



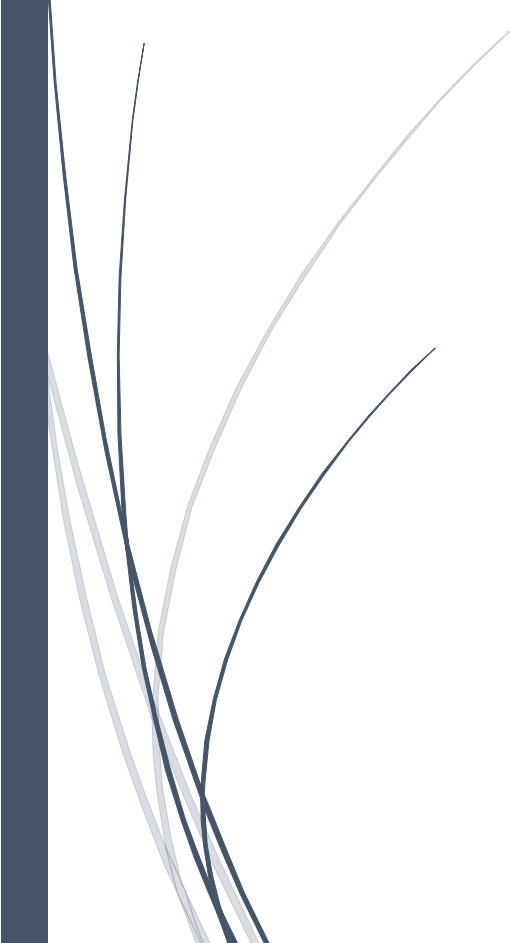
Pre-development report Phase 1 Ecological Appraisal (extended)

Site Land at Motte & Bailey public house, Pirton, Hertfordshire, SG5 3QD

Proposal: House Build

Client Punch Partnerships (PML) Limited

Date September 2025



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Phase 1 ecological appraisal – extended to include impact assessment

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Proposal	House Build
Client	Punch Partnerships (PML) Limited
Date:	September 1 st 2025
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Declaration of any conflict of interest: the author has no local or financial interest in the site, or any party involved with the site.

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1.0 Executive summary

1.1 A Preliminary Ecological Appraisal (PEA) was completed at the Motte & Bailey public house, Pirton, Hertfordshire (SG5 3QD) in August 2025 to support a planning application for a new dwelling. The appraisal followed CIEEM guidelines (2017/2020), using national databases (MAGIC, NBN Atlas), maps, and a detailed site visit.

1.2 The redline area is 1,656 sqm within the Chilterns AONB. The site is characterised by low-distinctiveness habitats: heavily managed amenity grassland, Leyland Cypress hedges, and one young-mature lime tree (*Tilia × europaea*), which has some local ecological value, supporting nesting birds but showing no bat roost potential. There are no ponds, semi-natural grassland, or key sensitive habitats on-site.

1.3 Nearby statutory sites are Knocking Hoe SSSI/NNR (~1.5 km, chalk grassland) and Oughtonhead Common SSSI/LNR (~1.9 km, wetland/meadow). These designations have no direct or indirect connectivity with the development boundary.

1.4 Desk study records within 2 km reveal regionally significant species—Hedgehog (*Erinaceus europaeus*), Skylark, Song Thrush, Chalk Hill Blue—but all are associated with richer off-site habitats. The site itself is isolated, offering only marginal value for common birds and pollinators, and is unsuitable for amphibians or reptiles.

1.5 Development impacts will include:

- Loss of 251 sqm of amenity grassland, reducing greenspace from 514 sqm to 263 sqm
- Removal of up to 70 m ornamental Leyland Cypress hedge and the mature Lime tree
- Increase in hardstanding from 316 sqm to 426 sqm
- These are minor effects, given the poor baseline value and absence of notable species or habitat connectivity.

1.6 Mitigation and Biodiversity Net Gain (see Appendix C LEMP) will be delivered by:

- Planting at least two native trees (rowan, wild cherry, birch)
- Creating ~70 m mixed native hedgerow
- Introducing wildflower-rich margins
- Installing two integrated swift boxes, two sparrow or other bird boxes, and two bat boxes
- Providing hedgehog gaps and log/leaf piles
- Using sensitive downward-directed lighting and monitoring for 5 years

1.7 This will achieve at least 10% Biodiversity Net Gain by on-site enhancements and off-site habitats units purchase to and satisfy NPPF, Environment Act, and local policy requirements. On-site proposals are detailed in LEMP - Appendix C of this report.

1.8 Conclusion:

The site presents low ecological constraints. With the Landscape and Ecological Management Plan delivered, residual impacts will be fully compensated and the proposals will meet legislative and policy tests while enhancing local biodiversity.

2.0 Introduction

2.1 **The applicant** is seeking planning permission for the construction of a new residential dwelling at Motte & Bailey, Pirton. As part of validation requirements, a Preliminary Ecological Appraisal (PEA) has been commissioned to identify ecological constraints, assess potential impacts, and provide recommendations for avoidance, mitigation, and enhancement.

2.2 Objectives

- Identify statutory and non-statutory ecological designations within a 2 km radius.
- Classify and evaluate habitats within the site boundary using the **UK Habitat Classification (UKHab)** framework.
- Assess the potential for legally protected species and Section 41 NERC Act 2006 priority species.
- Evaluate ecological value in accordance with **CIEEM EcIA Guidelines (2018)**.
- Provide recommendations for compliance with relevant policy, legislation, and biodiversity targets.

2.3 This report aims to provide all the information needed to support a full detailed planning application and negate the need for an Ecological impact assessment report as the site is relatively small and uncomplicated.

