Pendle Road, Clitheroe

Preliminary Ecological Appraisal Report

Report Ref. ER-8455-01C

18/12/2025

Richborough Estates

Report reference	**ER-8455-01C – Preliminary Ecological Appraisal Report**
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Date	18/12/2025
Report duration	In accordance with CIEEM (2019), unless otherwise stated the findings of this report remain valid for a period of 18 months. After this period advice should be sought on the scope of any updating work required.

Amendment	Date	Author	QA	Summary of changes
ER-8455-01A	16/12/2025	JAR	BC	Updated site boundary to P25-2353_DE_001-01A
ER-8455-01B	17/12/2025	JAR	RB	Updates to further survey recommendations
ER-8455-01C	18/12/2025	JAR	RB	Updates to paragraphs 39 and 101

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Summary

This report is produced to inform Richborough Estates of potential ecological constraints associated with their proposed development Site and the need for further reporting or output to support a planning application.

This report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in September 2025.

Key Findings

The Site is a significant area of pastoral farmland with peripheral scrub, hedgerows, individual mature and young-mature trees, and a stream, and adjacent mapped ancient woodland. It is of generally low ecological value, with higher-value features focused on the field boundary hedgerows and riparian corridor.

Potential veteran trees and ancient woodland have been identified which would act as absolute constraints to development; further survey to confirm their status is recommended. The retention of established trees and hedgerows, and a designated riparian corridor free of development, is also recommended.

Biodiversity Net Gain

Details on measurement of the Site's biodiversity and the implications of complying with the requirement to provide a net gain for biodiversity are provided in our separate report ER-8455-03B.

Further surveys

A River Condition Assessment (RCA) of Shaw Brook where it flows through the Site was conducted in September 2025. Findings are presented in our separate report ER-8455-02B.

Further surveys have been recommended for veteran trees, woodland ground flora, summer and winter bat roosting, bat activity, riparian mammals, breeding birds, reptiles, great crested newt, and white-clawed crayfish.

Introduction

1. Brooks Ecological Ltd was commissioned by Richborough Estates to carry out a Preliminary Ecological Appraisal (PEA) of land at Pendle Road, Clitheroe, grid ref. SD753410. The survey includes land within the red line boundary shown in Figure 1, opposite. The client has provided a Site area of 8.92ha, but the Site area has been measured using GIS against the provided red line boundary as 8.93ha. For the purposes of Metric calculations, this second measurement will be used.
2. This report is produced with reference to British Standard BS:42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.

Purpose of a PEA

3. A PEA is an *initial assessment* of the baseline for a proposed development Site and establishes whether the Site is likely to be constrained by ecology, and whether more information is needed to identify the ecological baseline.
4. The subsequent Preliminary Ecological Appraisal Report (PEAR) is intended to give guidance to a developer and assist with the early stages of project planning and design. Where a Site is not complex or constrained, and no additional ecological input is necessary, the PEAR *may* be sufficient and suitable to support a planning application.
5. Biodiversity Accounting metrics are used separately to quantify the value of a site in Biodiversity Units, which helps in the later stage of assessing the ecological impacts of the proposed development. This process is set out separately in the Biodiversity Gain Report which accompanies this PEAR.

Proposals/Reason for PEA

6. The PEA has been commissioned to inform proposals to develop this Site for housing.

The site

7. The application site 'the Site' comprises a series of agricultural fields off Pendle Road, Clitheroe.

Figure 1 The Site (red line boundary).

Desk Study

Landscape

8. The Site is located on the eastern edge of Clitheroe, c. 1km from the town centre, on the western slope of Pendle Hill. It is bound by Pendle Road to the south, by access roads to the east and west, and by agricultural fields to the north.

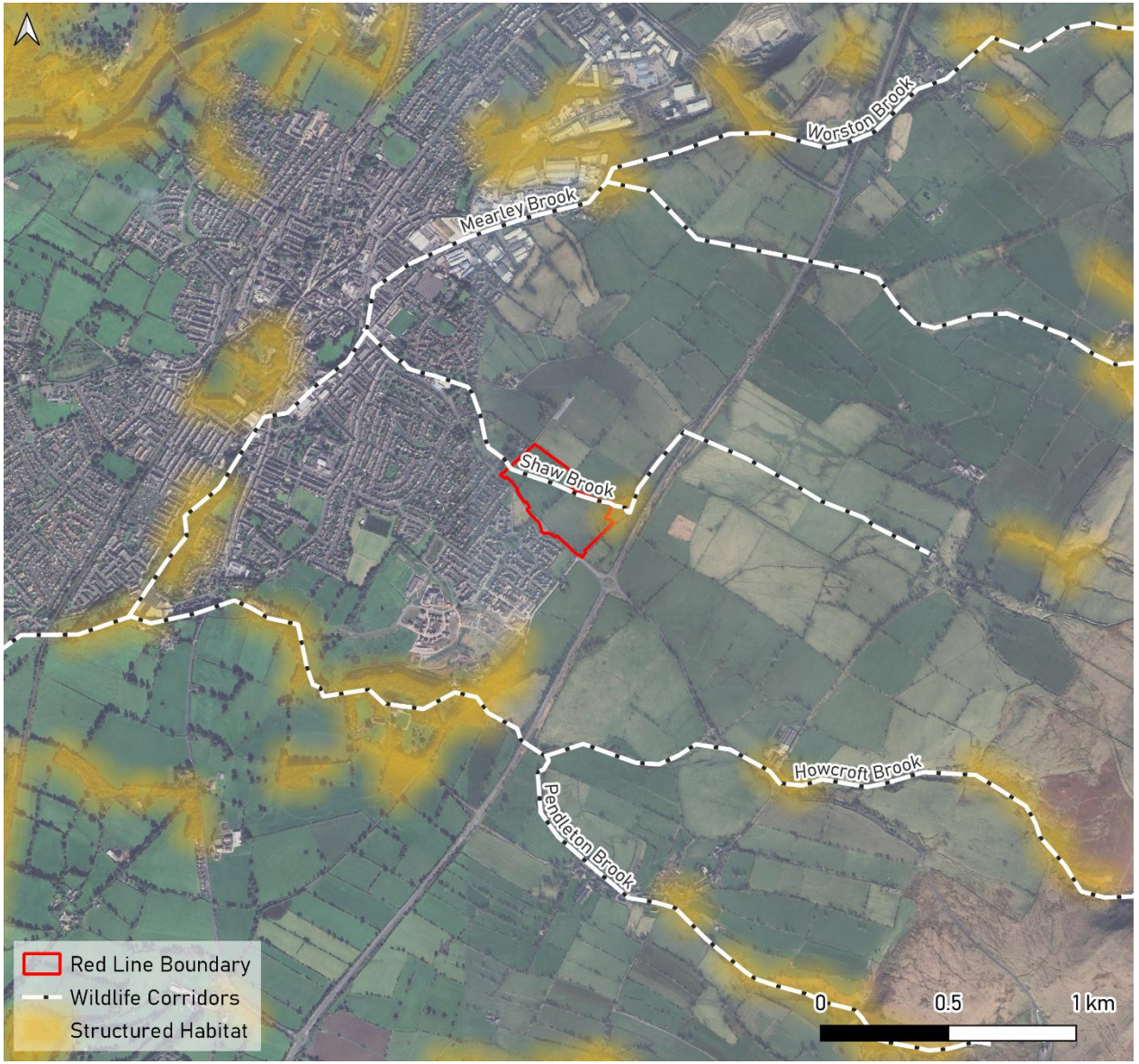
9. The Site overlies mudstones of the Hodder Mudstone Formation, with superficial deposits of Devensian diamicton till. This gives rise locally to a range of slowly-permeable acid soils, and may have an impact on the species and habitats present on-Site.

Wildlife Corridors

10. A stream, Shaw Brook, flows east to west through the Site, linking to the network of small streams and ditches on Pendle Hill to the east, and flowing into Mearley Brook c. 770m northwest of the Site. This further links the Site to the network of streams flowing off Pendle Hill, including Worston Brook to the north, and Howcroft and Pendleton Brooks to the south, alongside numerous smaller watercourses.

11. The landscape is largely agricultural to the north and south, rising to heathland on Pendle Hill to the east, with the development of Clitheroe lying to the west. There are numerous small patches of woodland throughout the landscape, to which the Site is tenuously linked by the network of streams.

Figure 2 Analysis of wildlife corridors and structured habitat visible on mapping in relation to the Site.



Designations

12. The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

Statutory Designations

13. A search has been made to identify any nationally designated sites within a 2km radius of the Site, or internationally designated sites within a 10km radius. The results are shown in the below table.

Table 1 Statutory Designated sites.

site Name	Distance from site	Designation	Summary Interest
Salthill and Bellmanpark Quarries	1.1km N	Site of Special Scientific Interest (SSSI)	Geological interest.
Salthill Quarry	1.1km N	Local Nature Reserve (LNR)	Early successional communities, woodland, butterflies and birds.
Coplow Quarry	1.8km N	SSSI	Geological interest.

14. The Site is separated from these designations by the developed land of Clitheroe. Direct and indirect impacts on these sites as a result of this development are unlikely.

SSSI Impact Risk Zones (IRZs)

15. The Site lies within the 3km IRZs for the Little Mearley Clough, Light Clough, and Hodder River Section SSSIs, but does not fall into any of the highlighted categories which require the LPA to consult with Natural England in relation to potential impacts.

