

A photograph of a field of yellow flowers, possibly buttercups, with a tree in the background. The image is faded and serves as a background for the text.

Land off Vicarage Lane,

North Killingholme

Preliminary Ecological Appraisal and

Biodiversity Net Gain Assessment

2025

Client [Hyde Architecture](#)
Project Title [Land off Vicarage Lane, North Killingholme](#)
Project Reference [RHE.4546](#)
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Executive Summary

Development Details

The client is proposing residential development on Land off Vicarage Lane, North Killingholme, hereafter referred to as the 'site'.

This report describes the ecological features of the site and its surroundings and assesses the potential impacts of the development on the ecological interest. Recommendations are provided so that the development is compliant with biodiversity policy and legislation.

Ecological Interest

The site has a low level of ecological interest. Ecological features of interest include modified grassland, native hedgerows and a dry ditch.

Outcomes

Further survey work is not required because the ecological impact can be fully determined.

Mitigation / compensation will be required to offset the loss of ecological features and ensure compliance with biodiversity legislation and policy.



1. Introduction

1.1 Project Brief

1.1.1 Rachel Hacking Ecology Limited was commissioned in 2025 by Hyde Architecture to carry out an ecological appraisal of Land off Vicarage Lane, North Killingholme. The site is located at O.S. grid reference: TA 14422 17204 (see Figure 1).

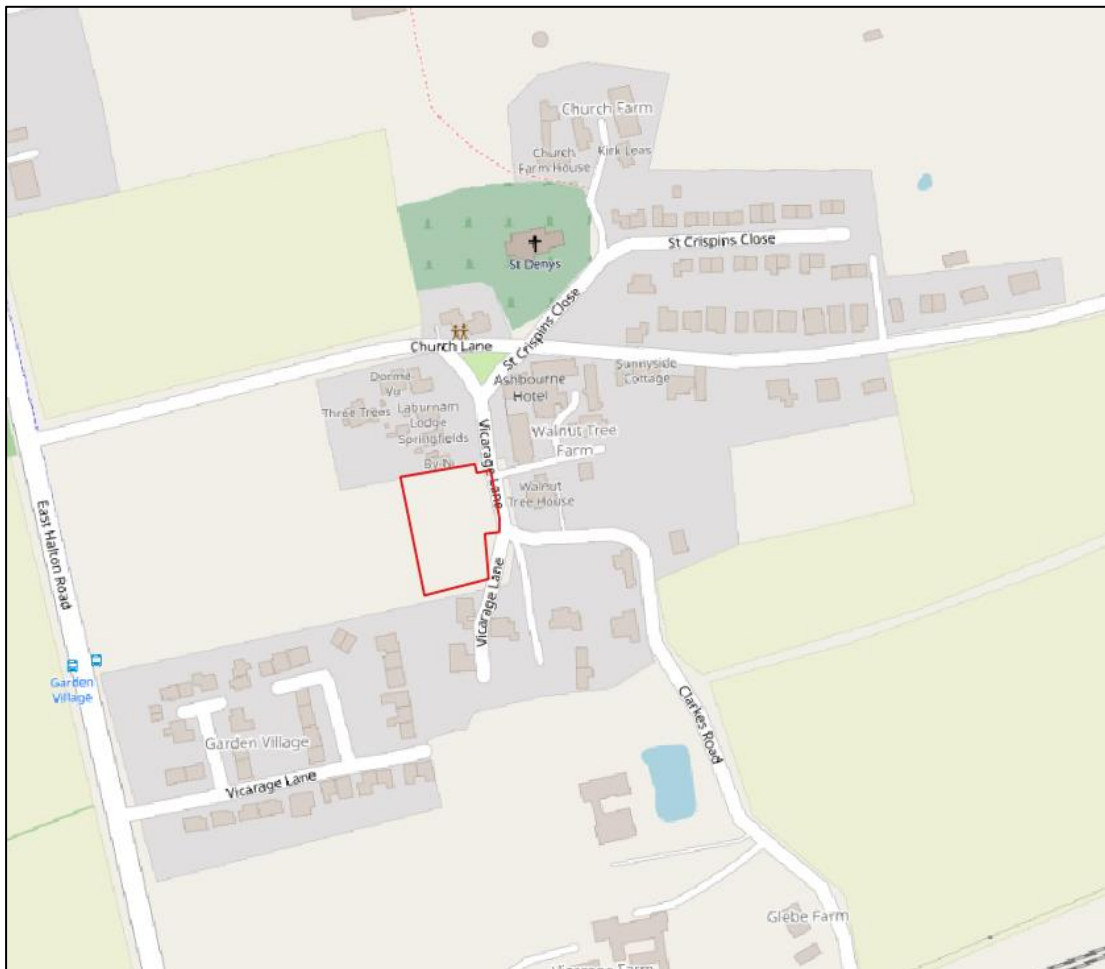


Figure 1. Map showing the survey area, courtesy of OpenStreetMaps.