2.4 Legislative and Policy Context: The appraisal has considered:

- Wildlife and Countryside Act 1981 (as amended) – protection of species and habitats.
- Conservation of Habitats and Species Regulations 2017 (as amended) – European Protected Species and habitats.
- Protection of Badgers Act 1992 – protection of badgers and setts.
- Natural Environment and Rural Communities (NERC) Act 2006, Section 41 – duty to conserve priority species and habitats.
- Environment Act 2021 – mandatory 10% Biodiversity Net Gain (BNG).
- National Planning Policy Framework (NPPF, 2023) – paras. 131 (trees/green infrastructure), 179–182 (biodiversity net gain, mitigation hierarchy, designated sites).
- North Hertfordshire Local Plan (2011–2031) – requires biodiversity net gain, habitat protection, and integration of green infrastructure.
- Pirton Neighbourhood Plan (2011–2031):
- Policy PNP 4 – Hedgerows, Trees and Verges: retain and replace trees/hedges with native species; maintain soft, green village edges.
- Policy PNP 5 – Wildlife: protect and enhance wildlife habitats; avoid barriers to species movement.
- Policy PNP 7 – Views and Vistas: preserve key views and avoid adverse impact on the Chilterns AONB setting.
- Hertfordshire Green Infrastructure Strategy & Biodiversity Action Plan – promote habitat connectivity, native planting, and ecosystem services.

3.0 Methodology

3.1 Desk Study

- Information sources included:
- MAGIC interactive database – statutory sites, priority habitats, ancient woodland.
- NBN Atlas – species records within 2 km.
- OS mapping and aerial photography – habitat context and connectivity.
- Defra Biodiversity Metric 4.0 – used to assign distinctiveness and condition values to habitats.

Cross referencing and collating information from the above into a practical and representative data format for this report.

3.2 Field Survey

- A walkover survey was conducted in August 27th, 2025, by a suitably qualified ecologist. Methods included:
- Habitat mapping to UKHab standard.
- Tree and hedgerow survey following BS5837:2012.
- Flora assessment by photograph and on-site identification.
- Inspection of trees and out building for bat roost features; photos taken.
- Assessment of nesting bird, amphibian, reptile, and hedgehog potential.
- Rapid appraisal of invertebrate habitat.

3.3 Evaluation

Habitats and species were valued at a geographic scale (site, local, district, regional) as per CIEEM guidance.

3.4 Survey Access & Coverage: Full access was available and all site features were inspected during optimal weather in August 27th, 2025. No physical constraints affected survey effort.

3.5 Desk Study Data: Local Records Centre (LRC) data could not be obtained before reporting due to non-response from the LPA. Given the site's highly managed and species-poor nature, the desk study relied on MAGIC and NBN Atlas. If new records become available, findings will be updated accordingly.

3.6 Scope & Methods: This PEA is based on a single visit and standard walkover methods; it does not represent season-long or specialist survey effort. The validity period is 24 months or until significant site changes occur.

3.7 Habitat Context: The absence of aquatic, rough grassland, or unmanaged habitats means key groups (e.g. amphibians, reptiles) are unlikely present; but cryptic or mobile species cannot be ruled out with absolute certainty.

3.8 Overall Assessment: No limitations are considered sufficient to alter confidence in the site's low ecological value or the risk assessment presented

3.9 A review of North Hertfordshire District Council (NHDC) local validation requirements has been undertaken to ensure the ecological report fully meets current planning and submission standards.

4.0 Desk study

4.1 Statutory Designations: The application site lies within the Chilterns Area of Outstanding Natural Beauty (AONB), a statutory landscape designation recognised under the National Parks and Access to the Countryside Act 1949 and given statutory weight in planning under the Countryside and Rights of Way Act 2000. The primary purpose of the AONB designation is the conservation and enhancement of natural beauty, which encompasses landscape character, scenic quality, biodiversity, and cultural heritage. While the AONB status guides planning decisions and encourages ecological enhancements, it does not confer direct statutory protection to habitats or species in the manner of designated sites such as SSSIs or SACs.

4.2 Within a 2 km radius of the site, two statutory nature conservation sites are present:

- Knocking Hoe SSSI/NNR (~1.5 km southeast): Recognised nationally for unimproved chalk grassland habitats supporting diverse vascular plants and invertebrates, including scarce calcareous species and Red Data Book invertebrates. This site represents one of the most important remnants of chalk grassland in the region.
- Oughtonhead Common SSSI/LNR (~1.9 km southwest): Designated for its wetland and lowland meadow habitats, supporting a range of specialist invertebrate communities and regionally important flora.
- No statutory designations, including SSSIs, SACs, or SPAs, are present within or immediately adjacent to the development footprint.

4.3 Non-Statutory Designations

4.4 A review of non-statutory ecological designations, including Local Wildlife Sites (LWSs) and Local Nature Reserves (LNRs), identified one village nature reserve site about 100m north of the site; otherwise, the immediate site lacks any landscape or ecological designation beyond the AONB status.

4.5 Protected and Notable Species Records (2 km Radius)

4.6 Data from county ecological records and the NBN Atlas indicate a high diversity of species within the surrounding landscape. While these species are not expected to occur on-site due to habitat limitations, their presence in the wider area reflects the ecological sensitivity of the surrounding countryside.

a) Amphibians

- b) Great Crested Newt (*Triturus cristatus*): Recorded regionally, but no ponds or suitable aquatic habitat exist on-site or adjacent, and local surveys indicate no licensable populations in proximity.
- c) Common Frog (*Rana temporaria*) and Common Toad (*Bufo bufo*): Recorded in the surrounding landscape, typically associated with waterbodies in nearby SSSIs.
- d) Mammals
- e) Hedgehog (*Erinaceus europaeus*): UK Priority species (NERC Act, Section 41). Likely to forage across gardens and field margins within 2 km of the site.
- f) Brown Hare (*Lepus europaeus*): Regionally recorded; expected to utilise arable and pasture fields in the surrounding area.
- g) Birds
- h) Species of conservation concern include Skylark (*Alauda arvensis*), Song Thrush (*Turdus philomelos*), Starling (*Sturnus vulgaris*), and House Sparrow (*Passer domesticus*). These are Red or Amber listed under BoCC and protected as priority species under the NERC Act Section 41.

