# ECOLOGICAL IMPACT ASSESSMENT

# **DECEMBER 2024**

**Standen Phase 5 and 6,** Littlemoor Road,

Clitheroe,

BB7 1HF





# **QUALITY MANAGEMENT**

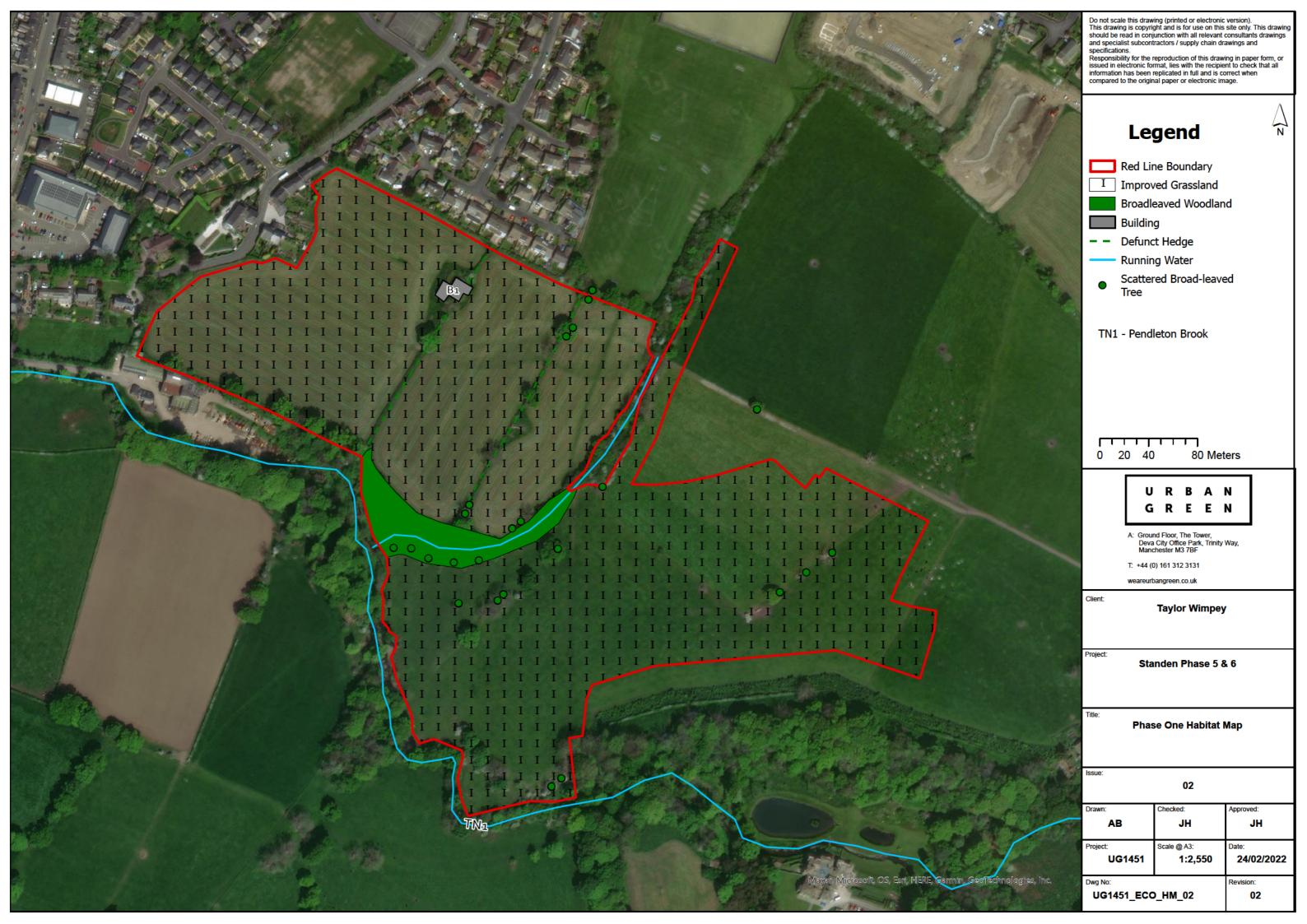
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### 1 Introduction

### 1.1 Background to the Scheme

- 1.1.1.1 Taylor Wimpey is proposing to develop land at Littlemoor Road in Clitheroe (hereafter referred to as 'the site'). The proposals include the development of a residential estate in two phases, totalling 265 units, with associated hard and soft landscaping and areas of public open space (POS). The spine road for the development has already gained outline approval and will run through the site in an east to westerly direction.
- 1.1.1.2 Urban Green has been appointed to complete an Ecological Impact Assessment (EcIA) of the site.

### 1.2 Site Context

- 1.2.1.1 The site is located at National Grid SD 74382 40702 and comprises a total area of approximately 17.2ha (see Figure 1).
- 1.2.1.2 The site is located on the rural-urban fringe of Clitheroe town, which is present approximately 1km north of the site. An un-named tributary of Pendleton Brook (a tributary of Mearley Brook which flows into the River Ribble) is present on site running north to south-west through the centre of the site.
- 1.2.1.3 Pendleton Brook borders the south of the site running from east to west. The River Ribble is located approximately 1.5km west of the site, with Mearley Brook present approximately 35om west of the site. Residential properties are located to the north, north-west and west of the site with arable grassland present on all other aspects. Areas of woodland are present within the wider area to the south of the site. The A59 is present approximately 60om east of the site.