1.1.2 The site is a grassland field with associated native hedgerows to the north, east and south, and a dry ditch on the south boundary. It is situated in the centre of North Killingholme in a residential area with other grassland fields extending to the west.

Description of Development

1.1.3 The site will be the subject of a planning application for the development of five new residential properties with associated hard and soft landscaping.



Figure 2. The proposed development, courtesy of Hyde Architecture.

1.2 Scope of Work

1.2.1 The Client commissioned Rachel Hacking Ecology to carry out the following works:

- Desk-based study to obtain details of designated sites, protected and notable species within a specified search area.
- Record the extent, type, and condition of habitats within and next to the site.
- Calculate the baseline and post-development biodiversity units.
- Search for signs of protected species and assessment of the potential of habitats and features to support protected and notable species.

1.3 Site Visit Information

Surveyor Details

1.3.1 Beth Mitchell (Junior Ecologist) visited the site on 15th May 2025 to carry out a Preliminary Ecological Appraisal (PEA) and Biological Net Gain (BNG) Assessment of the site. The ecologist has been trained to carry out ecological appraisals and biodiversity net gain assessments.

Weather

1.3.2 The weather at the time of the survey was 13°C with 100% cloud cover and F1 wind.



2. Methods

2.1 Desk Study

- 2.1.1 The Magic website (Multi-Agency Geographical Information for the Countryside) was interrogated for the presence of Statutory Designated Sites (and European Protected Species licences) within a 2km radius of the site
- 2.1.2 The site was checked to determine if it is located within an Impact Risk Zones for any Site of Special Scientific Interest (SSSI) and if so, whether the Local Planning Authority will need to consult Natural England.
- 2.1.3 The Lincolnshire Environmental Records Centre was contacted to provide details of non-statutory designated sites and records of protected and notable species within a 1km radius of the site.

2.2 Field Survey

Extended Phase 1 Habitat Survey

- 2.2.1 In accordance with JNCC guidelines¹ the site was walked over and the habitats and features of ecological interest were mapped and described. Habitats and features of particular interest were target noted.
- 2.2.2 During the walkover habitat and features were assessed for their suitability to support protected and notable species in accordance with CIEEM guidelines². Field signs of protected, notable, and invasive non-native species, if encountered, were mapped, and described.

2.3 Biodiversity Net Gain

- 2.3.1 During the site walkover the ecological condition of each habitat was assessed in accordance with the Defra (2024) guidelines³. Habitat types recorded and mapped during the field survey were converted from the JNCC system to the UK Habitat Classification system⁴.

¹ JNCC (2010). *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. Joint Nature Conservation Committee, Peterborough

² CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal*. Chartered Institute of Ecology and Environmental Management, Winchester.

³ *The Statutory Biodiversity Metric_-_User_Guide_.pdf* (publishing.service.gov.uk)

⁴ Butcher, B., Carey, P., et al. (2020). UK Habitat Classification – Habitat Definitions V1.1. at <http://UKhab.org>

- 2.3.2 Habitat data including type, area (or length), condition and strategic location were uploaded to the Defra Statutory Biodiversity Metric Calculator spreadsheet to determine the baseline value of the site. The extent of any habitats to be retained or enhanced was also entered into baseline worksheets.
- 2.3.3 The post-development masterplan was interrogated to determine areas of hard standing, buildings, and associated infrastructure. New, retained and enhanced habitats were classified and allocated a target condition, based on habitat type, location and management input. This information was uploaded to the metric spreadsheet to obtain a post-development value.
- 2.3.4 The pre- and post-development values were compared to determine whether the yield of biodiversity units achieved a deficit or gain.

2.4 Mitigation Hierarchy

- 2.4.1 Mitigation measures should be embedded within the masterplan design and planning application process. Measures during the construction phases should be included in a Construction Environmental Management Plan: Biodiversity (CEMP). This process from proposal to implementation needs to consider the 'mitigation hierarchy' of avoid, reduce, compensate, and enhance:
- Aim to avoid negative effects through the design process.
 - Mitigate if negative effects cannot be avoided.
 - Use compensation measures to offset residual impacts.
 - Identify and implement opportunities to enhance biodiversity.