4.7 Invertebrates

- Records show a rich diversity, particularly of chalk grassland specialists, including Chalk Hill Blue (*Polyommatus coridon*), Marbled White (*Melanargia galathea*), and Meadow Brown (*Maniola jurtina*), primarily associated with Knocking Hoe SSSI.
- The wider landscape supports additional invertebrate diversity through a mosaic of semi-natural grassland, arable land, hedgerows, and shaded woodland edges.

4.8 Flora: Regional records highlight typical chalk grassland flora, including wild thyme (*Thymus* spp.), orchids (*Orchidaceae* spp.), and other calcicole herbs, predominantly within SSSI habitats.

4.9 The application site itself is dominated by intensively managed amenity grassland, with negligible botanical interest.

4.10 Conclusion

The site lies within the Chilterns AONB, offering a sensitive landscape context, but does not intersect any statutory or non-statutory ecological designations. While the wider landscape supports internationally and nationally significant habitats and species, the site itself is of low ecological value, dominated by modified amenity lawns and ornamental planting.

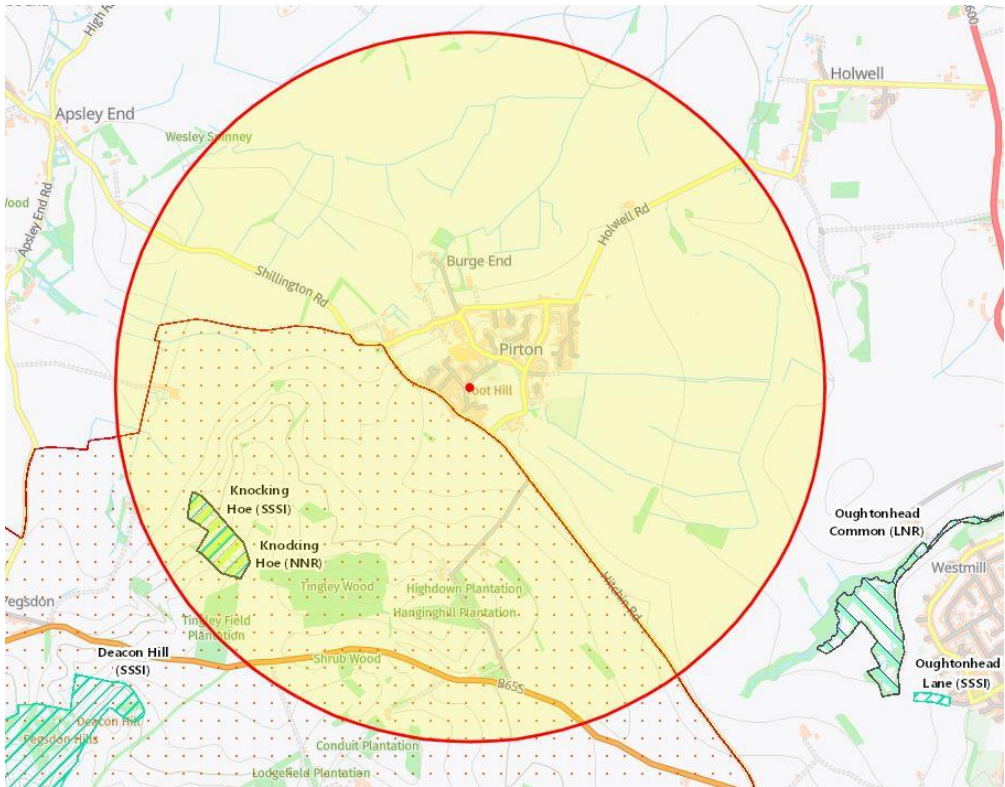


Figure 1. Magic mapping 2km area showing local SSSI

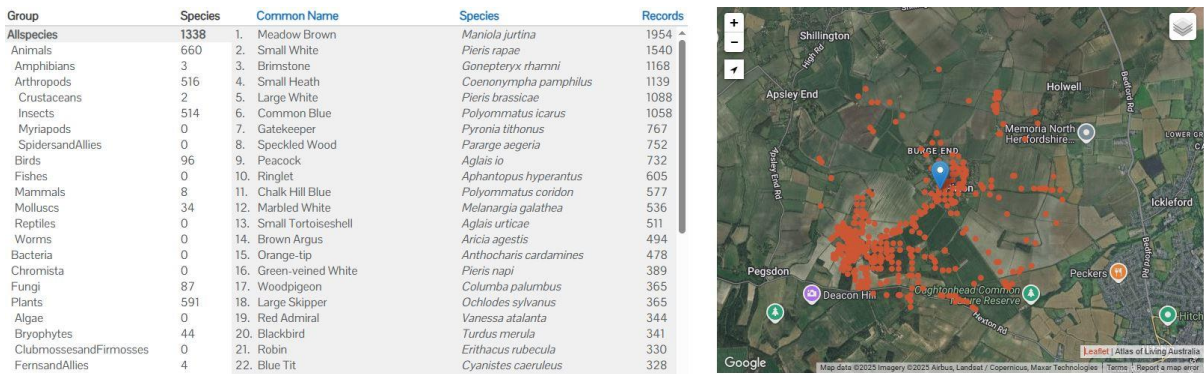


Figure 2.NBN Local 2km are showing species density areas and listings

5.0 Field study

5.1 The field study involved both surveyors walking the development area, whole site, checking the outbuilding and walking the village wildlife area and archaeological site to the north. This was done during good weather conditions on August 27th, 2025.