Non-Statutory Designations

16. There are eight Biological Heritage sites (BHSs) in the search area. Of these, two are of potential relevance to the application:

    - Pendle Hill, c. 1.6km SE, which is designated partly for ornithological interest. The Site may form functionally linked land for some listed species, such as skylark and wheatear.
    - Primrose Lodge, c. 1km W, lies downstream of the Site and is linked by watercourses. Measures should be implemented to prevent the pollution of Shaw Brook on-site and its downstream courses.

17. Direct and indirect impacts on all remaining sites as a result of this development are unlikely due to the Site's separation and distance.

Nature Improvement Area

18. The Site is not within any Nature Improvement Area.

Wildlife Habitat Network

19. The Site is not within any mapped Wildlife Habitat Network.

Granted EPSM Licences

20. There are two granted European Protected Species Mitigation (EPSM) licences shown within 2km of the Site:

    - 2018-34104-EPS-MIT, permitting the destruction of a common and soprano pipistrelle resting place, and damage of these bats' breeding place, from 2018-2023, c. 1km southwest.
    - 2018-33818-EPS-MIT, permitting the destruction of a common and soprano pipistrelle breeding and resting place from 2018-2028, c. 1.7km north.

Mapped Ancient Woodland and Trees

21. Ancient Replanted Woodland (ARW) is mapped immediately off-Site to the northeast. This was surveyed as part of the PEA and is discussed in detail in the previous version of this report. Measures should be taken to prevent negative impacts to this area during the course of works and Site operation.
22. A single veteran tree record is returned, of a beech in central Clitheroe c. 1km NW. Given its distance and separation, this is of no relevance to this application.

Mapped Priority Habitat

23. There is one area of mapped Priority Habitat within influencing distance of the Site, this being deciduous woodland off-Site to the immediate northeast.

Figure 3 Ancient woodland mapped within influencing distance of the site.

Survey

24. The survey was carried out during September 2025[1] and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010).

25. Survey was conducted outside of the main growing season and the nature of the habitats encountered here – specifically the areas of woodland – means that additional seasonal survey will be required to confirm the assessment made here – see later recommendations.

26. Enough time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.

27. Whilst the majority of the Site was accessible, at least 5% of the Site was inaccessible due to very dense vegetation, which could not be closely inspected. This could have concealed invasive species or protected species evidence.

28. Updates were made to reporting relating to this Site in December 2025, based on changes to the red line boundary. It was not possible to carry out a survey of areas added to the site boundary due to submission timescales; these areas have been assessed precautionarily based on Google Street View imagery. An updating survey will be required to confirm the habitats and conditions of these areas.

Habitat Appraisal

29. The Site's habitats are described in order on the following pages. In line with the requirement to provide information on Biodiversity Net Gain (BNG), habitats are named in accordance with the UK Habitats classification system. We have used the UK Habitats v2.01 guidance in identifying habitats. Habitat descriptions are divided into the 'distinctiveness' categories used in the calculations presented in the Biodiversity Gain Assessment, with more weight being afforded the more distinctive/important habitats.

30. Generally, the following apply to each tier of distinctiveness, although some authorities might highlight some lower distinctiveness habitats as having a higher importance locally. Where relevant we have highlighted these.

Very Low Distinctiveness Habitats

31. Habitats of little or no habitat value, i.e., lacking any significant native vegetation, but could still provide supporting habitat for protected or notable fauna such as birds or bats. In the context of BNG, their areas are included in calculations, but mitigation or compensation is not required.

Low Distinctiveness Habitats

32. Habitats which are ubiquitous, often which have been created or modified intentionally. They tend to lack diversity of species and structure. They are unlikely to support notable flora but could still provide supporting habitat for protected or notable fauna. In the context of BNG, they are included in calculations, but compensation/mitigation needs only to provide habitat of similar or higher distinctiveness.

Medium Distinctiveness Habitats

33. Habitats which are common but provide a higher level of structural and species diversity. Though unlikely to support more notable assemblages, species of interest could be present here and they are more likely to be important supporting habitat to fauna. In the context of BNG, mitigation needs to provide habitat of the same broad habitat type, or that of higher distinctiveness.

High Distinctiveness Habitats

34. Habitats which are more natural and contain more important assemblages of plants and potentially species which are rare in their own right. They will provide good habitat for fauna. These habitats are likely to be targeted as conservation priorities and will be the subject of additional policy guidance or legislation. In the context of BNG, whilst mitigation or compensation for loss or damage is possible, provision of more of the same type of habitat would be required, which (with a few exceptions) is likely to be difficult.

Very High Distinctiveness Habitats

35. These are the UK's rarest/best habitats. They will be present in very particular locations and a range of rare or important plant and animal species will depend on the particular conditions they provide. These habitats will be the subject of restrictive policy guidance or legislation. Whilst the BNG metric does not preclude mitigation or compensation in respect of these habitats, creation of the same habitat type would be required, and this would range between very difficult/expensive and impossible.

Irreplaceable Habitats

36. These are habitats of high biodiversity value, which are so difficult to recreate that it would be impossible to achieve the requirement to increase biodiversity on top of no net loss. These habitats have significant protection in the NPPF; any impacts from development require a strong justification and will flag as unacceptable in the Biodiversity Metric. Bespoke compensation for any loss of these habitats must be agreed with the LPA.

[1] This Report has been prepared during October 2025 following a visit to the site in September 2025, and our findings are based on the conditions of the site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation, or deviation from the site conditions which affect the conclusions set out in this report.

Habitats of Low/Very Low Distinctiveness

Figure 4 Approximate location and extent of these habitats.

Table 2 Summary – Habitats of Low/Very Low Distinctiveness.

UK Habitats	Label Ref	Summary Description
Developed land	U2, U4, U4, U6	Areas of tarmacadam road, as appears on satellite mapping; these areas will require updating survey to confirm the habitat type.
Artificial unvegetated	U1, U5	Two areas of roadside gravel, as appears on satellite mapping. These areas will require updating survey to confirm the habitat type.
Modified grassland	G1-4	Four modified grass fields in the northwestern part of the Site, all with similar compositions and apparently similar management regimes. The swards are uniformly lush and thick, dominated by creeping bent and Yorkshire-fog (both 'frequent' overall), with occasional red fescue. Cock's-foot and perennial rye-grass occur rarely overall, but may be up to frequent in individual fields. A range of common forbs occur at low densities, including creeping and meadow buttercups, mouse-ear chickweed, ragwort, broad-leaved dock, nettle, common hogweed, creeping thistle, and speedwell. Hard rush occurs occasionally in damper patches in the southern corner of G4. Average species richness is 4 (3-6) species per square metre.
	G5	The downstream fringes of Shaw Brook support unmanaged modified grassland with a dense sward, dominated by false oat-grass and cock's-foot, with abundant red fescue, creeping bent, and hard rush. Forbs typical of wetland and/or high nutrient situations are present, including abundant meadowsweet and nettle, frequent common hogweed and cleavers, and occasional broad-leaved dock, red campion, willowherbs and creeping thistle. Average species richness is 3 (2-4) species per square metre.
	G6	The field in the Site's southeastern end, with some areas heavily sheep-grazed and others less so, but with no rank grass. The sward is dominated by perennial rye-grass, with creeping bent frequent, red fescue occasional, and Yorkshire-fog and sweet vernal-grass rare. A wide range of forbs occur, including mouse-ear chickweed, sorrel, broad-leaved dock, creeping and meadow buttercups, dandelion, white clover, silverweed, creeping cinquefoil, and creeping thistle. Wetter areas on the northern edge towards Shaw Brook also support occasional to rare meadowsweet, marsh thistle, branched bur-reed, and yellow flag. Average species richness is 4 (4-7) per square metre. While a single *Entoloma* sp. fungus was recorded in G6, it is considered unlikely that the site supports waxcap grasslands given its historical and current agricultural use.
	G10	A small area of well-maintained roadside verge on the Site's southwestern border. This is assumed to be modified grassland based on the apparent tight mowing regime on Google Street View; updating survey will be required.

Figure 5 G1.

Figure 6 G2.

Figure 7 G3.

Figure 8 G4.

Figure 9 G5.

Figure 10 G6.

Habitats of Medium Distinctiveness

Figure 11 Approximate location and extent of these habitats.

Table 3 Summary of Medium Distinctiveness habitats.

UK Habitats	Label Ref	Summary Description
Other neutral grassland	G7	Grassland in the southeastern part of the Site, surrounding Shaw Brook. Much of the ground here is waterlogged, supporting abundant growth of hard-rush, yellow flag and meadowsweet alongside grasses typical of the rest of the field, including perennial rye-grass, red fescue, and Yorkshire-fog. Average species richness is 9 (7-10) per square metre.
	G8-9, G11-12	Grass road verges on the Site's southern boundaries. From Google Street View this appear to be irregularly mown and may represent better-quality habitat. Updating survey will be required to confirm habitat and condition assessments.
Hawthorn scrub	S1	A small patch of scrub surrounding a single, young-mature ash tree on the north bank of Shaw Brook. Dominated by hawthorn, also including dog rose and ivy.
Mixed scrub	S2	Scrub on the northern boundary of the upstream half of Shaw Brook, possibly originating from an outgrown hedgerow. A wide variety of woody understorey species are present, including crab apple, hawthorn, field rose, hazel, blackthorn, and grey willow, alongside more established trees including ash, wych elm, sycamore, and alder. The field layer is primarily forbs, including bramble, ivy, wood avens, nettle, sorrel, flag iris, fool's watercress, great willowherb, and common hogweed, with some cock's-foot mixed in.