3. Results

3.1 Survey Constraints

- 3.1.1 Field survey results are valid for a limited duration and no investigation can provide a complete description and characterisation of a site. The composition of habitats and species can change depending on environmental variables and the mobility of species, so the results of a study become less reliable over time. In some cases, surveys that are 3 years old may be acceptable for a project assuming that habitats have not significantly changed in the intervening period, but for protected species it is likely that survey data will need to be no more than 18 months old.

3.2 Designated Sites

- 3.2.1 The desk study did not return any records for non-statutory sites within the search area and the desk study identified that the site was not located within 2km of any designated sites.
- 3.2.2 The desk study identified that the site was located within the Impact Risk Zone of the Humber Estuary SSSI, but the proposed development will not require the Local Planning Authority to consult with Natural England.

3.3 Habitats

- 3.3.1 Target Notes and photographs are contained in Appendix 3 and the habitats survey plan is contained in Appendix 4. Condition Assessments are provided in Appendix 5.

Grassland

- 3.3.2 An area of modified grassland (TN1) is present in the east of the site. Perennial Rye-grass *Lolium perenne* is dominant with occasional Daisy *Bellis perennis*, Greater Plantain *Plantago major* and White Clover *Trifolium repens*. The modified grassland is in 'poor' ecological condition because there are fewer than six species per square metre and the sward height is uniform.
- 3.3.3 Modified grassland (TN3) is the dominant habitat on-site and in the neighbouring area. Perennial Rye-grass is co-abundant along with Soft Brome *Bromus hordeaceus*, Creeping bent *Agrostis stolonifera*, Red Fescue *Festuca rubra* and Rough Meadow Grass *Poa trivialis*. Meadow Foxtail *Alopecurus pratensis*, Cock's foot *Dactylis glomerata*, Bulbous Buttercup *Ranunculus bulbosus* and Meadow Buttercup *Ranunculus acris* are frequent. Sterile brome *Anisantha sterilis*, Tall Fescue *Schedonorus arundinacea*, Cow parsley *Anthriscus sylvestris*, Creeping Thistle *Cirsium arvense* and Silverweed *Potentilla anserina* are locally abundant. Common Fleabane *Pulicaria dysenterica*, Daisy, Broad-

leaved dock *Rumex obtusifolius*, Soft rush *Juncus effusus* and Common Mouse-ear *Cerastium fontanum* are occasional. An area of Bramble *Rubus fruticosus* agg. is present on the southwest border and along the north of the west boundary fence. The modified grassland is in 'poor' ecological condition because there are fewer than six species per square metre.

Hedgerows

- 3.3.4 A native hedgerow (TN2) is present along the east boundary of the field. Hawthorn *Crataegus monogyna* is dominant with occasional Elder *Sambucus nigra* and Ash *Fraxinus excelsior*. The hedgerow met all condition assessment requirements and is in 'good' ecological condition.
- 3.3.5 A non-native, ornamental hedgerow (TN4) is present along the south boundary of the site. Garden privet *Ligustrum ovalifolium* is dominant with occasional Hawthorn, Elder and Ash. Ornamental hedgerows are allocated 'poor' ecological condition.
- 3.3.6 A native hedgerow (TN6) is present on the west part of the north boundary. Hawthorn and Blackthorn *Prunus spinosa* are dominant. The hedgerow is outside the site boundary and does not have a condition assessment.

Ditch

- 3.3.7 A dry ditch (TN5) is present along the south boundary. Common Nettle *Urtica dioica* and Downy Willowherb *Epilobium parviflorum* are dominant with occasional Cow Parsley, Creeping Thistle and Common Dock. Marsh Marigold *Caltha palustris* and Bluebell *Hyacinthoides non-scripta* are rare.

3.4 Biodiversity Net Gain

- 3.4.1 The baseline area and linear habitat types and values for the site summarised in the tables below. The baseline value of the watercourse was 0.15 units.

Habitat	Area (ha)	Condition	Units
Modified grassland (TN3)	0.2673	Poor	0.53
Modified grassland (TN1)	0.0284	Poor	0.06
Totals	0.30		0.59

Habitat	Length (km)	Condition	Units
Native hedgerow	0.039	Good	0.27
Non-native and ornamental hedgerow	0.037	Poor	0.04
Totals	0.09		0.31

3.5 Species

3.5.1 All desk study records over 25 years old were ignored because they are unlikely to be relevant.

Badger

3.5.2 The desk study returned 12 records of Badger *Meles meles* records within the search area, closest was 0.86km to the east.