### 1.3 Purpose of this Report

- 1.3.1.1 The purpose of the EcIA report is to establish the baseline ecological conditions at the site and determine the sensitivity and magnitude of any likely significant impacts to these conditions, including cumulative impacts. The report sets out relevant avoidance and mitigation measures, and identifies residual impacts, compensation measures, enhancements and how these measures may be secured and monitored in line with relevant nature conservation policies and legislation.
- 1.3.1.2 Further information and details of UK legislation for those species which are formally protected is defined in Appendix 1, which are considered throughout the assessment.

### 2 Methods

2.1.1.1 The EcIA assessment and report follows the good practice methodology as detailed within the Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018).

### 2.2 Desk Study

### 2.2.1 Online Resources and Local Records Centre

- 2.2.1.1 Due to the size and context of the Proposed Development, being located within a rural area of Clitheroe, a 10km Local Data Search was conducted as it is deemed an appropriate distance for the Zone of Influence.
- 2.2.1.2 Sources of information used in the desk study are presented in Table 1.

Table 1- Desk study sources of information

Source	Date Consulted	Information Sought
MAGIC website (www.magic.gov.uk)	05/12/2024	Locations of statutory designated sites within 10km of the site boundary.  Locations of National Site Network sites (Ramsar, Special Area of Conservation (SAC) and Special Protection Area (SPA) within 10km of the site boundary.
Natural England (https://designatedsites/.na turalengland.org.uk/)	05/12/2024	Relevant statutory designated site citations.
JNCC (https://jncc.defra.gov.uk)	05/12/2024	Information on European wildlife sites.  Details of relevant Section 41 species and habitats.
Lancashire Local Biodiversity Action Plans	05/12/2024	Species and habitats which are given special conservation status at the local level.

### 2.3 Baseline Ecological Surveys

2.3.1.1 It should be noted that given the year that the baseline surveys were conducted, the guidance referenced (e.g. bat survey guidance) reflects the correct methodology for that time.

### 2.3.2 Preliminary Ecological Appraisal

Phase 1 Habitat Survey

2.3.2.1 The site was subject to a field survey on 10<sup>th</sup> February 2022 by Assistant Ecologist Jake Healy and Senior Biodiversity Consultant Maisie McKenzie. The weather conditions were 7°c, cloudy (4/8 oktas), with a wind speed of 4 on the Beaufort scale, and dry.

- 2.3.2.2 The methods were based on the standard methodology as detailed by JNCC Handbook for Phase 1 Habitat Survey (JNCC, 2010). A Phase 1 Habitat Plan was produced to demonstrate habitats within the Proposed Development site and the surrounding area. The mapping techniques were based on the Phase 1 Habitat Survey (JNCC, 2010) guidance.
- 2.3.2.3 Flora species listed as protected in the Wildlife and Countryside Act 1981 (as amended) and species which are indicators of important and/or uncommon habitats, were searched for during the survey.
- 2.3.2.4 Species abundance is described using the DAFOR scale as shown in Table 2. Percentages are an approximate indication rather than a quantitative measure.

Table 2- Key to species abundance

Code	Meaning	Description	Indicative Percentage Ranges
D	Dominant	Covers most of the area	90% or greater
А	Abundant	Very common throughout the area.	50 - 90%
F	Frequent	Common or with many individuals.	20 - 50%
0	Occasional	Occurs in several places but not throughout. Populations are not large.	5 - 20%
R	Rare	Occurs in low numbers in relation to size of area.	Less than 5%

<sup>&</sup>quot;L" will be used to indicate abundance in a localised area, e.g. LA = Locally abundant

2.3.2.5 Any invasive species, including those listed on Schedule 9 of the *Wildlife* and *Countryside Act* 1981 (as amended) were noted during the field survey when sighted.

### Suitability for Protected/Notable Fauna Assessment

- 2.3.2.6 A site search for field signs of protected and notable fauna was undertaken, and incidental sightings were detailed. The searches completed were as follows:
  - Suitability of any ponds to support notable and protected amphibians, and the suitability of the site's terrestrial habitats to support amphibians.
  - Suitability of the site to support reptiles by way of habitat structure and refuge piles, as well as links to the wider landscape.
  - Search of any watercourses for signs or suitability for white clawed-crayfish (*Austropotamobius pallipes*), water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) by way of burrows, resting places, holts and foraging signs.
  - Suitability of the site to support notable bird species. Bird nests and droppings of notable and protected bird species.
  - Suitability of the site to support notable invertebrates.
  - Search of the site for any invasive species.
  - Badger (*Meles meles*) field signs such as setts, mammal, paths, snuffle holes and latrines.
  - Suitability of the site to support notable terrestrial mammals including harvest mouse (*Micromys minutus*) and brown hare (*Lepus europaeus*).

### 2.3.3 Preliminary Bat Assessment

### Preliminary Roost Assessment

- 2.3.3.1 A Preliminary Roost Assessment (PRA) was carried out on the site buildings and trees using close-focusing binoculars, where possible.
- 2.3.3.2 The PRA methodology is based on information contained within the Bat Conservation Trust (BCT) guidelines, 3rd edition (Collins, 2016). The categorisation within this report is based on that set out in Table 3, which is used as a basis for determining the requirement for further surveys.

