wildlife and proposed measures to limit such impacts (such as minimum heights for bat and bird boxes; dense thicket planting around nesting areas and log refugia); • Constraints on site that might influence management; • Proposals regarding remedial measures; • Preparation of a work schedule including an annual work plan capable of being rolled forward over a five-year period, for the lifetime of the development; • Details of the body or organisation responsible for implementation of the plan. The LEMP will include details of the legal and funding mechanism(s) by which the long-term implementation of the plan will be secured by the developer, with details of the management body(ies) responsible for its delivery. The approved plan will be implemented in accordance with the approved details. Reason In order to enhance the biodiversity of the site in accordance with Policy CS12 of the Gravesham Local Plan Core Strategy (September 2014).
Condition 16	Before any above ground works commence, details of how the development will enhance biodiversity will be submitted to, and approved in writing by, the local planning authority. This will include integrated and/or wall-mounted bird and/or bat boxes. Wall-mounted boxes will be made of woodcrete to secure a suitably long-term and low maintenance biodiversity enhancement for the site. Any boxes for birds will be targeted at red or amber listed species (as per the latest British Trust for Ornithology Birds of Conservation Concern list). The approved measures will be implemented and retained thereafter. Reason In order to enhance the biodiversity of the site in accordance with Policy CS12 of the Gravesham Local Plan Core Strategy (September 2014).

Ecological Background Information

The site had a PEA undertaken by Arbtech Consulting Ltd on the 16th of May 2023.

Habitats identified at the site include:

- Developed land; sealed surface (roads and parking)
- Buildings
- Brick walls and wooden panel fencing
- Scattered trees
- Vegetated garden
- Scrub
- Other neutral grassland

This does not include habitats identified outside of the development boundary, in the wider site landscape.

Value for protected species on the site includes the following:

- Reptiles – log piles, grassland and scrub provide opportunities for reptiles to forage, commute and bask.
- Bats – buildings 1, 2 and 6 were assessed as having low suitability for roosting bats. All other buildings were assessed as negligible. Subsequent bat emergence surveys resulted in a likely-absence of roosting bats from the site. scattered trees and scrub could be used by foraging and commuting bats.
- Birds – birds could use the trees, scrub and buildings on site for nesting.
- Hedgehogs – habitats on site provide suitable habitat for hedgehogs.

Scope

This LEMP outlines construction and ecological measures for the following works:

Conversion of existing Victorian building into 6 flats. Demolition of existing outbuildings. Erection of a 3-storey medical centre. Erection of a building containing 7no flats. Erection of 41no houses. Associated works to include; access, public open space and landscaping.

Aims and Objectives

This report aims to identify key stakeholder requirements, ensure compliance by all stakeholders with all relevant legislation, minimise potential adverse effects on the environment and protected/notable species during construction, provide ecological and biodiversity enhancement measures for the site and include a management strategy in order to achieve long-term success and improvements.

Work Schedules and Ecological Presence

Work schedules will be developed to ensure activities with specific timing requirements are carried out in a manner that minimises harm to ecological receptors. These schedules will be provided to all relevant personnel and contractors involved in the project. The following measures will be implemented:

- Birds: The nesting bird season will be avoided for vegetation clearance and/or building demolition (March to August inclusive). More details are provided below.
- Herpetofauna: Vegetation clearance works will be undertaken during their active period, typically between March and September, which will allow individuals to disperse unperturbed to adjacent retained habitats.

Ecological Clerk of Works

A qualified and suitably experienced ecologist will be present on-site during critical phases of construction activities, namely initial vegetation clearance. Their role will be to oversee and monitor compliance with the LEMP, provide guidance, and take immediate action to prevent any harm to ecological receptors. Should protected species be identified during vegetation clearance, work will be halted whilst a suitably licensed ecologist and/or Natural England is contacted.