3.5.3 No signs of Badger were observed on the site however the grassland provides suitable foraging and dispersal habitat.

Bats

3.5.4 The desk study returned 15 bat records of at least three species, including Common Pipistrelle *Pipistrellus pipistrellus*, Brown Long-eared Bat *Plecotus auritus* and Soprano Pipistrelle *Pipistrellus pygmaeus*. The nearest record for any bat was an individual 0.16km to the southwest of the site. The nearest record of roosting bats was 0.4km to the west.

3.5.5 The grassland and neighbouring arable land, scrub and gardens provide potential foraging and dispersal habitats.

Water Vole

3.5.6 The desk study returned four records for Water Vole *Arvicola amphibius*, the closest 0.78km away.

3.5.7 The ditch is suboptimal for Water Vole because it is dry for the majority of the year. Water Vole are not considered any further in this report.

Other Mammals

3.5.8 The desk study returned no records of Brown Hare *Lepus europaeus* within the search area. The desk study returned one record of Western European Hedgehog *Erinaceus europaeus*, 1.3 km distance.

3.5.9 The grassland and hedgerow habitats provide foraging opportunities and cover for Brown Hare and Hedgehog.

Birds

3.5.10 The desk study returned 113 records of 21 species including Barn Owl *Tyto alba*, Redwing *Turdus iliacus*, Brambling *Fringilla montifringilla* and Black-tailed Godwit *Limosa limosa*. The nearest record within the search area was House Sparrow *Passer domesticus* and Starling *Sturnus vulgaris* both 0.9km away.

3.5.11 During the survey Swallow *Hirundo rustica*, Linnet *Carduelis cannabina*, Song Thrush *Turdus philomelos*, Chiffchaff *Phylloscopus collybita*, Blackcap *Sylvia atricapilla*, Dunnock *Prunella modularis*, Blackbird *Turdus merula*, Skylark *Alauda arvensis*, Goldfinch *Carduelis carduelis*, Wren *Troglodytes troglodytes*, Great Tit *Parus major*, House Martin *Delichon urbica*, Robin *Erithacus rubecula*, Wood Pigeon *Columba palumbus* and Greenfinch *Carduelis chloris* were recorded.

3.5.12 The grassland and hedgerow habitats provide opportunities for foraging, roosting and nesting.



Reptiles

- 3.5.13 The desk study returned no records of reptiles within the search area.
- 3.5.14 The scrub and grassland habitat could provide cover and basking habitat for reptiles, but this habitat is isolated and sub-optimal because of the uniform structure of the grassland. Therefore, reptiles are not considered further in this report.

Amphibians

- 3.5.15 The desk study returned 53 records of amphibians within the search area. 5 records of Common Toad *Bufo bufo* were returned, the closest was 0.82km away. 35 records of Great Crested Newt *Triturus cristatus* were returned, the closest 0.195km away. 13 records of Smooth Newt *Lissotriton vulgaris* were returned, the closest was 0.82km away.
- 3.5.16 The grassland, scrub and hedgerow habitats afford minimal cover and no over-wintering habitat. There is also a lack of breeding habitat on the site. The site is considered to be sub-optimal because of the poor terrestrial habitat and amphibians are not considered any further in this report.

Invertebrates

- 3.5.17 The desk study returned two records for a Shaded Broad-bar Moth *Scotopteryx chenopodiata* and a Cinnabar Moth *Tyria jacobaeae*.
- 3.5.18 The grassland and arable land are unlikely to support any protected or notable invertebrate species due to intensive management and low botanical diversity and so invertebrates are not considered any further in this report.

3.6 Invasive Species

Plants

- 3.6.1 The desk study returned six records of invasive plant species, including Wall Cotoneaster *Cotoneaster horizontalis* and False-acacia *Robinia pseudoacacia*. However, no invasive plant species were noted during the field study and so invasive plant species are not considered any further in this report.

Animals

- 3.6.2 The desk study returned six records of *Crangonyx pseudogracilis/floridanus* and one record of Chinese Mitten Crab *Eriocheir sinensis* within the search area. Suitable habitat is not present for either species. No invasive animal species were noted during the field study and invasive animal species are not considered any further in this report.



4. Assessment

4.1 Development Context

4.1.1 The following assessment assumes that five residential buildings and associated hard and soft landscaping will be created, see Figure 3.