5.2 Amenity Grassland

The site is predominantly composed of intensively managed amenity grassland, regularly mown and maintained to a short sward. Species composition is extremely limited, consisting primarily of agronomic grass species (e.g., *Lolium perenne*, *Poa annua*) with rare occurrences of common, disturbance-tolerant forbs such as daisy (*Bellis perennis*) and dandelion (*Taraxacum* spp.). No evidence of semi-natural or calcareous sward communities was found. The sward is frequently cut and subject to nutrient enrichment, resulting in negligible ecological value and providing limited resources for invertebrates, birds, or mammals.

5.3 Hedges

Hedgerows on site are dominated by Leyland Cypress (*× Cuprocyparis leylandii*), which is a non-native, fast-growing conifer frequently used for garden boundaries. Hedgelines display a poor structure, lacking in both species diversity and age diversity, with little to no understorey or ground flora. Native shrubs are largely absent, although some elder may be present as a minor component. These hedges do not meet the criteria for "Important Hedgerows" under the Hedgerows Regulations 1997 due to their limited native species count and lack of historic or ecological connectivity. The structure is generally hard-trimmed, offering minimal wildlife habitat except where mature ivy has established.

5.4 Trees

One singularly significant tree is present, a young-mature Common Lime (*Tilia × europaea*) located near the site entrance/boundary, assessed as Category B (of moderate quality and value) under BS5837 criteria. This individual displays a well-developed canopy and limited ivy cover. No native, veteran, or structurally complex trees were identified elsewhere on the site.

5.5 **Built Structures and Outbuildings:** there are no built structures on site was recorded.

The nearby outbuildings were assessed for bat roost potential and found to be low/moderate; no droppings or other signs were found but the building does have

characteristics conducive to small numbers of bats using it for summer/day roost. This building will not be impacted by the development.

5.6 Aquatic Habitats: No ponds, ditches, or other aquatic features are present on, or adjacent to, the site. The absence of aquatic habitats precludes breeding opportunities for amphibians and reduces the overall site suitability for a range of wetland-associated species.

5.7 Species Potential

Bats: The mature Lime tree was closely inspected for cavities, loose bark, or significant crevices and found to be devoid of potential roost features (PRFs) of value to bats. Dense ivy is present on the main stem but probably does not obscure major cavities. The small site size, intensive management further result in negligible bat roost potential. Foraging habitat is probably mostly limited to brief use by common pipistrelles.

Birds: The mature Lime tree canopy and hedges provide potential nesting opportunities for common garden birds.

Amphibians and Reptiles: The site is wholly unsuitable for amphibians and reptiles owing to the absence of standing water, damp microhabitats, log piles, or undisturbed rough grassland. Borders and grassland are intensively managed and isolated from the wider landscape. No ponds are present within or directly adjacent to the site, as confirmed by both field survey and desk-based review. As such, the terrestrial and aquatic habitat suitability for both Great Crested Newt and more widespread amphibians (e.g., Common Frog, Common Toad) is assessed as negligible.

Hedgehog: There is limited potential for occasional use of the site by Hedgehog (*Erinaceus europaeus*), mostly for transient foraging activity or as part of a wider garden matrix. However, the absence of suitable cover, permeability barriers (fences), and lack of field evidence (no nests, runs, or droppings) suggest the site is not important for local populations. Enhancements can be considered as a precautionary biodiversity gain measure.

Invertebrates: The ecological value for invertebrates is minimal, restricted to some common pollinators visiting flowers of ornamental plants and possible use of ivy when in blossom. The absence of diverse herbaceous layers, decaying wood, or stands of native plants limits both larval and adult resources for notable or rare invertebrate species.

5.8 The table below provides an updated summary of habitats for the site, using UKHab classifications.

5.9 Totals:

- Total redline area: 1,656 sqm
- Development area; Pre-development greenspace: 514 sqm amenity grassland + ~40 sqm shrubs + 1 tree + 70 m hedgerow.
- Post-development greenspace: Reduced grassland (263 sqm), loss of 1 Lime tree, retained/replanted shrubs, and partial hedgerow retained/removed as per plans.

Habitat Description	UKHab Code	Area / Length	Condition	Distinctiveness	Comments
Amenity grassland (lawns, short sward)	g4c Amenity grassland	514 sqm (pre) / 263 sqm (post)	Poor	Low	Intensively mown, species-poor sward. Provides negligible ecological function beyond amenity.
Leyland Cypress hedgerow (north, east & south boundaries)	h2e Ornamental non-native hedge	70 m	Poor–Fair	Low	Continuous cypress hedge with occasional elder. Low species richness but provides some cover/nesting for common birds.
Feature tree — Common Lime (<i>Tilia × europaea</i>)	w1g6 Individual tree (urban)	1 tree	Good	Medium	Mature Lime tree of local landscape significance, Category B under BS5837. Nesting/perching resource. Proposed for removal.
Gravel hardstanding (paths, car park, rear access)	u1b Developed land – sealed surface	316 sqm (pre) / 426 sqm (post)	N/A	Negligible	Includes gravel and sealed surfaces. No ecological value.
Built development (PH building and outbuildings)	u1a Built development	810 sqm approx.	N/A	Negligible	Main pub building, extensions, and ancillary structures. Negligible habitat value.
Ornamental shrub planting / beds	w1f5 Ornamental flower beds and planting	~40 sqm	Poor–Fair	Low	Beds and borders with non-native ornamentals, limited nectar/pollen resource. Supports only incidental urban pollinator use.