Table 3. Suitability of Buildings and Trees for Roosting Bats (adapted from Collins, 2016)

Category of Suitability	Typical Characteristics
High Roost Suitability	A structure/tree 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.
Moderate Roost Suitability	A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but are unlikely to support a roost of high conservation status.
Low Roost Suitability	A structure/tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate condition and/or suitable surrounding habitat to be used on a regular basis by larger numbers of bats.
Negligible Suitability	Negligible habitat features on site likely to be used by roosting bats.

### Commuting and Foraging Bats Suitability Assessment

- 2.3.3.3 The site was assessed for its suitability for use by commuting and foraging bats.
- 2.3.3.4 The commuting and foraging assessment methodology is based on information contained within the Bat Conservation Trust guidelines 3rd edition (Collins, 2016). The categorisation within this report is based on that set out in Table 4, which is used as a basis for determining the requirement for further surveys.

Table 4. Suitability of Site for Foraging and Commuting Bats (adapted from Collins, 2016)

Category of Suitability	Typical Characteristics
High Suitability	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting or foraging bats such as; river valleys, streams, hedgerows, lines of trees or woodland edge.  Site is close to or connected to known roosts.
Moderate Suitability	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees, scrub or linked back gardens.  Habitat connected to wider landscape that could be used for bats for foraging such as; trees, scrub, grassland or water.

Category of Suitability	Typical Characteristics
Low Suitability	Habitat that could be used by small number of commuting bats such as; defunct hedgerow, isolated features not well connected to surrounding habitat or Isolated habitat that could be used by a small number of foraging bats such as a lone tree or patch of scrub.
Negligible Suitability	No features on site suitable for use by commuting and foraging bats.

### 2.4 Phase II Surveys

### 2.4.1 Barn Owl Surveys

- 2.4.1.1 Three vantage point surveys were conducted on site under the guidance of Josh Broster MCIEEM, Director and Principal Ecologist/Ornithologist at EYRIE Ecology and Ornithology LTD.
- 2.4.1.2 The first two surveys were conducted between the 1st June and 16th July (the peak survey period for breeding barn owl), with the third visit conducted on the 3rd August to pick up any late summer breeding activity.
- 2.4.1.3 Each survey involved three ecologists positioned specifically to provide a good visual coverage if the barn and the surrounding habitat.
- 2.4.1.4 Surveyors were in position a minimum of 1 hour before sunset until 1 hour after sunset on dry, still evenings in conditions optimal for barn owl activity following best practice guidance and
- 2.4.1.5 Surveys included watching the areas of interest for a period of two hours whilst scanning all suitable habitat present and looking for observation of barn owl and listening for barn owl calls/begging chicks

### 2.4.2 Bat Surveys

### Dusk Emergence/Re-entry Surveys

- 2.4.2.1 A series of dusk emergence/dawn re-entry surveys were undertaken on site between 2023 and 2024, targeting the barn structure on site and trees that could not be further assessed via aerial inspections.
- 2.4.2.2 The surveys were undertaken following the most recent best practice guidelines at the time of survey (Collins, 2016 or Collins, 2023) and were conducted utilising a mixture of BatScanner, Batbox Duet, and Echo Meter Touch 2 bat detectors.

### Aerial Tree Inspection Surveys

- 2.4.2.3 The Aerial Tree Inspection (ATI) methodology is based on information contained within the Bat Conservation Trust (BCT) guidelines, 4th edition (Collins, 2023).
- 2.4.2.4 The survey involves a detailed inspection of Potential Roosting Features (PRFs) within previously identified trees from within the tree to compile information about the tree, PRFs (or lack of), and any evidence of bats.

- 2.4.2.5 The inspection was conducted utilising aerial tree climbing equipment which allowed surveyors to safely assess features from within the canopy, following approved methods laid out within Technical Guide 1: Tree Climbing & Aerial Rescue (Arboricultural Association, 2021).
- 2.4.2.6 All surveyors were fully trained in tree climbing and aerial rescue techniques and held the necessary qualifications.

### **Bat Activity Surveys**

- 2.4.2.7 A combination of transect surveys and automated/static bat detector surveys (Urban Green, 2024b) were undertaken at the site. Both surveys were undertaken in accordance with the latest Bat Conservation Trust (BCT) guidance (Collins, 2016) that was relevant at the time of survey. As the site was assessed as providing 'high' commuting and foraging potential for bats, two transect surveys were conducted on site during each month between May and September. Three static bat detectors were deemed suitable for the size and complexity of the site and were deployed for five nights within the months of May to September, inclusive.
- 2.4.2.8 All bat calls recorded during the various surveys were subsequently analysed using Anabat Insight. All calls were analysed using an auto-identification tool at 95% confidence interval and were then checked by a suitably experienced ecologist.

### 2.4.3 Breeding Bird Surveys

- 2.4.3.1 Six breeding bird surveys were conducted on site between March 2023 and July 2023, following the Common Bird Census (CBC) territory mapping methodology (Bibby *et al.*, 2000).
- 2.4.3.2 They surveys commenced within half an hour after sunrise and were completed before any lull in activity, usually around midday. Following the latest survey guidelines an additional dusk survey visit was included as part of the assessment to cover the hour before until an hour after sunset, sampling for any crepuscular/nocturnal species which may have be present within the survey area.