Figure 12 S1.

Figure 13 S2.

Figure 14 S2.

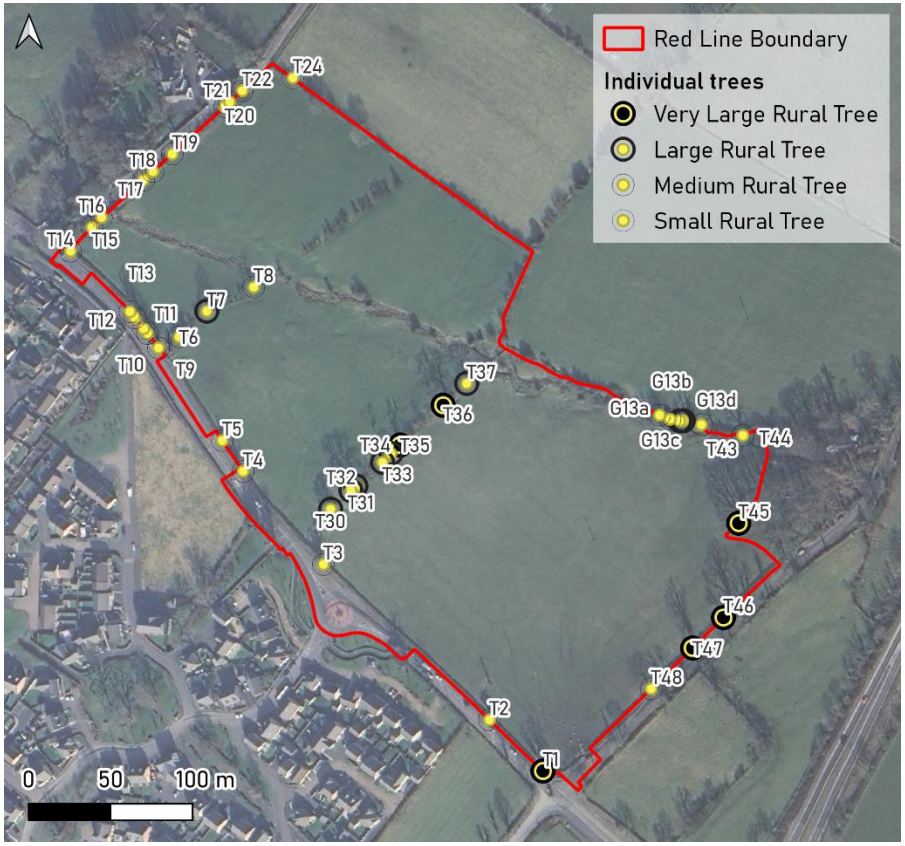
Figure 15 G7.

Figure 16 G7.

Figure 17 G7.

Trees

Figure 18 Approximate location and extent of these habitats.



37. Several of the trees included here support features consistent with categorisation as veteran trees. This is discussed in the *Ancient or veteran trees* section, below; further survey is recommended to determine their veteran status, as this could have significant impacts on BNG and the Site layout.

Table 4 Summary – trees.

UK Habitats	Label Ref	Summary Description
Rural trees	T1-5, T9-14, T24, T30, T43-44, T46-48, G13a-d	Individual trees across the Site, including those within hedgerows not mapped as 'hedgerows with trees'. Species include alder, ash, and sycamore. Additional discussion of possible veteran trees is presented below.
	T45	A single, very large sycamore of possible veteran status just off-Site to the northeast. Due to its potential veteran status, an enlarged root protection zone may be required.
Rural trees (within 'hedgerow with trees')	T6-8, T15-22, T31-37	Medium-sized and larger individual trees within 'hedgerows with trees' H01, H03 and H08 (see overleaf). For BNG purposes, if these are to be retained, their value is set to 0 Habitat Units; if lost, their individual value must be accounted for, alongside that of the hedgerow. Species include alder, ash, oak, and sycamore.

N.B. – codes used here to refer to trees align with those in SEED Arboricultural Consultants' Tree Schedule ref. 2052-TS-V1-A (September 2025).

Figure 19 G13.

Figure 20 T43.

Figure 21 T10-13.

Figure 22 T46 (rear), T47 (fore).

Hedgerows

Figure 23 Approximate location and extent of these habitats.

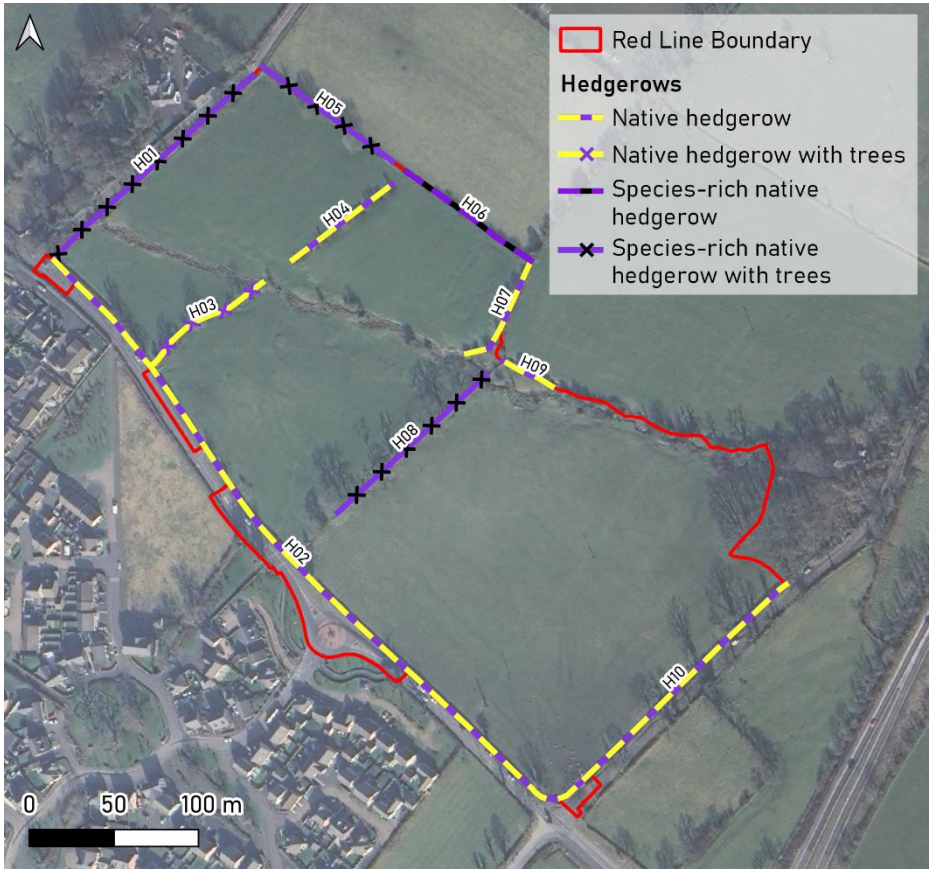


Table 5 Summary – hedgerows.

UK Habitats	Label Ref	Summary Description
Native hedgerow	H02	A heavily-pruned hedgerow along the southwestern field boundaries with Pendle Road, dominated by hawthorn and blackthorn, with bramble, dog rose, hazel, and elder also present, and ash standards.
	H04	A sparse hedgerow separating G1 and G2, composed entirely of hawthorn.
	H07	A hedgerow along the eastern boundary of G2, dominated by hawthorn with occasional elder, and some ivy.
	H09	A hawthorn-dominated hedgerow north of Shaw Brook, also containing holly, elder, and ivy.
	H10	A young hedgerow along the Site's southeastern boundary, composed entirely of hazel and blackthorn.
Native hedgerow with trees	H03	A hawthorn hedgerow separating G3 and G4, with three ash standards. Averages one tree per 28m.
Species-rich native hedgerow	H06	A hedgerow on the Site's northeastern boundary, dominated by hawthorn and blackthorn, also containing elder, dog rose, and bramble.
Species-rich native hedgerow with trees	H01	A hedgerow on the Site's northwestern boundary, containing dog rose, hawthorn, hazel, crab apple, bramble, ivy, blackthorn, and holly, alongside trees including alder, sycamore, and wych elm. Averages one tree per 25m.
	H05	A hedgerow on the Site's northeastern boundary, composed of hawthorn, elder, dog rose, blackthorn, and bramble, with multi-stem ashes acting as trees. Averages one tree per 12m.
	H08	A hedgerow running through the centre of the Site, containing hawthorn, elder, beech, plum, field maple, and holly, with ash and one oak standards. Averages one tree per 17m.

Figure 24 H01.

Figure 25 H02.

Figure 26 H03.

Figure 27 H04.

Figure 28 H05.

Figure 29 H06.

Figure 30 H07.

Figure 31 H08.

Figure 32 H09.

Figure 33 H10.

Watercourses

Figure 34 Approximate location and extent of these habitats.

Table 6 Summary – watercourses.