Persons Responsible and Lines of Communication

A Development Biodiversity Champion is selected for the construction phase of the development. The Biodiversity Champion will be someone with significant influence during construction, such as the contract, site or project manager. They are responsible for ensuring all actions outlined in the approved LEMP are implemented including the provision of a toolbox talk prior to works commencing. Any queries with regards to the mitigation prescriptions will be addressed to the project ecologist and communication will be retained between the Development Biodiversity Champion and project Landscape and Ecological Management Plan

ecologist and/or a suitably qualified Ecological Clerk of Works (ECoW) throughout the construction phase of the development where necessary to ensure the mitigation is applied and impacts to adjacent ecological receptors are effectively minimised. The project ecologist's contact details are located on the title page of this report. It is recommended that the Biodiversity Champion informs the project ecologist and designated ECoW of the commencement of construction works and provides updates where necessary. The ECoW will provide ecological expertise and guidance throughout.

The following key personnel are responsible for the management and implementation of works in accordance with the LEMP:

- Site manager: Andrew Knight
- Main contractor: Galliard Construction Ltd

Landscape and Ecological Management Plan Proposed habitats extracted from ‘Concept Masterplan’ in Landscape Statement (Exterior Architecture, 2024)	
Works	Specification
Attenuation Basin	Overview: New linear areas of rain garden are to be created on the site. Objectives: • To create a successful and species rich rain garden, which must be maintained in full. • To provide foraging opportunities for protected and/ or notable species groups including bats. Creation Method: • Ground preparation Any existing vegetation should be removed. It is recommended that the ground is dug out to a saucer shaped profile, to create a flat base for infiltration. The spoil will be placed around the margins to create a level berm or lip. The base of the excavation will be between 150mm and 450mm below the original ground level. A notch will be created in the berm, with a gravel-filled channel for the water to exit into a conventional drainage system. Organic matter will then be incorporated into the excavated soil to improve the soil structure and then the excavation will be backfilled to the original level. It is recommended that the soil is not compacted. • Planting To be undertaken in spring or autumn. It is recommended that the rain garden is planted with a wide range of species in order to create a densely vegetated, stable and thriving bed with dense and thick root systems. A typical rain garden is planted with ~10 species planted in 2 to 3 clumps per square metre. Planting density is typically 6-10 plants per square metre. The perimeter berm will be seeded with general purpose wildflower grassland mix, which can be left to grow, or mown as required. • Bedding in of plants After planting, the soil will be pressed firmly around the roots. Management prescriptions covering a 30-year term:

Table 1.1: Rain garden creation management prescriptions.

Management	When	Rationale
Occasional weeding	First two years after planting	This prevents un-wanted plants from competing with native, rain-tolerant plants for vital resources, ensuring the garden can effectively absorb stormwater and maintain ecological function.
Removal of debris	Annually; during winter	To maintain the gardens functionality by preventing the accumulation of debris that can hinder water infiltration and reduce plant growth.
Removal of spent flowers from perennial plants should be removed through 'deadheading'	Twice annually, late spring and in the autumn	Allows plants to place more energy into re-growth
Do not apply chemical fertilisers	At all times	The use of chemical fertilisers will encourage vigorous grasses and weeds to grow.
Watering should be undertaken after planting until the garden is established	When required; provide more water during periods of draught	Ensures plants do not dry out and subsequently fail.

New tree and shrub planting

Overview

New tree and shrub planting and a combination of both native (where practicable) and ornamental shrubs are proposed across the site as shown on the proposed landscape plans.

Ornamental species including laurel, rhododendron and non-native cotoneasters listed on the schedule 9 invasive species list must be avoided.

Objectives

- To plant a range of trees and shrubs that will provide pollinating, foraging, commuting, and refuge opportunities for protected and/ or notable species groups including amphibians, bats, birds, hedgehogs, and reptiles.
- Ensure that good horticultural practice is employed to encourage the long-term health and vitality of all trees and shrubs.
- Ensure well-balanced crowns and/ or natural shape by preventing over-competition.