### 2.4.4 Invertebrate Surveys

- 2.4.4.1 The methods used for the invertebrate surveys followed those recommended in the Natural England guidance document 'Surveying Terrestrial and Fresh Water Invertebrates for Conservation Evaluation' (Drake *et al.*, 2007. In some instances, a bespoke method was used for the site assessment which retained the overall approach to assessing features and habitats for conservation assessment. The bespoke methods related to the extent of the free-ranging sampling.
- 2.4.4.2 Methods included;
  - Sweep netting,
  - Spot sampling,
  - Beating, and
  - Pitfall traps

### 2.4.5 Kingfisher Surveys

- 2.4.5.1 A focused species-specific survey methodology was required, comprising a kingfisher habitat assessment and targeted Kingfisher survey. The surveys were based on the BTO Waterways Breeding Bird Survey (WBBS) methodology and methods as recommended by the National Roads Authority 'Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes' (NRA, 2009).
- 2.4.5.2 The survey area aimed to cover all watercourses within and immediately adjacent to the Proposed Development site and up to a distance of 500m upstream and downstream from the redline boundary, where suitable Kingfisher habitat was identified and where access permission allowed.
- 2.4.5.3 Following the habitat suitability assessment, four targeted kingfisher surveys were conducted between April and June 2023. For this assessment two vantage point locations were selected along Pendleton Brook. Following each VP survey, the survey area was then walked along a pre-determined transect route, at a slow steady pace and all Kingfisher observations and activity were recorded.

### 2.4.6 Otter Surveys

- 2.4.6.1 An otter survey and subsequent monitoring period was completed at the site between 2023 and 2024.
- 2.4.6.2 The otter survey involved surveying approximately 500m up and down Pendleton Brook, where access permitted, for signs of otter presence such as spraints, holts, footprints, feeding remains, slides (into water) and couches (above-ground resting areas) according to best practice guidance (Chanin, 2003).
- 2.4.6.3 A single potential otter holt feature was subsequently monitored via deployment of a trail camera for a period of seven weeks between June and July 2024. The trail camera was set to record continuously and any footage recorded was subsequently reviewed.

### 2.4.7 Reptile Surveys

2.4.7.1 Seven presence/likely absence surveys regarding to reptiles were conducted on site between March and September 2023. The surveys included the deployment of 79 artificial refugia in habitats that were considered suitable for reptiles. The methodology of each presence/likely absence survey followed standard guidance detailed within the Herpetofauna Workers' Manual (Gent & Gibson, 2003) and relevant reptile survey guidance (Froglife, 1999; Sewell et al., 2013).

### 2.4.8 Water Vole Surveys

2.4.8.1 Water vole surveys were conducted on site comprising a habitat suitability assessment and focused water vole surveys.

2.4.8.2 The habitat assessment was based on descriptions provided by Dean (2021) in Water Vole Field Signs and Habitat Assessment: A Practical Guide to Water Vole Surveys. While the water vole survey techniques were undertaken in accordance with the Water Vole Conservation Handbook (Strachan, Moorhouse & Gelling, 2011). The following characteristics for determining the presence of water vole were assessed: sightings, droppings and latrines, burrows, above-ground nests, feeding stations and lawns, prints and runs

### White-Clawed Crayfish Surveys 2.4.9

- White-clawed crayfish surveys were completed on site in 2024, comprising eDNA sampling. 2.4.9.1
- Water samples were collected from the brook during a period of summer when water levels 2.4.9.2 are lower with stable water temperatures (6<sup>th</sup> June) in line with government guidance. Twenty samples were collected from the brook, with the surveyor travelling in a zig-zag formation up stream, as to ensure no ancient sediment (which may contain historical DNA) becomes suspended in the water column.
- The eDNA samples were sent on 6th June 2024 to a certified laboratory to be analysed. 2.4.9.3

### 2.5 Ecological Impact Assessment

### 2.5.1 Baseline Scoping Exercise

- 2.5.1.1 As a separate scoping exercise in regard to ecological features has not been produced for the Proposed Development, instead, an embedded scoping exercise will be conducted within this report following the description of the baseline ecological conditions.
- 2.5.1.2 The CIEEM (2018) EcIA guidance confirms that detailed assessment of ecological features that are "widespread, unthreatened, and resilient to project impacts" is not necessary. And the baseline scoping exercise will follow these principles.

### 2.5.2 Characterisation of Effect

2.5.2.1 Potential effects associated with the Proposed Development are defined by the following terms:

### Positive or negative:

- 2.5.2.2 Positive Impact: An effect that benefits ecological receptors, such as habitat creation, restoration, or ecological enhancement that leads to improved biodiversity / clearly results in benefit to protected species, groups or habitats.
- 2.5.2.3 Negative impact: An effect that causes harm, degradation, displacement, damage or a decrease in abundance (population) or negatively affects the ability of species to survive or reproduce.

### Extent:

- 2.5.2.4 Extent describes the spatial area over which an impact occurs. Typically measured in hectares (in the context of habitats); metres and kilometres in the context of buffer zone and designated sites, or other relevant spatial scales.
- 2.5.2.5 Extent is useful when quantifying the proportion of an impacted ecological feature or the distance between ecological features and sources of impact

### Magnitude:

- 2.5.2.6 Magnitude refers to the size or intensity of an impact on an ecological receptor, considering factors such as the 'degree of change': is the impact minor (i.e. slight impact) or major (i.e. complete habitat destruction).
- 2.5.2.7 Magnitude is categorized from low to high, helping assess the overall significance of the impact on the receptor.