- UKHab codes reflect urban/amenity context and align with BNG metric reporting requirements.
- Hedges total 70m, supporting a revised baseline and compensation calculation.

6.0 Impact Assessment

6.1 Habitat Loss

The proposed development will result in the direct loss of 251 sqm of intensively managed amenity grassland, reducing pre-development greenspace from 514 sqm to 263 sqm within the total redline area of approximately 1,656 sqm. This habitat is species-poor, frequently mown, and isolated from semi-natural habitats, and is assessed as negligible ecological value at site and local scale (Defra Biodiversity Metric 4.0: low distinctiveness, poor condition).

6.2 Additional losses include:

- A length of ornamental Leyland Cypress hedgerow (low structural and ecological value).
- One mature Common Lime tree (*Tilia × europaea*, Category B). This tree is locally significant as a nesting and perching resource for common birds, minor invertebrate habitat, and a landscape feature contributing to the Chilterns AONB character.
- The development will also increase hardstanding from 316 sqm to 426 sqm, further reducing vegetated cover. These changes are considered minor at the local landscape scale, with the potential for compensatory ecological enhancement through native planting and habitat creation.

6.3 Designated Sites

- The site has no statutory or non-statutory ecological designations within its boundary. The closest protected sites are:
 - Knocking Hoe SSSI/NNR (~1.5 km SE)
 - Oughtonhead Common SSSI/LNR (~1.9 km SW)
- There is no hydrological, physical, or ecological connectivity between the site and these designations. Consequently:
 - No direct habitat loss or fragmentation of protected sites is anticipated.
 - No indirect effects (e.g., pollution, hydrological changes) are predicted.
- The development will not compromise the notified features or management objectives of these nearby sites.

6.4 Protected and Notable Species

Birds:

- The mature Lime tree and hedges provide a moderate-quality nesting and perching resource for common garden and urban fringe birds.
- No evidence of Schedule 1 or Section 41 priority species was recorded.
- Mitigation: Vegetation clearance outside March–August, or pre-clearance checks by a qualified ecologist. Replacement native trees and hedgerows will offset habitat loss.

Bats

- No trees or structures present on-site offer significant Potential Roost Features (PRF).
- Loss of amenity grassland reduces foraging habitat slightly, but the impact is negligible due to the availability of higher-quality foraging habitats nearby.
- Mitigation: Integrated bat boxes in retained trees and new planting areas.

Hedgehogs

- Suitable habitat is limited to ornamental garden features.
- Risk of disturbance during clearance is minor, mitigated via:
 - Phased vegetation clearance
 - Hand-searching before works begin
 - Provision of hedgehog gaps in fences

6.5 Amphibians, Reptiles, and Invertebrates

- No suitable habitat present.
- The site provides only transient, low-quality use for widespread invertebrates.
- No adverse effects are predicted.

6.6 Cumulative Effects

- The net loss of greenspace (251 sqm) represents a 15% reduction in pre-development green cover within the site.
- Given the low baseline ecological value and limited connectivity, cumulative impacts are insignificant at the local scale.

6.7 Positive outcomes can be achieved via:

Replacement native trees (≥ 2 standard trees to offset Lime loss)

- Mixed native hedgerows along boundaries
- Pollinator-friendly grass margins
- Installation of bird and bat boxes
- Biodiversity Net Gain (BNG) calculation in line with Environment Act 2021, Defra Metric 4.0, NPPF, NHDC Local Plan, and Pirton Neighbourhood Plan

6.8 Cumulative effects, including potential combined impacts with other nearby developments, are considered negligible provided these mitigation and enhancement measures are implemented.

6.9 Compliance and Figures

- All assessments and calculations reflect site measurements and development quantum provided by the applicant.
- Habitat loss, tree removal, and hardstanding figures are consistent with BS5837:2012 survey data.
- Mitigation and enhancement measures have been designed to ensure full compliance with LPA biodiversity policies and AONB objectives.

6.10 Table Habitat Loss and Proposed Compensation

Habitat / Feature	Pre-development Area (sqm)	Post-development Area (sqm)	Notes / Mitigation
Amenity Grassland	514	263	Species-poor; compensate via pollinator margins
Ornamental Leyland Cypress Hedgerow	40	To be announced	Replace with native mixed hedgerow
Mature Common Lime (<i>Tilia × europaea</i>)	1 tree	0	Replace with ≥ 2 native standard trees
Hardstanding	316	426	Increased, but offset by soft landscaping

7.0 Connectivity

7.1 Landscape and Habitat Connectivity (see Appendix B)

A review of site mapping, field survey evidence, and Google Earth aerial imagery confirms that the application site at Motte & Bailey, Pirton, is ecologically isolated within the broader landscape. The wider 2 km zone comprises a matrix of high-value semi-natural habitats (notably Knocking Hoe SSSI/NNR to the south and Oughtonhead Common SSSI/LNR to the east), arable farmland, and the nucleated village core.

7.2 There are relatively few apparent watercourses, ancient woodlands, flower-rich verges, or continuous native hedgerows linking the site to any nearby statutory or non-statutory nature conservation sites. Satellite imagery demonstrates a lack of direct green corridor connectivity: the on-site hedges form an impermeable boundary, lacking native composition and structural diversity, and the closest significant ecological resources (chalk grassland or wetland habitats) are over 1 km distant, separated by intensively farmed or developed land.

7.3 The local landscape context is therefore one of limited baseline permeability and ecological flows—both for terrestrial and aquatic species—with the site's habitats functioning as isolated urban greenspace, rather than as a node within a wider wildlife network. As a result, the potential for the site to act as a stepping stone for key fauna (such as amphibians, reptiles, hedgehogs, or priority invertebrates) is assessed as negligible and the development is not predicted to contribute to habitat fragmentation or loss of functional connectivity at the parish or district scale.