Creation Method

- Ground preparation and planting

Each tree and shrub will be planted within a hole three times as wide of the supplied pot and of a similar depth. Root balls will be soaked thoroughly in water before planting and root balls will be loosened to expose restricted roots before planting. The planted trees and shrubs will then be backfilled ensuring there are no air pockets around roots or any roots protruding out of the ground.
- Timing

It is best to prepare the land during the summer ready for planting between November and March. Planting trees and shrubs before the new year helps ensure better rooting and subsequent establishment including faster growth during the first growing season.

Recommended management prescriptions:

Table 1.2: New tree and shrub planting.

Management	When	Rationale
At the end of each growing	When required;	To maintain amenity and

	season all plant failures are to be 100% replaced	checked annually in Autumn.	wildlife value.
	If required, provision of stakes and guards. Guards to be left on for a minimum of 5 years	N/A	Protect from damage
	Stakes will be checked and any broken or damaged stakes during this time would be removed (as above) and replaced with ties re-fixed	When required; checked annually in Autumn.	Maintain protection
	Remove weeds	When required; checked twice annually in early spring and in Autumn.	Reduce competition for resources nutrients etc.by weeds
	Application of bark mulch at a depth of 50 mm	Immediately after planting and then when required; checked annually in Autumn.	Reduce competition for resources nutrients etc.by weeds
	Do not apply chemical fertilisers	At all times.	The use of chemical fertilisers will encourage vigorous grasses and weeds to grow
	Apply a light dressing of well-rotted manure	Annually in the winter	Note the overuse of manure fertilisers will encourage vigorous grasses and weeds to grow.
	Removal of spent flowers from perennial plants will be removed through 'deadheading'	Twice annually, late spring and in the Autumn.	Allows plants to place more energy into re-growth.

	Watering will be undertaken before and after planting out and as necessary for the continued thriving of all planting. Check and replace any plant failures once a year	When required; provide more water during periods of draught and less water during times of prolonged rain. For the first 5 years	Ensures plants do not dry out and subsequently fail. To ensure no gaps form.
Grassland planting	Overview Areas of grassland will be created, as shown on the proposed landscape plans. Objectives - To create a successful grassland that will provide habitat for pollinating invertebrate species, that will in turn, provide foraging opportunities for protected and/ or notable species groups including amphibians, bats, birds, invertebrates and hedgehogs. - Employ techniques that use organic fertilizers and minimise the use of chemicals wherever possible. Ground preparation Seeding To be undertaken in the spring between April and May or in the Autumn between September and October. The following seed rates are recommended: 40kg/ha or 4g/m² Proposed seed mix: It is proposed to seed the garden grassland with Emorsgate EM2 General Purpose Meadow Mixture (or similar alternative mixture). This seed mix contains 5no. grass species and 15no. wildflower species. The mixture contains no dominant grass species. Due to this diversity and absence of dominant species, the number of grass and wildflower species present per m² is increased; it is therefore considered reasonable to assume a species diversity of 6-8 species per m². For exact specifications, please refer to: https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/standard-general-purpose-meadow-mixture/ Table 1.3: Modified Grassland Management Prescriptions EM2 mixture areas		