### Duration:

- 2.5.2.8 Duration describes the length of time an impact will last, often classified as:
  - Short-term: Lasting a few days to weeks (e.g., temporary noise disturbance).
  - Medium-term: Lasting months to a few years.
  - Long-term: Lasting several years but potentially reversible.
  - Permanent: Irreversible impact, such as permanent habitat loss.

### Timing:

- Timing relates to the specific period during which an impact occurs, which is important for 2.5.2.9 ecological features with seasonal sensitivity.
- For example, breeding seasons, migration periods, and hibernation times for certain species 2.5.2.10 and groups.
- Timing is relevant because certain impacts, such as vegetation clearance during the bird 2.5.2.11 nesting season, may have more severe ecological consequences if not appropriately timed.

### Frequency:

- Frequency refers to how often an impact occurs. This can range from: 2.5.2.12
  - Single event: One stand-alone occurrence; not repeated.
  - Intermittent: Occurs sporadically, typically over several weeks or months.
  - Continuous: An ongoing and regular impact without pause.
- Frequency is crucial in assessing cumulative stress on species and habitats, where repeated 2.5.2.13 disturbances might have a larger ecological effect.

### Reversibility:

- Reversibility indicates whether an impact can be undone or mitigated over time. 2.5.2.14
  - Reversible impacts: Impacts can be resolved or undone.
  - Irreversible impacts: Permanent impacts that cannot be restored/resolved.
- Reversibility is critical in determining long-term effects on biodiversity and helps guide 2.5.2.15 mitigation planning.

### Likelihood:

- Likelihood assesses the probability that an impact will occur, often categorised as: 2.5.2.16
  - Certain: The impact will occur with certainty.
  - Likely: High probability of occurring.
  - Possible: Moderate probability of occurring.
  - Unlikely: A low or negligible probability of occurrence.
- Likelihood is essential for understanding risk and uncertainty, helping to focus on impacts 2.5.2.17 that are more probable and to prioritise mitigation in the areas of highest risk.

### 2.5.3 Significance Criteria

2.5.3.1 A standardised set of significance criteria (the varying significance of an effect on any given ecological feature or habitat), in the context of the Proposed Development is provided below and summarised in Table 5.

### Major Beneficial:

2.5.3.2 Substantial, large-scale positive effects, such as creating or restoring high-value habitats over a significant extent (e.g., several hectares of priority habitat). These positive effects are typically long-term, permanent, and highly likely to occur, with high confidence in their success.

### Moderate Beneficial:

2.5.3.3 Positive changes of medium extent and magnitude, such as enhancing or connecting bat commuting corridors. These effects may be medium to long-term, with moderate likelihood of success depending on proper implementation and management.

### Minor Beneficial:

2.5.3.4 Small-scale positive effects, such as localised planting of native species or installation of bat boxes. These effects are often short-term to medium-term and reversible, with moderate to high likelihood of success.

### Negligible:

2.5.3.5 Impacts that result in no measurable change to ecological features, with no significant extent, magnitude, or duration. These are often associated with actions occurring outside sensitive timings (e.g., avoiding construction during the badger breeding season) and carry a high likelihood of no significant effect.

### Minor Adverse:

2.5.3.6 Negative effects of limited extent and magnitude, such as temporary disruption to bat commuting routes due to construction lighting or disturbance to badger setts. These impacts are typically short-term and reversible, with potentially moderate frequency but low magnitude.

### Moderate Adverse:

2.5.3.7 Medium-scale negative effects, such as partial loss of priority habitat or loss of outlier badger setts. These impacts may be medium-term and of moderate magnitude, occurring with moderate likelihood despite mitigation measures, and can be reversible with targeted restoration efforts.

### Major Adverse:

2.5.3.8 Large-scale, high-magnitude negative effects, such as permanent loss of main badger setts or destruction of irreplaceable habitats (i.e. ancient woodland). These are often irreversible, long-term impacts, with a high likelihood of occurrence.

		Magnitude of Impact				
		High	Medium	Low	Negligible	
Γ	High	Major	Moderate	Minor to Moderate	Negligible or Minor	
	Medium	Moderate	Minor to Moderate	Minor	Negligible	
	Low	Minor to Moderate	Minor	Negligible or Minor	Negligible	
	Negligible	Negligible or Minor	Negligible	Negligible	Negligible	

### 2.6 Constraints to the Assessment

- 2.6.1.1 Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.
- Where a lack of records is found during the desk search for a defined geographical area, it 2.6.1.2 does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.
- The conclusions and recommendations detailed in this report are based upon the site redline 2.6.1.3 boundary and the development proposals (as outlined by the client at the time of writing). Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.
- The findings of this report represent the professional opinion of qualified ecologists and do 2.6.1.4 not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited within this document.
- Two sections of Pendleton Brook (shown in Appendix 2) were not accessible during the 2.6.1.5 various field surveys due to land access requests being denied by various landowners. Much of the brook that runs immediately parallel the south of the site was surveyed and, when required, the survey was picked up approximately 250m further downstream.
- During automated static detector surveys in relation to bats, static detectors occasionally 2.6.1.6 malfunctioned when left in the field and as such, some nights did not record any activity. On Deployment 5, Static 3 did not record throughout the entire survey period. Due to the large number of calls recorded for the site, this is not anticipated to have had a major constraint on the outcome of the surveys.