UK Habitats	Label Ref	Summary Description
Other rivers and streams	R1 R2 R3	A stream (Shaw Brook) flowing southeast-northwest through the Site, from Pendle Hill c. 3km east to Mearley Brook c. 770m west, and eventually into the River Ribble c. 3km southwest. R1 refers to the upstream (eastern) section, R2 to the central section, and R3 to the downstream (western) section. The stream banks are well-vegetated, with slower-flowing sections supporting abundant yellow flag alongside branched bur-reed, cuckooflower, brooklime, and fool's watercress. Faster-flowing sections are generally devoid of in-channel vegetation, with sediment ranging from cobble-sized to sand. Both banks are heavily vegetated, with overhanging grasses and forbs for its entire length, and in places overshadowed by scrub and woodland. A short (c. 4m) section within R3 is culverted, to allow passage for farming equipment and vehicles between G2 and G4. R1 has no encroachment on either bank top or in the watercourse. R2 has major encroachment on both bank tops (agricultural land), but no watercourse encroachment. R3 has major encroachment on both bank tops (agricultural land) and in the watercourse (culvert).

Ancient or veteran trees

38. The Site has been found to support a number of ash trees, and individual oaks and sycamores (shown opposite), each demonstrating at least one of the characteristics used to categorise veteran and/or ancient trees in relation to BNG (see Appendix 5). Typical features present include significant deadwood, hollowing, and advanced decay in the trunk and major limbs; and a high value for nature, particularly in terms of bat roosts, with specialist deadwood fungi including King Alfred's cakes (*Daldinia concentrica*) noted.

39. These trees are considered to be an irreplaceable habitat in terms of BNG, and their loss is precluded in the NPPF. They should (in the absence of further detail) be seen as an absolute constraint to development. If their removal is pivotal to plans for the Site, further investigation will be required into their potential to fall into either of these categories. Arboricultural Survey states that *"4.1.10. None of the trees proposed for removal are considered aged or veteran and therefore the principles for refusal within the NPPF would not be considered applicable"*.

Figure 35 Typical view of potential veteran tree features.

Figure 36 Approximate location of possible veteran trees.

Faunal Appraisal

40. The following pages discuss only the groups and species that could be reasonably expected to be found on the type of habitats present on, or adjacent to, the Site.

Amphibians

Desk evidence

41. There are two ponds mapped within 250m of the site: P1, c. 120m northwest, and P2, c. 195m northwest.

42. There are no records of great crested newt (GCN) returned for the area. Records of other, common amphibian species, namely common toad, common frog, smooth newt and palmate newt, are returned.

Field Evidence

43. The Site supports suitable terrestrial habitat for GCN in areas of waterside scrub and rank grassland.

44. Both off-Site ponds are connected to the Site by vegetation such as hedgerows. These could not be accessed at time of survey.

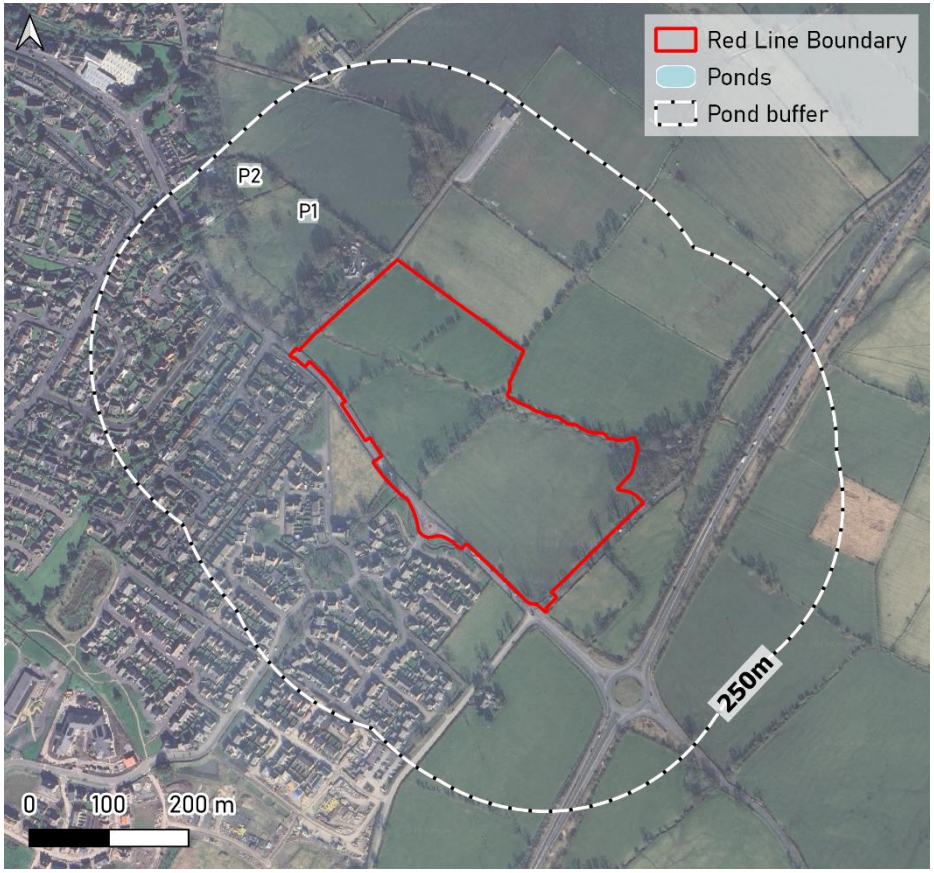
Summary Evaluation

45. Given the presence of suitable terrestrial habitat, and well-connected nearby ponds, the Site may support populations of GCN.

Further Surveys and Recommendations

46. Further inspection of ponds P1 and P2, including eDNA survey, is recommended to establish the presence or absence of breeding GCN.

Figure 37 Ponds mapped in relation to the Site.



Bats

Desk evidence

47. Twenty-one records of bats are returned in the search area, concerning common, soprano, and indeterminate pipistrelles; noctule; and a vesper bat of indeterminate species.

48. Multiple pipistrelle roosts are known, with the closest being a maternity roost of indeterminate pipistrelle species at 2 Primrose Street, c. 1.25km west, in 2018.

Field Evidence (Roosting)

49. There are no buildings on-Site.

50. Trees have been inspected for roost suitability. Several were found to support cavities with potential for roosting.

Table 7 Bat Roost Suitability Assessment.

Ref	Notes	Suitability
T34	A medium oak partially crushed by the fallen limb of T35, with an entirely rotten trunk and a large trunk cavity. This tree has space for multiple bats to roost.	PRF-M Winter
T35	A very large ash with a large fallen limb, resulting in tear and rot cavities within the trunk and limb which may be used by multiple bats.	PRF-M Winter
T36	A very large ash with numerous small cavities along rotting lower limbs, which may be used for roosting by individual bats.	PRF-I
G13d	A large dead sycamore with heavy growth of ivy, potentially concealing rot features within the wood.	PRF-M
T44	A large ash with numerous small branch cavities suitable for individual roosting bats.	PRF-I

Field Evidence (foraging and commuting)

51. The Site supports pastoral grassland and small patches of scrub, connected to the wider landscape, offering moderate potential for foraging bats.

52. The stream and hedgerows on-Site are well-connected to the surrounding landscape. The hedgerows provide moderate value for commuting bats; while the stream could have potential to offer high value, its general lack of vegetation reduces its suitability also to moderate.

Summary Evaluation

53. The Site's size and location suggest that it will be of moderate importance to this group for foraging and commuting and may support some higher conservation value roosts alongside lower-value day roosts.

Further Surveys and Recommendations

54. Trees assessed as being PRF-M, which may support maternity colonies of species such as noctule or brown long-eared bat, should be subject to thorough climbed inspection during summer, or to emergence surveys where inspection is considered impractical or insufficient. In either case, three visits spaced at least three weeks apart should be conducted in period May–September (September provides sub-optimal conditions suitable for only a single survey).

55. Trees T34 and T35, with their significant cavities, may also support hibernation roosts of the above species. They should be subject to two climbed inspections, spaced at least four weeks apart, in the coldest part of the year (December–February). Ivy growth on G13d is unlikely to provide appropriately stable conditions for hibernation.

56. The roost resource approach is recommended for trees assessed as PRF-I, with appropriate compensation (i.e., bat boxes) provided for all lost PRF-Is in advance of impacts, and tree works conducted under a PWMS.

57. Further survey is recommended to establish the Site's baseline used by foraging and commuting bats. This should take the form of seasonal Nighttime Bat Walkovers (NBWs) and monthly static bat detector surveys.

58. There would be opportunities to provide additional roosting features on-Site incorporated into new buildings.

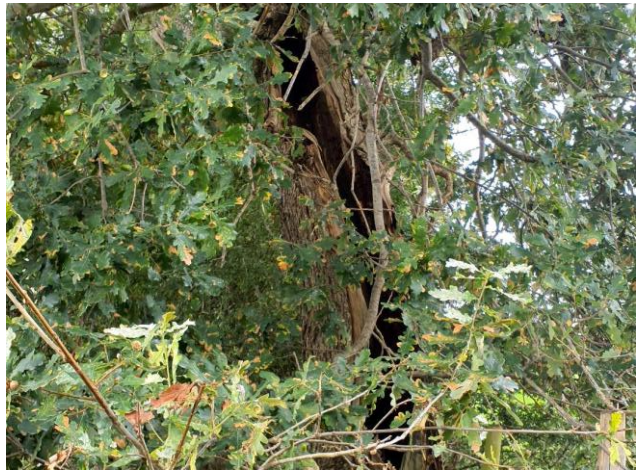
Figure 38 Trees plan.