	<table><tr><th>Management</th><th>When</th><th>Rationale</th></tr><tr><td>Cut monthly during the growing season</td><td>Between April and October</td><td>Cutting monthly will allow a neat a tidy appearance whilst allowing more species to effectively colonise.</td></tr><tr><td>Turn and dry the cut grass over 3-5 days before removing arisings off Site</td><td>Following cuts in May and September.</td><td>This allows any seeds present seeds to drop encouraging species diversity and invertebrates to relocate unharmed.</td></tr><tr><td>Do not apply chemical fertilisers</td><td>At all times.</td><td>The use of chemical fertilisers will encourage vigorous grasses and weeds to grow or cause large areas of bare ground due to inhospitable growing conditions,</td></tr></table>	Management	When	Rationale	Cut monthly during the growing season	Between April and October	Cutting monthly will allow a neat a tidy appearance whilst allowing more species to effectively colonise.	Turn and dry the cut grass over 3-5 days before removing arisings off Site	Following cuts in May and September.	This allows any seeds present seeds to drop encouraging species diversity and invertebrates to relocate unharmed.	Do not apply chemical fertilisers	At all times.	The use of chemical fertilisers will encourage vigorous grasses and weeds to grow or cause large areas of bare ground due to inhospitable growing conditions,
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Bat Boxes	Overview: A total of six bat boxes will be installed on each site, comprising integrated boxes into the new buildings. Details of the bat boxes recommended for the sites are as follows: Integrated bat boxes to be integrated into the façade of new buildings: • The recommended integrated bat bricks will be constructed of woodcrete/ woodstone. Boxes of this construction are known to require minimal maintenance and have a lifespan of 25 years plus. • 6 No. Integrated Eco Bat Box with Cavity (or similar) (see Figure 1) will be installed into the façade of new buildings. This bat brick type is suitable for integration into a range of building types including brick walls, timber cladding, and stone and are suitable to support a range of species including common pipistrelles and soprano pipistrelles which are likely to be present in the local area. • The bat boxes will be positioned 3-5m above ground level facing a southwest elevation with a clear flight path to and from the entrance, away from artificial light and facing vegetated habitats.												



Figure 1: Integrated Eco Bat Box with cavity suitable for a range of crevice dwelling bat species.

(Photo credit: <https://www.wildcare.co.uk/integrated-eco-bat-box-cavity.html>)

Recommended management:

The proposed bat boxes are designed to require no management or maintenance. Furthermore, preventing physical disturbance of bat boxes will increase the chances of occupation by roosting bats. However, it is recommended that the bat boxes are inspected annually for the first five years outside of the typical active season for bats (May to September inclusive) following installation. Bat boxes must be replaced if they are damaged, removed, or have fallen from their recommended location.

Bird Boxes

Eight bird boxes are recommended to be installed on site, upon mature trees on the retained trees around the site and as externally mounted onto the new buildings.

Bird box specification:

- The recommended bird boxes will be constructed of woodcrete/ woodstone. Boxes of this construction are designed to require no maintenance and a lifespan of 25 years plus.
- 4no. Woodstone Nest Boxes (or a similar alternative brand) with 28mm entrance holes are proposed on the trees, as shown in **Figure 2**.

- Woodstone Nest Boxes will be positioned 1.5-3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Box positions will not be facing south as a result.



Figure 2: Woodstone Nest Box – source arkwildlife.co.uk

Integrated bird boxes to be integrated into the façade of new buildings

- The recommended bird boxes will be constructed of woodcrete/ woodstone. Boxes of this construction are known to have minimal maintenance and have a lifespan of 25 years plus.
- 4no. Vivara Pro WoodStone House Sparrow Nest Boxes (or similar) (see **Figure 3**) will be installed into the façade of new buildings. This bird box type is designed to provide enhanced nesting opportunities for house sparrow. House sparrows are priority species listed on Section 41 of the NERC Act. However alternative species like tits will also utilise these boxes if sparrows are not present.
- The bird box will be positioned approximately 3m above ground level facing a northern elevation where they will be sheltered from prevailing wind, rain and strong sunlight.