# 2.7 Lifespan of Report

2.7.1.1 In accordance with CIEEMs Advice Note on the Lifespan of Ecological Reports and Surveys (CIEEM, 2019), the details of this report will remain valid for a minimum period of **18 months** from the date of issue.

### 3 Baseline Ecological Conditions

### 3.1 Desk Study

### 3.1.1 Site Location

3.1.1.1 The site is located on the rural-urban fringe of Clitheroe town, which is present approximately 1km north of the site. An un-named tributary of Pendleton Brook (a tributary of Mearley Brook which flows into the River Ribble) is present on site running north to south-west through the centre of the site. Pendleton Brook borders the south of the site running from east to west. The River Ribble is located approximately 1.5km west of the site, with Mearley Brook present approximately 35om west of the site. Residential properties are located to the north, north-west and west of the site with arable grassland present on all other aspects. Areas of woodland are present within the wider area to the south of the site. The A59 is present approximately 60om east of the site.

### 3.1.2 Designated Sites

- 3.1.2.1 There are no statutory designated sites of international importance (Ramsar, Special Protection Areas (SPA), or Special Areas of Conservation (SAC)) within 10km of the site. These sites are also known as 'former European sites', but are now referred to as 'national sites' following the Brexit (2019) EU Exit Regulations
- 3.1.2.2 Eight statutory sites of national importance, Sites of Special Scientific Interest (SSSI), are present within 10km of the site and are listed in Table 5.

Table 6.	SSSIs	within	the	Search Area	a
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Designated Site	Approximate Distance from Site
Salthill and Bellmanpark Quarries SSSI	1.7km north
Coplow Quarry SSSI	2.3km north
Light Clough SSSI	2.8km south
Little Mearley Clough SSSI	3.4km east
Hodder River Section SSSI	3.5km west
Clitheroe Knoll Reefs SSSI	3.8km northeast
Cock Wood Gorge SSSI	5.6km south
Harper Clough and Smalley Delph Quarries SSSI	9km southwest

- 3.1.2.3 Two sites of local importance are present within 10km of the site. The closest of which is Salthill Quarry Local Nature Reserve (LNR) located approximately 1.7km north of the site.
- 3.1.2.4 Six non-statutory designated sites are located within 1km of the site. All of which are Biological Heritage Sites (BHS) designated by Lancashire County Council. The closest is located approximately 320m west of the site related to Primrose Lodge BHS, which is designated for its artificial habitats and flowering plants and ferns, it also supports the largest known colony of Green Figwort, a nationally scarce species in the Ribble Valley.

### 3.2 Habitats and Flora

3.2.1.1 During the Phase 1 Habitat Survey, the site was found to comprise a mosaic of habitats including: Improved grassland, hedgerows with trees, broadleaved woodland, scattered trees, watercourses, and a building (Urban Green, 2022). The accompanying Habitat Map is presented in Figure 2.

### 3.2.2 Improved Grassland

3.2.2.1 Much of the site comprised areas of improved grassland that was utilised as agricultural meadow and pastureland. Species composition of this habitat was dominated by Yorkshire fog (*Holcus lanatus*), with occasional bird's foot trefoil (*Lotus corniculatus*), ribwort plantain (*Plantago lanceolata*) and mouse ear chickweed (*Cerastium fontanum*).

### 3.2.3 Hedgerows with trees

3.2.3.1 Two hedgerows were present within the western section of the site running from north to south. Both hedgerows were species poor and defunct with a number of trees associated with the hedge line. The hedgerows were dominated by hawthorn (*Crataegus monogyna*) while the trees associated with the hedgerows comprised ash (*Fraxinus excelsior*), pedunculate oak (*Quercus robur*), beech (*Fagus sylvatica*), and sycamore (*Acer pseudoplatanus*).

### 3.2.4 Broadleaved woodland and trees

- 3.2.4.1 A linear block of woodland was present extending through the centre of the site from north to south-west/west dissecting the eastern and western extents of the site. Species composition was varied and included ash, oak (Quercus sp.), alder (*Alnus glutinosa*), sycamore (*Acer pseudoplatanus*) and field maple (*Acer campestre*). The understory comprised regular parcels of scrub and common ground flora.
- 3.2.4.2 Furthermore, various scattered individual trees were present throughout the site extent.

### 3.2.5 Watercourses

- 3.2.5.1 An un-named tributary of Pendleton Brook was present on site, running through the centre of the broadleaved woodland and flowed into Pendleton Brook at its southern extent. This watercourse was relatively small and shallow holding little water.
- 3.2.5.2 Pendleton Brook immediately borders the south of the site and was a larger watercourse with areas of fast flowing water and deeper pools.

### 3.2.6 Buildings

3.2.6.1 One building (B1) was present on site comprising a dis-used brick barn located in the western section of the site.