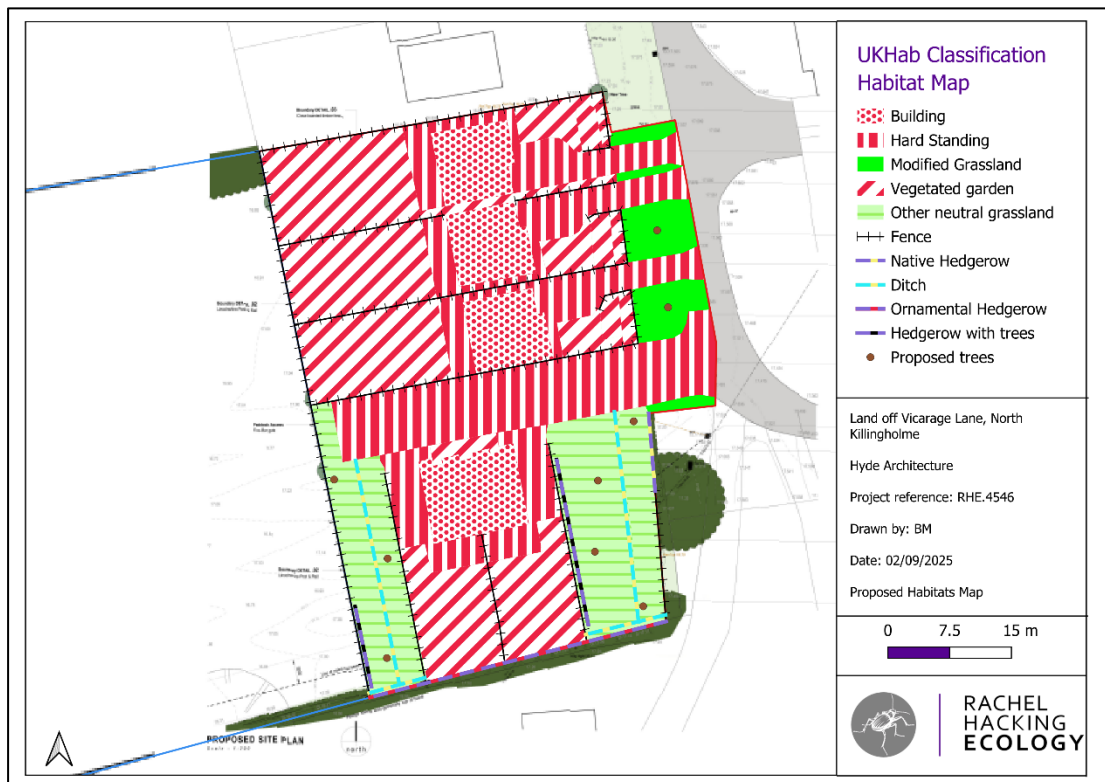


Figure 3. Proposed development and habitat creation on the site.

4.2 Impacts on Habitats

4.2.1 This section evaluates and describes potential impacts and assesses ecological effects on habitats that are within the study area.

Grassland

4.2.2 The modified grassland habitats (TN1 and 3) will be lost and without mitigation the loss of this habitat will have an adverse impact, but only at site level of ecological value because this habitat is common in the local area.

Hedgerows

- 4.2.3 A portion of native hedgerow TN2 is proposed for removal. Without mitigation, this will have an adverse impact at a site level of ecological value because the habitat is common in the local area.

Ditch

- 4.2.4 A portion of the ditch (TN5) is proposed for removal. Without mitigation this will have an adverse impact, but only at a site level of ecological value because the ditch is in poor condition.

4.3 Biodiversity Net Gain

- 4.3.1 Achieving 10% BNG is now a mandatory requirement for most developments in England under the Town & Country Planning Act 1990.
- 4.3.2 The baseline values within the redline development is 0.59 area units, 0.31 linear units and 0.15 watercourse units.
- 4.3.3 Table 3 provides a summary of the post-development area habitat units, Table 4 provides a summary of the post-development linear habitat units and Table 5 provides a summary of the post-development watercourse units for the site.