7.4 The absence of strategic corridors or features of ecological connectivity strongly underpins the conclusion that the site is of negligible wider habitat network value and justifies the overall minor magnitude of predicted ecological impact arising from the development. Nevertheless, opportunities remain to enhance local structural permeability through the planting of native species hedgerow and trees, provision of hedgehog highway gaps, and use of pollinator-friendly landscaping in line with Biodiversity Net Gain requirements and relevant local planning policy.

8.0 Conclusions

8.1 Site Ecological Value

The site is assessed as having a low ecological baseline. Habitats consist primarily of intensively managed amenity grassland, ornamental hedgerows, scattered ornamental trees, and small outbuildings, none of which constitute semi-natural or priority habitats. The only feature of note is a mature Common Lime tree (*Tilia × europaea*, Category B), which ecologically provides:

- Perching and nesting opportunities for common birds and bats.
- Foraging and shelter for invertebrates.
- Contribution to the landscape character and connectivity of the Chilterns AONB.

8.2 Its proposed removal constitutes a localized biodiversity loss, but:

- The loss is limited in spatial extent.
- There is no direct or indirect impact on nearby SSSIs or other statutory nature conservation sites.
- The tree's ecological function can be effectively compensated through replacement planting of native standard trees, hedgerows, and targeted enhancements.

8.3 Overall, the site's ecological value is negligible at a site and local scale, with the exception of the Lime tree, and does not represent a constraint to development.

8.4 Overall Conclusion

In summary:

- a) Baseline ecological value is low, with only one feature of note (the mature Lime tree).
- b) Impacts on statutory sites, protected species, and priority habitats are negligible, provided mitigation is implemented.
- c) Appropriate compensation and ecological enhancements will provide measurable Biodiversity Net Gain, in compliance with national and local policy.
- d) The development is ecologically deliverable and will not constrain planning approval, while offering opportunities to enhance biodiversity, landscape character, and habitat connectivity in line with AONB and LPA requirements.
- e) Application of the appendix C LEMP is expected to provide maximum ecological uplift

9.0 Recommendations:

9.1 Tree loss Compensation

Replacement with **at least two native standard trees** (minimum 12–14 cm girth at planting) such as rowan, birch, or wild cherry.

9.2 Habitat Creation

- Establish **mixed native hedgerows** along boundaries (hawthorn, blackthorn, hazel, field maple, spindle).
- Introduce **wildflower-rich margins** around garden edges to benefit pollinators.

9.3 Protected Species Safeguards

- a) Tree and vegetation clearance to avoid March–August bird nesting season or be subject to an ecologist's check.
- b) Toolbox instructions for contractors on Hedgehog and other priority species.
- c) Provision of **hedgehog highways** in boundary fencing.

9.4 Ecological Enhancements

- Install integrated bat boxes (Schwegler 2FR or equivalent) and bird nesting features (swift bricks, sparrow terraces) on/in the house walls or in the hedges as is best possible.
- Incorporate pollinator-friendly planting where feasible.
- Create regia/hibernacula in the far corners of the new property garden extent