### 3.3 Fauna

- 3.3.1.1 Numerous records of protected and notable species were returned during the desk study phase of the PEA, namely relating to vascular plants, invertebrates, amphibians, reptiles, birds, bats, hedgehog (*Erinaceus europaeus*), red squirrel (*Sciurus vulgaris*), fish, brown hare (*Lepus europaeus*), badger (*Meles meles*), otter (*Lutra lutra*), invasive flora, and invasive fauna.
- 3.3.1.2 A lack of records was returned from other protected or notable species such as great crested newt (*Triturus cristatus*), hazel dormice (*Muscardinus avellanarius*), water vole (*Arvicola amphibius*), and white-clawed crayfish (*Austropotamobius pallipes*).
- 3.3.1.3 When combining the desk study information with the habitats recorded both on and adjacent to the site (as part of the PEA assessment by Urban Green), it was assessed that the site had the potential to support the following species groups and further survey work was subsequently undertaken.

### 3.3.2 Barn Owl

- 3.3.2.1 Over three surveys undertaken on site in 2023, barn owl activity was only recorded briefly during the final survey and comprised foraging activity before commuting off site. Therefore, the site was confirmed to provide foraging value to barn owl.
- 3.3.2.2 Though, no barn owl activity was recorded in relation to B1 throughout the survey effort and as such breeding activity on site for 2023 was discounted.
- 3.3.2.3 However, during a dusk emergence survey completed on site in September 2024, focused on roosting bats, an incidental observation of barn owl was noted comprising an individual bird carrying prey in its talons flying into B1.
- 3.3.2.4 As such, barn owl have been confirmed present within the site extent and are likely to use B1 as roost site intermittently.

### 3.3.3 Bats

### Roosting bats

- 3.3.3.1 During the PRA conducted on site Building 1 was assessed as providing high bat roosting potential. Further to this, twenty-nine trees were assessed as providing various levels of bat roosting suitability during a GLTA survey.
- 3.3.3.2 Following various bat surveys conducted on site between 2023 and 2024 roosting bats were deemed to be likely absent from the site.
- 3.3.3.3 No emergence or re-entries were recorded in relation to Building and as such found not to support a bat roost, though consistent levels of foraging activity were observed surrounding the building and associated scrub and hedgerow habitats.
- 3.3.3.4 Following the completion of various bat surveys relating to trees, no live bats, signs of bats (staining, droppings etc.) emergences, or re-entries were recorded during any of the various surveys completed on site and it is therefore thought that roosting bats are likely absent.
- 3.3.3.5 However, twenty-trees are assessed as PRF-I, with one tree assessed as PRF-M.

### Table 7. Summary of roosting potential in trees on site

Tree References	Category of Suitability
T1, T2, T4, T5, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T19, T20, T22, T23, T25, T27, T29	PRF-I
T26	PRF-M

### Commuting and foraging bats

- 3.3.3.6 The site was confirmed to be used by a minimum of six bat species via the bat activity surveys conducted on site in 2023, namely common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*), leisler's (*Nyctalus leisleri*), brown long eared (*Plecotus auritus*), and *Myotis* sp., and the site was assessed as being an important foraging and commuting resource for local bat populations, particularly correlated with the southern boundary of the site that was associated with woodland habitat and the treelined watercourse (Pendleton Brook).
- 3.3.3.7 The more common and widespread species such as common and soprano pipistrelle were found to use the entirety of the site at some level. Though the more specialist species such as *Myotis* and brown long-eared were heavily associated with the southern woodland and watercourse.

### 3.3.4 Breeding Birds

- 3.3.4.1 The site was though to provide suitable habitats for breeding birds, namely the woodland, tree lines, scrub, and watercourses and as such breeding bird surveys were conducted on site in 2023.
- 3.3.4.2 The breeding bird surveys recorded the presence of 59 species within the survey area, of which there were 45 breeding. Of particular interest was Pendleton Brook and its associated fringe habitats, as well as the woodland habitat, boundary hedgerows, improved grassland, and derelict barn (B1).
- 3.3.4.3 The species recorded within the survey area that are listed on Schedule 1 of the Wildlife & Countryside Act 1981, NERC priority species, Lancashire LBAP, and/or Red or Amber BoCC and therefore, of 'conservation concern' are summarised in Table 7 below.

Table 8. Number of species, breeding composition and conservation status.

Conservation Status	Breeding	Total
Schedule 1 on WCA	1	3
Annex 1 on the Birds Directive	1	3
Species on BoCC Red List	5	10
Species on BoCC Amber List	13	18
NERC 'Species of Principle Importance'	6	8
Lancashire Local Biodiversity Action Plan (LBAP)	8	16

Conservation Status	Breeding	Total
Total Species Recorded	45	59

### Invertebrates 3.3.5

- The watercourses that flowed through and adjacent the site coupled with the woodland 3.3.5.1 habitat present within the site extent were thought to provide suitable opportunities for notable invertebrates and further survey work was recommended.
- During the targeted survey work 186 individual species were recorded within the site extent. 3.3.5.2 Though only two species recorded are awarded national status as nationally scarce, however, it was noted that many of the national recording schemes no longer recognise these species as nationally scarce and believe that their status may need revising.
- The woodland habitat and watercourse margins (marshland) were of most value while the 3.3.5.3 prominent habitat across the site (tall sward and scrub) was recorded as being of no particular value.

### Kingfisher 3.3.6

- Targeted kingfisher surveys were conducted following kingfisher activity noted as part of the 3.3.6.1 breeding bird surveys.
- A habitat suitability assessment identified the presence of a probable kingfisher nest hole 3.3.6.2 along Pendleton Brook, which was later confirmed as an active breeding site, directly adjacent the site extent.
- Breeding kingfisher are recorded as present within the survey area and Pendleton brook was 3.3.6.3 the main foraging/commuting route.