Preliminary Roost Assessment

T36 – branch cavities – PRF-Is.

T35 – tear and rot cavities – PRF-M.

T34 – trunk cavity – PRF-M.



G13d – heavy ivy growth – potentially PRF-M.

T44 – multiple branch cavities – PRF-Is.

Birds

Desk Evidence

59. Over 500 records of birds are returned, including a range of protected and/or significant species which may make use of the habitats on-Site, such as barn owl, curlew, grey partridge, grey wagtail, lapwing, merlin, mistle thrush, red kite, skylark, song thrush, spotted flycatcher, and woodcock.

Field Evidence

60. The Site provides suitable habitat for ground-nesting birds such as curlew, lapwing, and skylark, especially in fields G1-G4 (if these remain unmown and ungrazed through the breeding season), and smaller areas suitable for lower numbers of scrub species such as thrushes and flycatchers.

61. A number of bird species were noted during the survey, including grey wagtail, carrion crow, wren, robin, goldfinch, sparrowhawk, nuthatch, black-headed and lesser black-backed gulls, jackdaw, chaffinch, magpie, and woodpigeon.

Summary Evaluation

62. Based on its size and habitats, the Site may be important to local bird populations.

Further Surveys and Recommendations

63. Further survey is recommended to demonstrate current baseline in respect of birds. This should take the form of six breeding bird survey visits in period March–June.

64. Standard precautions apply in respect of restrictions on clearing vegetation during the nesting season.

Badgers

Desk evidence

65. There are two records of badgers in the area, both relating to an area c. 1.7km northeast, dating to 2008 and 1994.

Field Evidence

66. The Site provides potential habitat for sett building in the areas of dense scrub and neighbouring off-Site woodland.

67. No definitive evidence of badger was found, but an apparent mammal track was noted in the woodland. A hole noted under hedgerow H08 was attributed to rabbit due to its small size.

68. Access within areas of dense scrub was not possible.

Summary Evaluation

69. Badger setts may be present at the Site as affected by the proposals.

Further Surveys and Recommendations

70. Given that absence cannot be demonstrated at this stage a precautionary pre-works check for setts is recommended – co-ordinated with Site clearance and commencement of earthworks.

Figure 39 Mammal track.

Figure 40 Hole under H08.

Priority Mammals (NERC Act 2006/Local BAP)

Desk evidence

71. Hedgehog and brown hare are recorded within the search area.

Field Evidence

72. No evidence of hedgehogs was found on-Site, although the Site and neighbouring land supports suitable habitat (woodland, grassland, scrub and hedgerows) for them to feed, breed, and hibernate.
73. A brown hare was observed on-Site during the survey, in field G2. The Site provides suitable habitat for them to feed and breed.

Summary Evaluation

74. The Site provides suitable habitat for both species, and at least occasional presence should be assumed.

Further Surveys and Recommendations

75. Presence of hedgehogs is assumed. No further surveys are considered necessary; however, measures to allow them continued access to gardens should be planned for.
76. Vegetation clearance on-Site should be conducted in a directional manner from south to north, allowing mobile animals such as hare to flee safely into suitable habitat off-Site.

Riparian Mammals

Desk evidence

77. Six records of otter are returned, including one upstream of the Site in Shaw Brook in 2016, c. 1.1km east.
78. A single record of invasive American mink is returned for Worston Brook, c. 1.3km north of the Site, in 2012.
79. Records of water vole are not returned.

Field Evidence

80. No evidence of water voles was found. Shaw Brook on-Site provides optimal habitat for water vole. Both banks are earthen and steep, and undercut in places. Water levels appear relatively stable year-round, with no evidence of regular overtopping of banks. Tall tussocky grassland occupies 100% of both banks (downstream) and the left bank (midstream), and emergent marginal and in-channel vegetation is present throughout.
81. No evidence of otters was found. Shaw Brook may act as a suitable commuting corridor for otters moving between downstream waters (e.g. Mearley Brook and the River Ribble) and headwaters. Woodland on-Site and upstream may offer opportunities for holts, and the ponds off-Site to the west may support fish stocks on which otters could prey.

Summary Evaluation

82. Water vole and otter may both be present on-Site.

Further Surveys and Recommendations

83. Further riparian mammal survey is recommended for both species.

Reptiles

Desk evidence

84. A single record of common lizard is returned, dating to 1833. This is considered a historical record of no relevance to the proposed planning application.

Field Evidence

85. The Site provides some marginal basking and cover habitat in transitional areas of scrub and rank grassland. Shaw Brook provides suitable habitat for grass snake, which often hunt by water and commute via watercourses.

86. No field evidence was found.

Summary Evaluation

87. Reptiles may be present on-Site.

Further Surveys and Recommendations

88. Further survey for reptiles is recommended.

White-clawed crayfish

Desk evidence

89. No records in search area.

Field Evidence

90. Shaw Brook on-Site provides suitable habitat for crayfish, with overhanging banks, heterogeneous flow patterns (varying between slow and marshy, and fast-flowing chutes), and a variety of sediment types including cobbles suitable for use as refugia.

Summary Evaluation

91. While no records are returned, this species' presence on-Site cannot be ruled out due to the high habitat suitability of Shaw Brook.

Further Surveys and Recommendations

92. Direct works to Shaw Brook, including culverting part of the watercourse, are proposed. As such, further survey for white-clawed crayfish is recommended.

Figure 41 Suitable crayfish habitat: deeply undercut banks and abundant larger sediment.

Invasive Non-Native Species (INNS)

93. INNS are species listed on Schedule 9 of the Wildlife and Countryside Act (1981), for which it is an offence to cause or allow it to grow in the wild.

94. The following INNS were noted during survey[2]:

    - Cotoneaster, *Cotoneaster* sp.

Survey constraints

95. This survey is constrained by the presence of areas that were inaccessible due to the density of vegetation.

96. It is not always possible to conclude the absence or full extent of INNS from preliminary survey alone due to factors such as season, accessibility, third-party attempts to hide evidence, or undisclosed treatment programmes. For this reason, this report should not be relied upon as definitive evidence of absence of INNS.

97. This Site presents a moderate risk of supporting undetected INNS based on the following factors:

    - Areas of Site inaccessible to survey
    - Potential for recent earthworks or management which may have obscured viable material
    - Proximity to nearby potential sources of infection
    - Presence of a watercourse

98. Should further assurances be needed in relations to INNS, a dedicated Invasive Weed Survey should be commissioned.

Figure 42 Location of INNS found on-Site.

[2] Whilst our ecologists are trained in the identification of invasive species, this report is not a dedicated invasive species survey. Detectability of invasive plant species can be affected by several factors, and conclusive determination status, or extent, is not possible through preliminary survey alone. As the presence of invasive species can generate significant costs to development, the client may wish to instruct a dedicated invasive species survey prior to entering into contracts.

Ecological Constraints and Opportunities

Habitat Value

99. The usual approach to development is to minimise any net loss of biodiversity towards a gain in biodiversity value where this is possible on-Site. Our separate report on Biodiversity Gain sets out the position of the Site in terms of measured biodiversity.

100. Irrespective of the Biodiversity Gain process, development should still seek to retain what is best about the Site.

101. The plan overleaf shows the Site in the context of mapped habitat distinctiveness (as assessed at the time of the survey[3]) with the aim of informing the design of any layout. It shows that there are habitats of medium and high distinctiveness and possible irreplaceable habitats which would need to be avoided by the subsequent detailed proposals, but that the majority of the Site's area is of low distinctiveness and is relatively uniform in terms of potential impact.

102. Irreplaceable habitats (in this case, possible veteran trees and mapped ancient woodland) are present on-Site and within influencing distance, and impose absolute constraints on development. A minimum 15m buffer from ancient woodland must be kept free of impacts. Veteran trees are accorded a root protection zone 15x the trunk diameter, or 5m beyond the canopy edge, whichever is larger. Further survey to confirm the irreplaceable status of both is recommended.

103. Loss of remaining habitats are not of the order which (outside of Biodiversity Net Gain) would require specific mitigation or compensation, as they are common locally.

104. In terms of structure and connectivity, the field boundary hedgerows (particularly those with mature trees) will contribute to the disjointed local network, and Shaw Brook may act as a crucial commuting route for riparian and terrestrial species. These are of higher value in a local context and should ideally be retained, and enhanced where possible.

105. Any development within the riparian zone of Shaw Brook, extending 10m from either bank top, will result in degradation of the watercourse and may lead to a decrease in condition score, and should therefore be avoided.

Faunal constraints

106. Faunal constraints have not been identified at this stage. Further survey for bats, otter, water vole, breeding birds, reptiles, great crested newt, and white-clawed crayfish are recommended, to inform the possibility of their acting as constraints.

107. NERC Priority Species (brown hare and hedgehog) are confirmed and likely present on-site, respectively. Directional vegetation clearance is recommended to minimise impacts of development on these species.