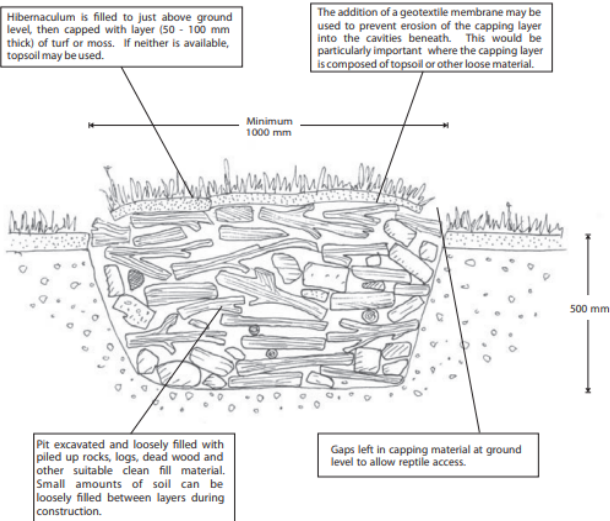
	A rectangular concrete bird nest box with a light grey finish. It features two arched entrances on the front face, each with a dark, oval-shaped opening. The box is shown from a three-quarter perspective against a plain white background. Figure 3: Vivara Pro WoodStone House Sparrow Nest Box Nest Box (image credit arkwildlife.co.uk) Recommended Management: The proposed bird boxes are designed to require no management or maintenance. Furthermore, preventing physical disturbance of bird boxes will increase the chances of occupation by nesting birds. However, it is recommended that the bird boxes are inspected annually for the first five years outside of the typical nesting bird season (March to September inclusive) following installation. External bird boxes must be replaced if they are damaged, removed, or have fallen from their recommended location. Internal bird boxes will not be blocked or removed.
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Reptile/amphibian
hibernacula

Two Hibernacula will be created using natural materials such as logs, stone, vegetation arising and earth. This can be done using material from the site clearance including felled tree cordwood. This will continue to provide enhanced refuge and over-wintering opportunities at the site for reptiles. Examples of two suitable designs are demonstrated in **Figure 4**.

Hibernaculum on free-draining ground

Where ground conditions allow, the hibernaculum should be incorporated into a shallow pit. This design is more likely to remain frost-free, and will be less obtrusive and thus unlikely to be subject to interference.



Hibernaculum on impermeable ground

Where ground conditions are impermeable, then an ‘above-ground’ or mounded design should be utilised in order to prevent the hibernaculum from flooding. This design should also be used if it is not possible to excavate a pit for any other reason.

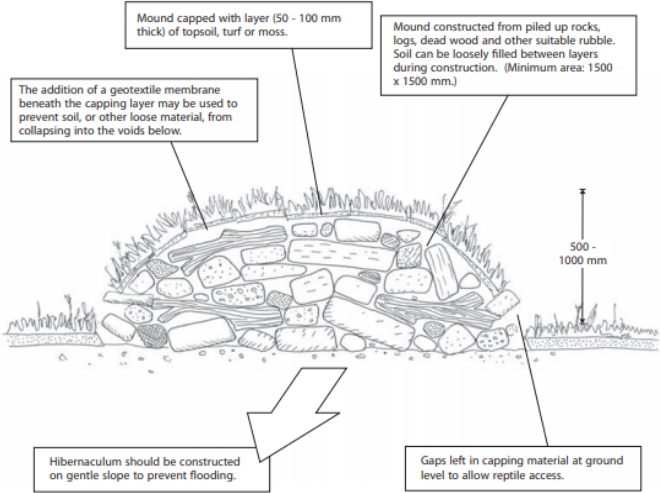


Figure 4: A representation of a man-made hibernaculum.

Appropriate signage indicating presence or the hibernacula feature will be implemented to prevent removal, or accidental damage.

Compliance and Reporting

The LEMP requires stakeholders to comply fully with the pre-construction and construction-related elements of any mitigation strategies agreed with the Local Planning Authority and Natural England under any license requirements. Construction activities will therefore be conducted strictly in accordance with the approved CEMP. Regular inspections and monitoring will be undertaken to ensure compliance with the plan's requirements.

Any deviations or incidents that may affect ecological receptors will be immediately reported to the designated ecologist / Natural England. Updates to the LEMP will be relayed to the Local Planning Authority.

The LEMP will be periodically reviewed and updated as necessary throughout the construction phase to address changing site conditions and evolving ecological considerations.

Appendix 1: Enhancement features



- Bat box
- Tree-mounted bird box
- Hibernaculum/deadwood location
- Integrated bird box

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