Habitat	Area (ha)	Condition	Value
Modified grassland	0.014	Poor	0.03
Developed land; sealed surface	0.1266	NA	0.00
Vegetated garden	0.1031	NA	0.20
Other neutral grassland	0.0519	Moderate	0.35
Individual tree (x10)*	0.0366	Poor	0.12
Totals	0.30		0.69

* Not included in total area measurements

Habitat	Length (km)	Condition	Value
Native hedgerow with trees	0.024	Good	0.16
Native hedgerow with trees	0.011	Good	0.07
Native hedgerow TN2 (retained)	0.0095	Good	0.07
Ornamental hedgerow TN4 (retained)	0.037	Poor	0.04
Totals	0.09		0.34

Habitat	Length (km)	Condition	Value
Ditches (new)	0.05339	Poor	0.13
Ditch TN5 (retained)	0.017	Poor	0.07
Totals	0.0704		0.20

4.3.4 Overall, there is a net gain of 0.10 area habitat units (+16.90%), 0.03 linear habitat units (+10.88%) and a net gain of 0.05 watercourse habitat units (+35.83%). Therefore, the proposed development will be compliant with Biodiversity Net Gain legislation and policy.

4.4 Impacts on Species

Badger

4.4.1 The presence of Badger is not anticipated, but during the construction phase Badger can be attracted to development sites because of topsoil heaps and open excavations, which provide foraging opportunities. Without mitigation, construction sites can cause harm to Badger because of risk of entrapment and injury.

Bats

4.4.2 A bat roost may be any structure a bat uses for breeding, resting, shelter or protection. It is important to note that since bats tend to re-use the same roost sites, current legal opinion is that a bat roost is protected whether or not the bats are present at the time.

4.4.3 Loss of modified grassland and trimmed hedgerow habitats could reduce foraging habitat, but such habitats are likely to be of low value because of limited invertebrate abundance. The development of residential properties on-site could alter flight lines across the site. Increased levels of artificial lighting during and after development could have the potential to have an adverse effect on bat foraging on and adjacent to the site without mitigation.

Other mammals

4.4.4 Loss of grassland habitat could reduce the foraging habitat of Brown Hare and Hedgehog, but suitable habitat is abundant in the local area and the loss is relatively small. Hedgehog, like Badger, can also be attracted to spoil heaps and open excavations for foraging. Therefore, there is a potential for an adverse impact on Hedgehog without mitigation.

Birds

4.4.5 Without mitigation, the loss of habitat could have an adverse impact on foraging and nesting birds, but the extent of habitat loss will be relatively small and some of the birds observed during the site visit will be able to forage and nest in the new gardens.

5. Recommendations

5.1 Mitigation and Enhancement Measures

5.1.1 Mitigation measures to protect, maintain and enhance ecological features during the operational phase of development will be described in a Habitat Management & Monitoring Plan (HMMP). Management Plans will contain Operational Aims and Objectives, Rationale for management, Prescriptions and schedules detailing the timing and responsibility for delivering the prescriptions. It is anticipated that the HMMP will be provided as a planning condition in advance of the commencement of the proposed development.

Habitats

5.1.2 Protect the retained lengths of hedgerow (TNs 2, 4 and 6) during construction by the installation of exclusion fences and storing construction materials and equipment away from the hedgerows.

5.1.3 Part of the site will be sown with a wildflower-grass (other neutral grassland) seed mix (Naturescape N1⁵ or Emorsgate EM1⁶). The substrate will be subsoil cultivated to a fine tilth. The sward will be managed by mowing one-two times annually with removal of cuttings. The target condition will be moderate (Criteria A, B, D and E).

5.1.4 Ten individual trees (feathered half-standards) will be planted on the site, eight on the other neutral grassland and two on a roadside verge of modified grassland. New trees will be native and if feasible berry bearing to benefit native bird and invertebrate species. Species are five Whitebeam *Sorbus aria* and five Silver Birch *Betula pendula*. Each tree will be staked and protected with individual tree guards. They will be subjected to five years of aftercare and any dead, dying or diseased trees will be replaced. The crowns of each tree will be high-pruned to allow light to the grassland below. The target condition for the trees will be poor.

5.1.5 A 40m length of native hedgerow with trees will be planted (five trees per metre in a staggered row of 0.25 apart). The hedgerow will contain Hawthorn (70%), Blackthorn (15%) and Dogwood *Cornus sanguinea* (15%). Two Field Maple *Acer campestre* will be planted. Trees and shrubs will be individually protected and supported for five years. Dead dying and diseased specimens will be replaced. Target condition is moderate including criteria A1, A2, B1, B2, C1, C2, D1 and E2.

⁵ <https://www.naturescape.co.uk/product/n1-general-purpose-meadow-mixture/>

⁶ <https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/basic-general-purpose-meadow-mixture/>



- 5.1.6 Two new trapezoidal ditches will be created. They will be dry most of the time. The base of the ditch will be sown with a wildflower-grass seed mix for wetlands (Emorsgate EM8⁷). The target condition of the ditch will be poor because it will be dry.