108. A pre-works check for badger setts is recommended.

Ecological Opportunities

109. Ecological opportunities at the Site relate to:

- Potential to enhance the value of Shaw Brook by designing a riparian corridor around its course, with higher-value habitats such as wet woodland, willow scrub, and species-rich wet grassland.
- Potential to improve connectivity locally by retaining existing hedgerows, and enhancing them with supplementary planting to both hedgerow and field layer.
- Improving the value of POS areas by preferentially using higher-value habitats such as wildflower grassland, mixed native shrubs, native street trees, and species-rich native hedgerows.
- Installing roosting and nesting features in new buildings.
- Creating refugia for small mammals, reptiles, amphibians, and invertebrates in POS areas, such as log and rock piles.

110. A Biodiversity Management Plan would be useful in defining these enhancements and can be secured by standard condition.

[3] *This represents our assessment of the habitat type and condition at the time of survey. This may change if the survey was carried out in sub-optimal season or growing conditions. Where this is the case, we will recommend updating surveys during the optimal season.*

Figure 43 Ecological constraints and opportunities.

Conclusions and Recommendations

Additional surveys		
Recommendation	**Rationale**	**When**
R1 Additional Surveys		
R1.1 Vegetation	Veteran tree survey.	Any time (optimal season September–November)
R1.2 Fauna	Bat roosting (winter) – climbed inspection (two visits).	December–February
	Birds – breeding bird survey (six visits).	March–June
	Bat activity – seasonal Nighttime Bat Walkover (NBW) surveys.	Spring: April/May Summer: June/July/August Autumn: September/October
	Bat activity – monthly static bat detector surveys.	April–October
	Riparian mammals – otter and water vole survey (two visits).	Early season: April/May/June Late season: July/August/September
	Reptiles – artificial refugia survey (seven visits).	April/May/September
	White-clawed crayfish – eDNA survey.	April–mid-October
	Great crested newt – off-Site pond inspection and eDNA survey.	Mid-April–June
	Bat roosting (summer) – climbed inspection (three visits) OR emergence survey (three visits).	May–August September sub-optimal, suitable for only a single survey

Reserved Matters considerations		
Recommendation	**Rationale**	**When**
R2 Produce a layout which minimises loss of biodiversity	Engage with the Constraints and Opportunities set out above, involve your ecologist in designs at an early stage. The proposals will need to consider the NPPF hierarchy of Avoid–Mitigate–Compensate in minimising any loss of biodiversity. Biodiversity Net Gain (BNG) policy mandates a minimum 10% Net Gain in Biodiversity Units, and the LPA may request additional gains. Your layout may need to change to accommodate your findings from R1 surveys.	During the design process
R3 Design	Make sure your design team follows ecological advice to and make sure there are no design conflicts. Produce a habitat retention plan at an early stage which can be used to inform BNG and maximise scores. A habitat retention plan should identify areas which can be excluded from any impacts of clearance and construction. In producing a plan you should consider the need to provide (amongst other things) Site compounds, to store and move materials, to install drainage, flood storage, access and services, all with suitable easements. Decide on the extent of red-line vs blue/black-line land. Minimising the extent of your red line can limit exposure to BNG, but can also leave you needing separate legal agreements to use off-Site land for BNG delivery. Work out at an early stage what is right for your project. Your planning consultant should be able to help with this decision.	During the design process
R4 Biodiversity Net Gain (BNG)	Carry out a BNG Assessment using the Statutory Biodiversity Metric Calculation Tool and accompanying Condition sheets produced by Defra. It is important that the baseline survey is undertaken during the appropriate season for the habitat type being assessed, so as to ensure the accuracy of habitat mapping and calculating condition scores. Where an initial survey is undertaken at a sub-optimal time of year, it is recommended that updating surveys be carried out during the optimal season for that habitat, prior to the BNG assessment being finalised. Failure to do this could mean that the finial Biodiversity score calculated for a project is incorrect, which could then impact on any financial contribution that has been budgeted for to address Biodiversity Offsetting. Prior to development commencing, a Habitat Management and Monitoring Plan (HMMP) and Biodiversity Gain Plan (BGP) will likely be requested by the LPA.	During the design process Baseline survey to be completed during the appropriate season
R5 Ecological Impact Assessment (EcIA)	This report summarises all survey findings and assesses the impacts of the scheme in respect of these.	Prior to submission, after a fixed design is agreed and all key additional surveys are completed
R6 Produce a Biodiversity Management Plan	To specify in detail how the development will cater for biodiversity on-Site and to show how habitats incorporated will be managed.	Delivery report Suitable for planning condition
R7 Produce a CEMP (Biodiversity)	To show how the Site will be built without affecting surrounding habitats and minimising risk of affecting protected or notable fauna. The CEMP will detail the following protection measures: • Location of Biodiversity Protection zones or fences, to include irreplaceable and other retained habitats • Mitigation against pollutants entering Shaw Brook • Dealing with known or discovered invasive species • Pre- or during- clearance ecology checks for protected species (including badger) • Directional clearance • Protected/notable species method statements where licensing in not needed (including trees with bat roost potential) • Nesting bird management	Delivery report Suitable for planning condition

References

Guidelines and Best Practice

British Standards Institution (BSI). 2013. *BS42020 Biodiversity – Code of practise for planning and development.* London: BSI Standards Limited.

Chartered Institute of Ecology and Environmental Management (CIEEM). 2019. *Advice note: on the lifespan of ecological reports and surveys.* Winchester: Chartered Institute of Ecology and Environmental Management. [Online]. Available from: https://cieem.net/resource/advice-note-on-the-lifespan-of-ecological-reports-and-surveys/

Chartered Institute of Ecology and Environmental Management (CIEEM). 2017. *Guidelines for Preliminary Ecological Appraisal (2nd edition).* Winchester: Chartered Institute of Ecology and Environmental Management. [Online]. Available from: https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/

Hill, D. et al. 2005. *Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring*. Cambridge: Cambridge University Press.

Institute of Environmental Assessment. 1995. *Guidelines for baseline ecological assessment.* London: E & FN Spon.

Joint Nature Conservation Committee (JNCC). 2010. *Handbook for Phase 1 habitat survey – A technique for environmental audit (revised)*. Peterborough: Joint Nature Conservation Committee (JNCC). [Online]. Available from: https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a

Ratcliffe, D.A. 1977. *A Nature Conservation Review.* Cambridge: Cambridge University Press on behalf of the Nature Conservancy Council and the Natural Environment Research Council.

UK Hab Ltd. 2023. *The UK Habitat Classification Version 2.0*. Stockport : UKHab Ltd. [Online]. Available from: https://ukhab.org/ukhab-documentation/

Desk Study

Bat Tree Habitat Key (BTHK). 2018. *Bat Roosts in Trees – A Guide too Identification and Assessment for Tree-Care and Ecology Professionals.* Exeter: Pelagic Publishing.

Collins, J. 2023. *Bat Surveys for Professional Ecologists: Good Practise Guidelines (4th edition).* London: The Bat Conservation Trust.

Dean, M. 2021. *Water Vole Field Signs and Habitat Assessment: A Practical Guide to Water Vole Surveys.* Exeter: Pelagic Publishing.

English Nature. 2001. *Great Crested Newt Mitigation Guidelines.* Peterborough: English Nature. [Online]. Available from: https://mokrady.wbs.cz/literatura_ke_stazeni/great_crested_newt_mitigation_guidelines.pdf

Fay, N. 2007. *Defining and Surveying Veteran and Ancient Trees.* [Online]. Available from: https://www.treeworks.co.uk/downloads/publications/DEFINING_AGE_AND_SURVEYING_VETERAN_AND_ANCIENT%20TREESa.pdf

Gent, T. and Gibson, S. 2003. *Herpetofauna Workers' Manual (revised reprint).* Peterborough: Joint Nature Conservation Committee (JNCC). [Online]. Available from: https://hub.jncc.gov.uk/assets/9d7da8c4-9d76-4b65-8263-6b925b3433a4

Holdich, D. 2000. *Ecology of the White-clawed Crayfish*. Peterborough: English Nature. [Online]. Available from: https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://publications.naturalengland.org.uk/file/117014&ved=2ahUKEwjHtpH-xOSPAxWMWkEAHWyaA1IQFnoECB4QAQ&usg=AOvVaw0eHhIFFD72kyBKGELzYR8m.

Mitchell-Jones, A.J. and McLeish, A.P. 2004. *Bat Workers Manual (3rd Edition)*. Peterborough: Joint Nature Conservation Committee (JNCC). [Online]. Available from: https://hub.jncc.gov.uk/assets/e5888ae1-3306-4f17-9441-51a5f4dc416a

Natural England. *MAGiC.* [Online]. [Accessed 16th January 2024]. Available from: https://magic.Defra.gov.uk/MagicMap.aspx

Oldham, R.S., Keeble, J., Swan, M.J.S. & Jeffcote, M. 2000. Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). *Herpetological Journal.* **10**(4), pp. 143-155. [Online]. Available from: https://www.thebhs.org/publications/the-herpetological-journal/volume-10-number-4-october-2000/1617-03-evaluating-the-suitability-of-habitat-for-the-great-crested-newt-triturus-cristatus/file

Reason, P.F. and Wray, S. 2023. *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Version 1.1. Ampfield: Chartered Institute of Ecology and Environmental Management. [Online]. Available from: https://cieem.net/wp-content/uploads/2023/09/Bat-Mitigation-Guidelines-2023-V1.1.pdf

Lancashire Environment Record Network. 2025. *Brooks Ecological Ltd_8455 Pendle Road Clitheroe.* Preston: Lancashire County Council.