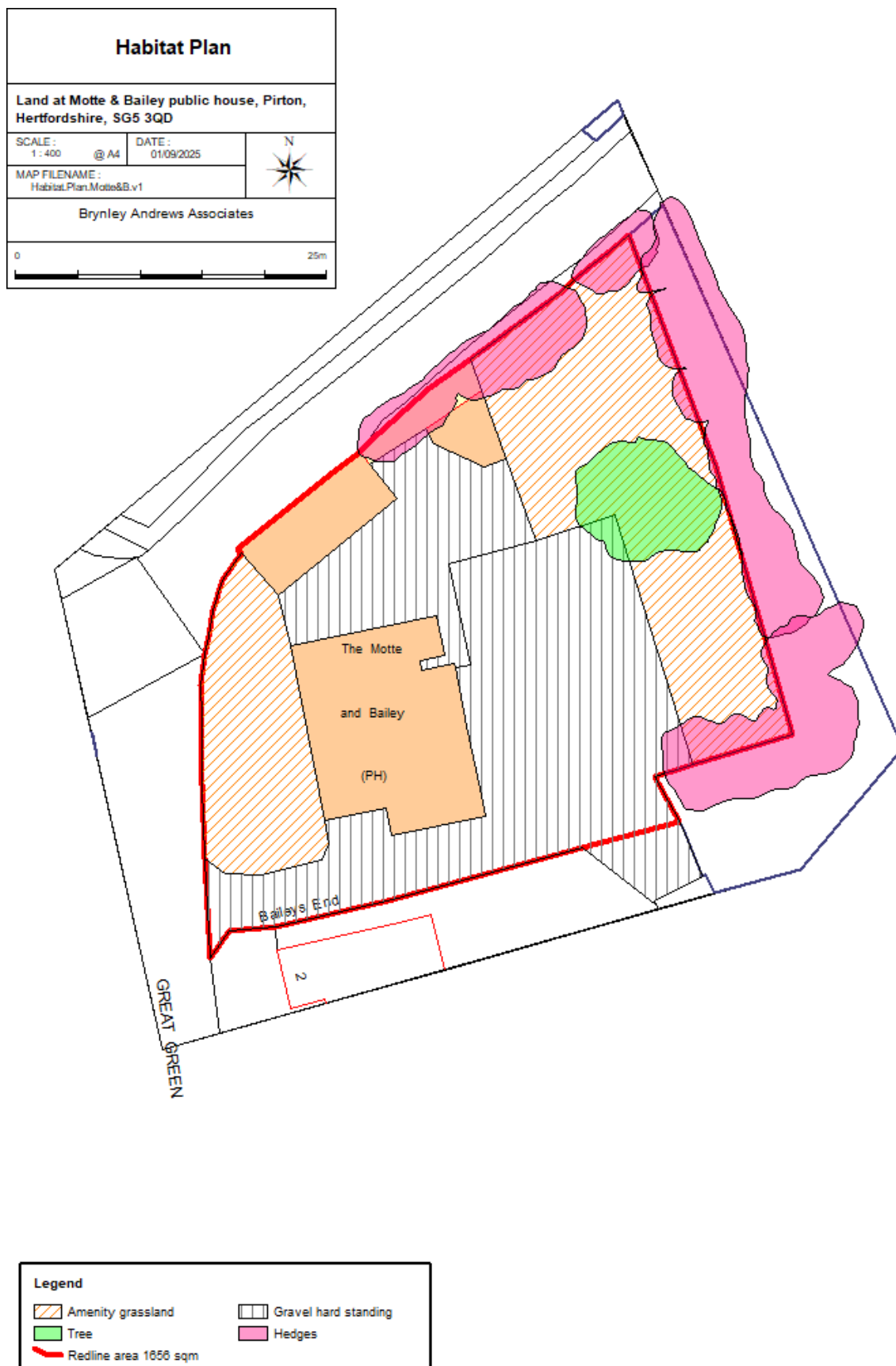
9.5 Lighting Strategy

- Use **low-lux, warm LED fittings**, directed downward and away from boundaries.
- Retain dark corridors at site edges.

9.6 Biodiversity Net Gain

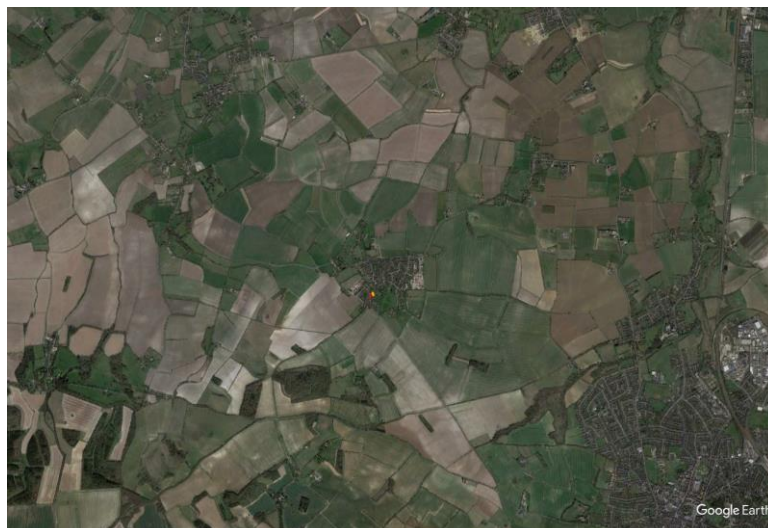
- Complete **BNG Metric 4.0 assessment** at detailed design stage.
- Demonstrate at least **10% net gain** through habitat creation and tree replacement.
- Secure outcomes via five-year establishment and monitoring plan.

Appendix A: Habitat Plan



Appendix B: Google Earth overview images

The village area appears to have more biodiversity value than the surrounding intensively farmed land; as such it is an oasis for wildlife and of substantial importance.



Appendix C: Landscape and Ecological Management Plan (LEMP)

1. Purpose and Scope

This LEMP secures long-term management for habitats and biodiversity features proposed within the development boundary at Motte & Bailey, Pirton (SG5 3QD). It implements mitigation, compensation, and enhancements recommended in the PEA, ensuring site compliance with the Environment Act 2021, BNG, NPPF 2023, and North Hertfordshire Local Plan.

2. Objectives

- Achieve and evidence at least 10% Biodiversity Net Gain.
- Replace lost ecological functions (notably the mature Lime tree).
- Enhance habitat diversity using native species.
- Support protected/priority species (birds, bats, hedgehog, pollinators).
- Maintain and monitor ecological value for a minimum of five years post-completion.

3. Features and Prescriptions

3.1 Native Tree Replacement

- Plant no fewer than two native standard trees (e.g., rowan *Sorbus aucuparia*, wild cherry *Prunus avium*, downy birch *Betula pubescens*) at not less than 12–14 cm girth.
- Locate new trees away from buildings/services; plant Nov–Feb; stake and protect.
- Inspect annually; replace failed specimens in first five years.

3.2 Hedgerow Creation and Management

- Remove low-value Leyland Cypress; establish approx. 70m of mixed native hedgerow on north, east, and south boundaries.
- Hedgerow species mix: hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), field maple (*Acer campestre*), spindle (*Euonymus europaeus*).
- Plant as whips (60–90 cm), double-staggered row, 5–7 plants per metre.
- Allow up to 15% inclusion of species such as dog rose, holly, or elder.
- Allow hedges to gain at least 1.5 m height and bushier form; restrict cutting to 2–3 year cycles outside March–August.

3.3 Wildflower Grass Margins

- Enhance retained amenity grassland edges (min. 1 m wide) using a native wildflower/nectar-rich mix suited to local soils (e.g., Emorsgate EM2 or similar).
- Prepare by reducing sward fertility and overseeding autumn or spring.
- Manage by autumn cut (leaving cuttings for 2–3 days), then remove arisings.

3.4 Nesting and Roosting Features

- Bird boxes: Install min. 2 integrated swift boxes (new dwellings/outbuildings), plus 2 sparrow terrace or open-front nest boxes in mature hedges/new trees.
- Bat boxes: Install min. 2 crevice-style boxes (e.g., Schwegler 2FR) on trees or new structures facing southeast/southwest at ≥3 m.
- Hedgehog highways: Create access holes (130 mm × 130 mm) in boundary fencing at two locations; install log/leaf piles in rear garden corners.