Badgers

- 5.1.7 To ensure that badger and any other mammals are not trapped or harmed during the construction work, smaller excavations will be covered if left overnight. Larger excavations, if left overnight or for longer periods, will be ramped to enable animals to escape.

Other mammals

- 5.1.8 Gaps (15cm x 15cm) will be created in the base of each garden fence to enable Hedgehog to travel without hindrance.

Bats

- 5.1.9 Inclusion of bat bricks⁸ on the new properties, if suitable, will provide roosting opportunities. Bricks need to be installed on south, east or west facing walls as high as is feasible and away from windows. If bricks are not suitable consider attaching external wooden bat boxes⁹.
- 5.1.10 A lighting plan may be required to demonstrate that there will be no additional lighting during and after the construction phase other than what is essential for security. If additional lighting is required, it will need to be directional and with minimal lux levels to minimise impacts on foraging bats.

Nesting Birds

- 5.1.11 Impacts on nesting birds should be avoided by carrying out site clearance and similar operations outside of the bird breeding season (March- August). Construction activities that might directly impact upon breeding birds should hence be limited to the September-February period. If vegetation has to be cleared during the bird breeding season checks immediately before clearance by a suitably qualified ecologist will be required. If nesting activity is detected work in that area will need to stop until the ecologist considers that nesting activity is finished.
- 5.1.12 If the new buildings are suitable nesting bricks for House Sparrow *Passer domesticus*¹⁰ and Swift *Apus apus*¹¹ will be installed on 50% of the properties. South-facing walls should be avoided and nesting bricks need to be placed high up on the wall and away from windows.

⁷ [EM8 Meadow Mixture for Wetlands - Emorsgate Seeds](#)

⁸ <https://www.birdbrickhouses.co.uk/products/bat-brick-houses/>

⁹ [Bat Boxes | Practical Conservation Equipment | NHBS](#)

¹⁰ [Brick Nesting Boxes For Birds - Integrated Bird Habitats \(birdbrickhouses.co.uk\)](#)

¹¹ [Swift Bricks - Cheap & Easy! \(swift-conservation.org\)](#)

Appendix 1: Planning Policy & Legislation

National Policy

The National Planning Policy Framework (NPPF 2025) describes the Government's planning policy for England and how it should be applied. Within this framework, the requirements in relation to biodiversity are included within several policies. The two most relevant to individual planning decisions are Paragraphs 187 and 193, shown below:

- 187. Planning policies and decisions should contribute to and enhance the natural and local environment by:
 - a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
 - c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
 - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;
 - e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
 - f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.
- 193. When determining planning applications, local planning authorities should apply the following principles:
 - a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;



- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Legislation

The Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) includes the notification and confirmation of Sites of Special Scientific Interest (SSSIs). SSSIs can be notified for their floral, faunal, geological, or physiographical features. Protection against damaging operations and management of SSSIs is also included within the Act. Impact Risk Zones (IRZs) are zones around an SSSI account for the particular sensitivities of the features for which it is notified and identify development proposal which could have adverse impacts.

The Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) protects native animals, plants and habitats. Under the Act it is an offence to intentionally kill, injure or take any wild animal listed on Schedule 5 and it is an offence to interfere with places used for shelter or protection, or intentionally disturb animals occupying such places. The Act prohibits picking, uprooting or destroy any wild plant (or any attached seed or spore) listed in Schedule 8.

European Protected Species (EPS) such as bats, Hazel Dormouse, Otter, Natterjack Toad, Smooth Snake, Sand Lizard and Great Crested Newt are protected by the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000) and the Conservation of Habitats and Species Regulations 2017. The Acts make it an offence to:

- a) Deliberately capture, injure or kill an EPS;
- b) Deliberately impair an EPS's ability to survive, breed, reproduce, rear or nurture young; to hibernate or migrate; or significantly affect the local distribution or abundance of the EPS.



- c) Possess or control live or dead EPS or any part of, or anything derived from a EPS;
- d) Damage or destroy a breeding site or resting place of an EPS;
- e) Intentionally or recklessly obstruct access to any place that is used for shelter or protection by an EPS;
- f) Intentionally or recklessly disturb a structure or place that it uses for shelter or protection that is occupied by an EPS.