Legislation and Strategy

Department for Environment, Food and Rural Affairs (DEFRA). 2011. *Biodiversity 2020: A strategy for England's wildlife and ecosystem services.* London: Her Majesty's Government. [Online]. Available from: https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services

Lancashire County Council. 2014. *Lancashire Biodiversity Action Plan.* Lancaster, Lancashire: Lancashire County Council. [Online]. Available from: https://www.lancashire.gov.uk/lern/services/.

Joint Nature Conservation Committee (JNCC). *UK Biodiversity Indicators 2023.* Peterborough: Joint Nature Conservation Committee (JNCC). [Online]. Available from: https://jncc.gov.uk/our-work/uk-biodiversity-indicators-2023/

Government Circular 06/05: Office of the Deputy Prime Minister (ODPM) 2005. *Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System.* London: Her Majesty's Government. [Online]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf

House of Commons, Environment, Food and Rural Affairs Committee. 2011. *Natural Environment White Paper.* London: Her Majesty's Government. [Online]. Available from: https://www.parliament.uk/globalassets/documents/commons-committees/environment-food-rural-affairs/NEWPConsolidatedWrittenEvidenceNov11.pdf

Ministry of Housing, Communities & Local Government. 2024. *National Planning and Policy Framework.* London: Her Majesty's Government. [Online]. Available from: https://assets.publishing.service.gov.uk/media/675abd214cbda57cacd3476e/NPPF-December-2024.pdf

Natural Environment and Rural Communities Act 2006. (c.61, Part 3, Section 41). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/ukpga/2006/16/section/41#:~:text=41Biodiversity%20lists%20and%20action%20(England)&text=(1)The%20Secretary%20of%20State,%5BF1or%20enhancing%5D%20biodiversity

The Conservation of Habitats and Species Regulations 2010. (No. 490). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/uksi/2010/490/contents/made

The Statutory Biodiversity Metric User Guide. 2024. London: Department for Environment, Food and Rural Affairs (Defra). [Online]. Available from: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

UK Statutory Nature Conservation Bodies (SNCBs). 2018. *Favourable Conservation Status : UK Statutory Nature Conservation Bodies Common Statement.* Peterborough: Joint Nature Conservation Committee (JNCC). [Online]. Available from : https://hub.jncc.gov.uk/assets/b9c7f55f-ed9d-4d3c-b484-c21758cec4fe

Wildlife and Countryside Act 1981. (c.69, Schedule 9). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/ukpga/1981/69/schedule/9

Appendix 5 Legislation (where not stated above)

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/eudr/1992/43/contents

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/eudr/1979/409/pdfs/eudr_19790409_1994-07-20_en.pdf

Hedgerows Regulations (1997). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/uksi/1997/1160/contents/made

Natural Environment and Rural Communities Act 2006 (NERC). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/ukpga/2006/16/contents

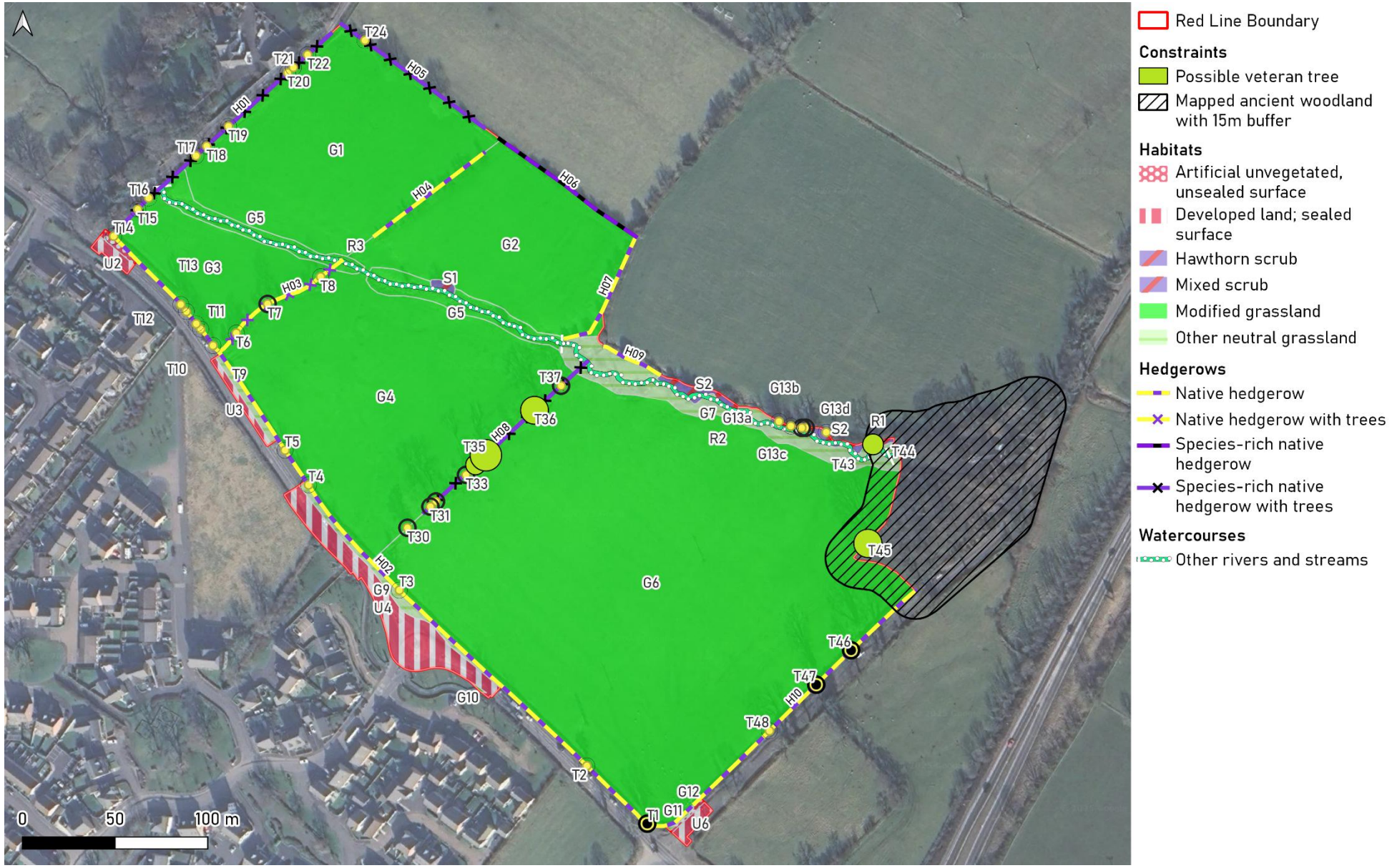
Protection of Badgers Act (1992). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/ukpga/1992/51/contents

The Countryside and Rights of Way Act 2000 (CRoW). London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/ukpga/2000/37/contents

The Ramsar Convention on Wetlands of International Importance (1971). Switzerland: Convention on Wetlands Secretariat. [Online]. Available from: https://www.ramsar.org/sites/default/files/documents/library/original_1971_convention_e.pdf

The Wildlife and Countryside Act (1981) as amended. London: Her Majesty's Government. [Online]. Available from: https://www.legislation.gov.uk/ukpga/1981/69/contents

Appendix 1 Habitats and Ecological Features



Appendix 2 List of species recorded

Common name	Scientific name
Field maple	*Acer campestre*
Sycamore	*Acer pseudoplatanus*
Common bent	*Agrostis capillaris*
Creeping bent	*Agrostis stolonifera*
Alder	*Alnus glutinosa*
Bittercress	*Arabis* sp.
Silverweed	*Argentina anserina*
False oat-grass	*Arrhenatherum elatius*
False brome	*Brachypodium sylvaticum*
Rough-stalked feather-moss	*Brachythecium rutabulum*
Hedge bindweed	*Calystegia sepium*
Cuckooflower	*Cardamine pratensis*
Common mouse-ear	*Cerastium fontanum*
Rosebay willowherb	*Chamaenerion angustifolium*
Spear thistle	*Cirsium arvense*
Marsh thistle	*Cirsium palustre*
Hazel	*Corylus avellana*
Hawthorn	*Crataegus monogyna*
Crested dog's-tail	*Cynosurus cristatus*
Cock's-foot	*Dactylis glomerata*
King Alfred’s cakes	*Daldinia concentrica*
Pinkgill fungus	*Entoloma* sp.
Great willowherb	*Epilobium hirsutum*
Willowherb	*Epilobium* sp.
Beech	*Fagus sylvatica*
Red fescue	*Festuca rubra* s.l.
Meadowsweet	*Filipendula ulmaria*
Ash	*Fraxinus excelsior*
Cleavers	*Galium aparine*
Herb-Robert	*Geranium robertianum*
Wood avens	*Geum urbanum*
Ground ivy	*Glechoma hederacea*
Ivy	*Hedera helix*
Fool's watercress	*Helosciadium nodiflorum*
Common hogweed	*Heracleum sphondylium*
Yorkshire-fog	*Holcus lanatus*
Holly	*Ilex aquifolium*
Yellow flag iris	*Iris pseudacorus*
Hard rush	*Juncus inflexus*
European larch	*Larix decidua*
Perennial rye-grass	*Lolium perenne*
Meadow fescue	*Lolium pratense*
Crab apple	*Malus sylvestris*
Wood melick	*Melica uniflora*
Ribwort plantain	*Plantago lanceolata*
Greater plantain	*Plantago major*
Annual meadow-grass	*Poa annua*
Damson	*Prunus domestica insititia*
Blackthorn	*Prunus spinosa*
Meadow buttercup	*Ranunculus acris*
Creeping buttercup	*Ranunculus repens*
Little shaggy-moss	*Rhytidiadelphus loreus*

Common name	Scientific name
Field rose	*Rosa arvensis*
Dog rose	*Rosa canina*
Bramble	*Rubus fruticosus* agg.
Sorrel	*Rumex acetosa*
Broad-leaved dock	*Rumex obtusifolius*
Grey willow	*Salix cinerea*
Elder	*Sambucus nigra*
Red campion	*Silene dioica*
Rowan	*Sorbus aucuparia*
Chickweed	*Stellaria media*
Dandelion	*Taraxacum officinale* agg.
White clover	*Trifolium repens*
Wych elm	*Ulmus glabra*
Nettle	*Urtica dioica*
Brooklime	*Veronica beccabunga*

Appendix 3 Explanatory Notes and Resources Used

Site Context

Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains.