3.5 Sensitive Lighting

- All external illumination to be low-lux, warm LED (<2700K), down-directed, and >5m from new habitat features.
- Retain dark boundary corridors wherever possible.

4. Roles and Responsibilities

- Implementation: Principal contractor/ecological clerk of works (during construction); landscape contractor (planting establishment phase).
- Ongoing management: Site owner or appointed agent post-completion, overseen by a qualified ecologist (annual visits, years 1–5).

5. Monitoring and Reporting

- Annual checks (years 1–5): survival of new trees/hedges, wildflower sward development, condition of boxes/features.
- Corrective actions: replace dead stock, remediate failed habitats.
- Final year five report to be submitted to LPA for sign-off; further visits if box occupation, species records, or BNG targets require.

6. Timeline

Year Action

1	Full habitat creation: tree/hedge/grassland planting, box installation, fencing adaptation
1–5	Annual monitoring, weeding, gapping-up, replacement planting where needed
5	Submit final compliance report to LPA

7. Long-Term Management (Yr 6+)

- Continue annual tree/hedge checks, minimal pruning unless required for safety/access.
- Retain all ecological features in perpetuity where not incompatible with resident use.
- Review and adapt management prescriptions as advised by ecological consultant and with LPA approval.

Appendix D: Photos

Photos of the area proposed to be developed



Garden area proposed to be developed; Leyland cypress hedges are presumed to be on-site



Garden area proposed to be developed; lime tree on LHS



Gravel car parking area and Lime tree central



Beer garden area with outbuildings that were checked for bat roost potential



Roadside view of the proposed access way through the Leyland cypress / Elder hedge, some overgrown by Russian vine



Main proposed development area; lime tree proposed to be removed, grass area and Leyland cypress hedge

Appendix E : References

- British Standards Institution (2012). "BS5837:2012 Trees in relation to design, demolition and construction – Recommendations."
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- Chartered Institute of Ecology and Environmental Management (CIEEM). (2018). "Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater and Marine." Winchester: CIEEM.
- Department for Environment, Food and Rural Affairs (Defra) (2021, as updated). "Biodiversity Metric 4.0: Technical Supplement." London: Defra.
- Department for Levelling Up, Housing & Communities (2023). "National Planning Policy Framework (NPPF)." London: DLUHC.
- Natural England (various dates). "MAGIC Interactive Map." [Accessed 2025]. <https://magic.defra.gov.uk/> [site location, designated sites, priority habitats].
- Natural England. "Sites of Special Scientific Interest (SSSI); National Nature Reserves (NNR)." Designated Sites System. <https://designatedsites.naturalengland.org.uk/> [e.g. Knocking Hoe SSSI/NNR].
- North Hertfordshire District Council (2011–2031). "North Hertfordshire Local Plan." Hitchin: NHDC.
- Pirton Parish Council (2011–2031). "Pirton Neighbourhood Plan." [Relevant policies: PNP 4, PNP 5, PNP 7].
- Hertfordshire County Council (Various). "Hertfordshire Biodiversity Action Plan." Hertford: HCC.
- Atlas of Living Australia / NBN Atlas (accessed 2025). "Species records for Pirton, Hertfordshire." <https://records.nbnatlas.org/>
- Field survey conducted by Brynley Andrews Associates, August 2025.
- Ordnance Survey & Google Satellite Imagery (2025): for context mapping and landscape analysis.
- Wildlife and Countryside Act 1981 (as amended).
- Conservation of Habitats and Species Regulations 2017 (as amended).
- Natural Environment and Rural Communities (NERC) Act 2006, Section 41.
- Environment Act 2021.
- Protection of Badgers Act 1992.
- North Hertfordshire Green Infrastructure Strategy (latest revision).

Appendix F: Authors details

Brynley Andrews has worked within the environmental industry for more than forty years, and since 2014 as an independent arboricultural, ecological and environmental consultant. As a chartered environmentalist and professional urban forester, he is keenly aware of the need to stop environmental degradation and to make improvements, for the benefit of future generations.

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Qualifications & accreditations

- MSc Urban forestry and arboriculture 2021
- BSc (Hons) Degree in Environmental studies 1996
 - F.D. Arb., Foundation degree in arboriculture 2000
- National Diploma in arboriculture 1983
- National certificate in horticulture 1980
 - Bat ecology level 1 – 1990
 - Bat roost in trees certificated since 2010 (level 3)
 - Bat acoustic analysis certificate 2024 (level 3) 2024
 - Bat field survey training (level 2) 2024
 - Badger ecology and survey / Reptile & Amphibian training 2024
 - Badger sett mitigation - Understanding Mitigation training x 2 2024

Professional accreditations

- Professional Member of the Arboricultural Association
- Chartered environmentalist
- Associate member of the institute of chartered foresters
 - Application for membership of CIEEM being processed

Health & Safety

- CSCS Management & Professional (MAP) qualified & valid to 2026
- ROLO (Register of land-based operatives: health & safety awareness course qualified & valid until 2025)

Insurance

- Professional Indemnity insurance - £2,000,000
- Public & products liability - £1,000,000
- Employers' liability £10m

Carbon/eco/bio/enviro footprint controls: intending to be carbon negative by end of 2022.

- electric car powered by Octopus 100% green and home solar energy
- Advise clients of opportunities
- Plant ~ 25 trees per year in addition to helping local projects
- Assessing tree cover free of charge for national citizen science project

CPD : associate Alexander Wallace M.Sc. sustainability & BA are currently undertaking specific training in bat, amphibians/reptiles, badger and all priority species