All common herptiles are protected under the Wildlife and Countryside Act 1981 (as amended by the CRoW Act 2000). Grass Snake, Slow Worm, Common Lizard, Adder are protected against intentional killing or injury. Common Frog, Common Toad, Smooth Newt and Palmate Newt is protected against sale. In addition, all British reptiles, Common toad and Great Crested Newt are listed as Species of Principal Importance.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally kill, injure or take any wild bird or take, damage, or destroy its nest whilst in use or being built, or take or destroy its eggs. It is an offence to intentionally or recklessly disturb a species listed on Schedule 1 of the Act while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young.

The Protection of Badgers Act 1992 makes it an offence to wilfully, or to attempt to kill, injure, take, possess or cruelly ill-treat a Badger, or intentionally or recklessly interfere with a sett. Interference of a sett includes disturbing badgers during occupation of a sett, or damaging or destroying a sett, or obstructing access to the sett.

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on every public authority to have regard to conserving biodiversity. Section 41 of the same Act requires the Secretary of State to publish a list of the living organisms and types of habitats that are of 'Principal Importance' for the purpose of conserving biodiversity. The Secretary of State must take steps, as appear reasonably practicable, to further the conservation of those living organisms and habitats in any list published under this section. The list of species and habitats of principal importance currently includes 943 species and 56 habitats. These are the species and habitats found in England which are regarded as conservation priorities under the UK Post-2010 Biodiversity Framework

The Hedgerows Regulations 1997 protect 'important' hedgerows from destruction or damage. A hedgerow is 'important' if it (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. Under the Regulations, it is against the law to remove or destroy 'important' hedgerows unless permitted by the local planning authority.



The Environment Act 2021 makes it mandatory for housing and development, subject to some narrow exemptions, to achieve at least a 10% net gain in value for biodiversity – a requirement that habitats for wildlife must be left in a measurably better state than before the development. Developers must submit a ‘biodiversity gain plan’ alongside usual planning application documents. The local authority must assess whether the 10% net gain requirement is met in order to approve the biodiversity gain plan.

The Environment Act 2021 strengthens the duty on public authorities (NERC Act, 2006) to have regard to the conservation of biodiversity.



The Environment Act 2021 amends the Wildlife and Countryside Act 1981 to introduce an additional purpose for granting a protected species licence in relation to development, ‘for reasons of overriding public interest’, and two additional tests for the granting of such licences: that there is ‘no other satisfactory solution’ and that granting the licence is ‘not detrimental to the survival of any the population of the species concerned’. These changes will reduce the scope for unlicensed activities to provide clear safeguards before licences can be granted, providing legal certainty and clarity to developers about their environmental obligations.


Appendix 2: Desk Study

The report includes a summary of the species records that were made available. Should wish to see further details please submit a written request to Rachel Hacking Ecology. We will contact the client to ask permission to share the data.



Appendix 3: Target Notes

Reference No.	Habitat	Photograph
1	Modified grassland	
2	Native hedgerow	
3	Modified grassland	
4	Ornamental hedgerow	
5	Ditch	

6	Native hedgerow (outside site boundary)	
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Appendix 4: Plans



Appendix 5: Condition Assessments

Condition Assessment – Modified grassland		Criterion passed (Yes or No)	
		TN1	TN3
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	No	No
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No	Yes
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present).	Yes	Yes
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	Yes
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	Yes	Yes
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes	Yes
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	Yes	Yes
Essential criterion achieved (Yes or No)		No	No
Number of criteria passed		5	6

Condition Assessment – Ditch (TN5)		Criterion passed (Yes or No)
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	No
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	No

Condition Assessment – Ditch (TN5)		Criterion passed (Yes or No)
C	There is less than 10% cover of filamentous algae and or duckweed Lemna spp. (these are signs of eutrophication).	Yes
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	No
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	Yes
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	No
G	Less than 10% of the ditch is heavily shaded.	No
H	There is an absence of non-native plant and animal species ¹ .	Yes
Number of criteria passed		3

Condition Assessment – Hedgerows				Criterion passed (yes/ no)	
				TN2	TN8
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.	Yes	Yes
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.	Yes	Yes
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its	Yes	Yes

Condition Assessment – Hedgerows				Criterion passed (yes/ no)	
				TN2	TN8
			distance from the ground to the lowest leafy growth.		
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).	Yes	Yes
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow.	Yes	Yes
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	Yes	Yes
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes).	Yes	Yes

Condition Assessment – Hedgerows				Criterion passed (yes/ no)	
				TN2	TN8
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.	Yes	Yes
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient ⁸), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	NA	No
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	NA	Yes
Number of criteria passed				8	9