Designated sites

A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. sites of Special Scientific Interest [SSSIs]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-site habitats

When assessing these we consider whether the site could be functionally linked to them, considering links such as:

- Hydrological links – is the site upstream downstream, or could ground water issues affect it?
- Physical links – is the site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.
- Recreational links – do footpaths and roads make it likely that increased recreational pressure could be felt?
- Habitat links – is the site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be 'stepping stones' of habitat of similar form or function.

Method

Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

Faunal Appraisal

This section first looks at the types of habitat found on-Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce, or NERC Act 2006 Section 41 species (referred to collectively as 'notable species').

Records of notable species supplied from a 2km area of search by Lancashire Environment Record Network are used to inform this appraisal.

We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this Site is the 'Lancashire Biodiversity Action Plan'.

Species/group		Habitat
Bats	Belted beauty moth	Arable farmland
Bird's-eye primrose	Black poplar	Broadleaved and mixed woodland
Black-tailed godwit	Brown hare	
Doros profuges	Dwarf cornel	Calcareous grassland
Farmland birds	Flat sedge	Limestone pavement
Freshwater pearl mussel	White-clawed crayfish	Moorland and fell
Great crested newt	Greater butterfly orchid	Mossland
Hen harrier	High brown fritillary	Reedbed
Lady's slipper orchid	Lancaster whitebeam	Rivers and streams
Lapwing	Large heath	Saltmarsh estuarine rivers
Narrow small-reed	Natterjack toad	
Northern brown argus	Otter	Sand dunes
Pearl-bordered fritillary	*Prostoma jenningsi*	Species rich neutral grassland
Purple ramping-fumitory	Red squirrel	
	Reed bunting	Urban habitats
Rock sea-lavender	Sea bindweed	
Shining guest ant	Skylark	
Song thrush	Southern wood ant	
Twite	Wall mason bee	
Water vole	Whorl snails	

Bats

Bat roosting potential is classified according to the following criteria set out below, taken from the Bat Conservation Trust Good Practice Guidelines (2023).

Bat Roosting Suitability of Buildings

Suitability	Criteria
None	No habitat features on-Site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	No obvious habitat features on-Site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.

Bat Roosting Suitability of Trees

Suitability	Criteria
None	Either no PRFs in the tree, or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present within the tree.
PRF-I	Potential roost feature suitable to support individual or low numbers of bats
PRF-M	Potential roost feature suitable to support multiple bats and possibly be used by a maternity colony

Evaluation

In evaluating the Site, the ecologist will take into account a number of factors in combination, such as:

- the baseline presented above,
- the Site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity.

There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.

The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

Appendix 4 Bat Activity Survey Rationale

The Bat Conservation Trust Guidelines (BCTG) (Collins 2023) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the guidelines within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

- the avoidance of legal offences, and;
- the provision of a sufficient level of information – such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys – they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines –

'The Guidelines do not aim to either override of replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement. '

Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the Site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

The Site is relatively large, supports some limited areas of scrub alongside open grassland, and is well-connected to the surrounding landscape by hedgerows with mature trees, and a stream. Overall, these features are judged as providing moderate potential suitability for foraging and commuting bats; further survey has been recommended on this basis.

This assessment was made by Jon Roberts MSci (Hons) ACIEEM. Jon has six years' experience conducting bat surveys in a professional capacity.

Appendix 5 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration/protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration/protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes the EC Habitats Directive into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP/LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation/development in the proximity of setts.

Protected sites

Statutory EU/International Protected sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife sites (LWS) but at present a plethora of different designations exist – all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, watervole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or form certain activities only. All nesting bird species are protected from damage or destruction of their nests – whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended,

Lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: Himalayan balsam (*Impatiens glandulifera),* Japanese knotweed (*Reynoutria japonica*), and giant hogweed *(Heracleum mantegazzianum*).

Irreplaceable Habitats

Irreplaceable habitats in the context of Biodiversity Net Gain are defined by The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 as including:

- Blanket bog
- Lowland fens
- Limestone pavements
- Coastal sand dunes

Additional descriptive guidance is provided for four further irreplaceable habitats:

Habitat	Description
Ancient woodland	Ancient woodland is areas of woodland that have been continuously wooded since at least 1600. Ancient woodland includes– (i) Ancient Semi-Natural Woodlands (ii) Plantations on Ancient Woodland Sites (iii) Ancient Wood Pasture and Parkland (iv) Infilled Ancient Wood Pasture and Parkland
Ancient trees and veteran trees	Ancient and veteran trees can be found as individual trees or collections of trees in any setting. Ancient trees have passed beyond maturity into an ancient life stage or are old in comparison with other trees of the same species which exhibit one or more of the following– (i) demonstrably great age relative to others of the same species (ii) changes to their crown and trunk development indicative of the ancient life stage Veteran trees are mature trees that share physical and other characteristics in common with ancient trees, due to their life or environment, but are neither developmentally nor chronologically ancient. All ancient trees are veteran trees, but not all veteran trees are ancient. Veteran and ancient trees which have died are still recognised as such because they retain significant biodiversity value for many decades. Veteran trees exhibit one or more of the following– (i) significant decay features such as deadwood, hollowing or signs of advanced decay in the trunk or major limbs (ii) a large girth, depending on and relative to species, site and management history (iii) a high value for nature, especially in hosting rare or specialist fungi, lichens and deadwood invertebrates
Spartina saltmarsh swards	*Spartina* (cord-grass) saltmarsh swards colonise a wide range of substrates, from very soft muds to shingle, in areas sheltered from strong wave action. It occurs on the seaward fringes of saltmarshes and creek-sides and may colonise old pans in the upper saltmarsh
Mediterranean saltmarsh scrub	Mediterranean and thermo-Atlantic halophilous (salt-tolerant) scrub develops in the uppermost levels of saltmarshes, often where there is a transition from saltmarsh to dunes, or in some cases where dunes overlie shingle. The form that most closely resembles the scrub vegetation of the Mediterranean is restricted to south and south-east England and is formed predominantly of bushes of shrubby sea-blite *Suaeda vera* and sea purslane *Atriplex portulacoides*

Planning Policy/Guidance

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework was updated in December 2024. The most relevant paragraphs from the NPPF are set out below.

The approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is and this falls under one of three objectives of the planning system – the 'environmental objective' applying in this case. Paragraph 8c (P8c) of the NPPF states that sustainable development should "protect and enhance our natural, built and historic environment", including "improving biodiversity". P10 sets out the Framework's presumption in favour of sustainable development.

Section 11 of the NPPF details making effective use of land. The Framework states that planning policies and decisions should take "opportunities to achieve net environmental gains – such as developments that would enable new habitat creation" and should "recognise that some undeveloped land can perform many functions, such as for wildlife" (P125).

Section 15 details conserving and enhancing the natural environment; policies and decisions should be "protecting and enhancing valued landscape [and] sites of biodiversity […] value", "recognise the intrinsic character and beauty of the countryside" and contribute to conserving and enhancing the natural environment and reducing pollution (P187). Allocations of land for development should, "allocate land with the least environmental or amenity value, where consistent with other policies in this Framework" and "take a strategic approach to maintaining and enhancing networks of habitats" (P188).

The Framework sets out ways to minimise the impacts on biodiversity through plans which "identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity" and promote the "conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity" (P192).

It is made clear in P193 that local planning authorities should apply a set of principles when determining planning applications. Planning permission should be refused "if significant harm to biodiversity resulting from development cannot be avoided […], adequately mitigated, or, as a last resort, compensated for". Development should not normally be permitted where an adverse effect on a SSSI is likely, and "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".

UK Biodiversity Indicators 2023; update to Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services

The UK Biodiversity Indicators 2023 provide updates to the indicators set out in Biodiversity 2020 including new species abundance targets as set out in the Environment Act 2021. Biodiversity 2020 builds on the Natural Environment White Paper (June 2011) – Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP/Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System
Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity – Code of Practice for Planning and Development

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.