### Otter 3.3.7

- Evidence of otter activity was present along Pendleton Brook during survey work undertaken 3.3.7.1 in 2023, comprising spraints and two potential holt features (Feature 1 and Feature 2).
- Further monitoring was undertaken at the site in 2024 targeting Feature 1. Feature 2 had 3.3.7.2 deteriorated since the original survey and was no longer viable as a potential otter holt and was therefore not included in the monitoring.
- No otter activity was recorded during the monitoring period and it was deemed that Feature 3.3.7.3 1 was not an active otter holt.
- Breeding otter were deemed likely absent from the site however, commuting and foraging 3.3.7.4 individuals are confirmed along Pendleton Brook at the south of the site.

### 3.3.8 Reptiles

- The woodland, taller sward grassland, and watercourses that flow through/adjacent to the site 3.3.8.1 were thought to be suitable reptile habitation and as such presence/likely absence surveys in regard to reptiles were conducted on site in 2023.
- 3.3.8.2 Over seven survey visits no reptiles were recorded on site and the species group was deemed likely absent from the site extent.

### 3.3.9 Water vole

- 3.3.9.1 Pendleton Brook was assessed as providing suitable habitat for water vole and as such further survey work was completed on site in 2023.
- 3.3.9.2 No evidence of water voles was recorded during either survey of the Survey Area of Pendleton Brook.
- 3.3.9.3 As such, water vole were deemed likely absent from the site extent.

### 3.3.10 White-clawed crayfish

- 3.3.10.1 During the water vole surveys completed on site in 2023, Pendleton Brook and it's unnamed tributary that flows through the site extent were noted for the their potential to support white -clawed crayfish.
- 3.3.10.2 As such further survey work, in the form of eDNA sampling, was undertaken in 2024.
- 3.3.10.3 The results of the sampling came back negative from and therefore, white-clawed crayfish were deemed likely absent from the site.

### 3.4 Survey Data Validity Assessment

- 3.4.1.1 As the project has evolved the ecological survey data have aged. However, no survey data have been collated more than two survey seasons ago (i.e. before March 2023).
- 3.4.1.2 In addition to this Urban Green have been on site semi-regularly within both 2023 and 2024 and can confirm that no significant changes have occurred in terms of the management and condition of the site over the survey period.

### 3.5 Ecological features discounted from further assessment

- 3.5.1.1 As mentioned previously a separate scoping exercise in regard to ecological features has not been produced for the Proposed Development, instead, an embedded scoping exercise will be conducted within this report, based on CIEEM guidelines and using professional judgement.
- 3.5.1.2 At this stage of the assessment, it is deemed reasonable that, due to the lack of certain features occurring within the Survey Area or certain species being assessed as likely absent, that the following ecological features are discounted from further assessment.

### Designated sites

- 3.5.1.3 In regard to designated sites, the only sites of national importance within the survey area were designated solely for geological reasons and therefore, it is unlikely that features that lead to their designation are at risk as a result of the Proposed Development. It is assumed that the non-statutory designated sites located within the Survey Area are designated as such as they do not support protected species of fauna or flora in any meaningful way and as such will not be impacted by the project.
- 3.5.1.4 As such designated sites have been scoped out of further assessment.

### Invertebrates

- 3.5.1.5 While the site was found to support a high number of invertebrates during the targeted surveys, only two species are recorded as nationally scarce, with the other species generally accepted as common. Further to this, many of the national recording schemes no longer recognise the two notable species recorded on site as nationally scarce and believe that their status may need revising.
- 3.5.1.6 Therefore, it is believed that the project will not impact invertebrates in any significant way and they have been scoped out from further assessment.

### Reptiles

- 3.5.1.7 During the targeted reptile surveys no evidence of reptile presence was recorded and the species were eventually deemed likely absent from the site extent.
- 3.5.1.8 As such reptiles have been scoped out of further assessment.

### Water vole

- 3.5.1.9 During the targeted water vole surveys no evidence of water vole presence was recorded and the species were eventually deemed likely absent from the site extent.
- 3.5.1.10 As such water vole have been scoped out of further assessment.

### White-clawed crayfish

- 3.5.1.11 eDNA survey of the watercourses within the site extent returned negative results for whiteclawed crayfish presence and were therefore deemed likely absent from the site extent.
- 3.5.1.12 As such, white-clawed crayfish have been scoped out of further assessment.

### 3.6 Ecological features scoped in for further assessment

- 3.6.1.1 Based on the baseline and phase 2 protected species surveys, in combination with the Proposed Development, impacts to the below species groups and habitats cannot be reasonably discounted and are therefore scoped in for further assessment.
  - Priority habitats (namely woodland and watercourses)
  - Bats
  - Breeding birds (including barn owl and kingfisher), and
  - Otter

### 4 Embedded Mitigation

4.1.1.1 This section describes the measures which have been 'embedded' into the design of the Proposed Development.

### 4.2 Construction Phase

- 4.2.1.1 Avoidance is the primary mitigation tool which has been 'embedded' into the Proposed Development. This has been made possible by the commission of ecological and arboricultural expertise (Urban Green) to the Proposed Development, early enough in the project life cycle to influence the design. This is based on the latest masterplan drawing made available to Urban Green in November 2024 (see Appendix 2).
- 4.2.1.2 Specifically, the vast majority of woodland will be retained (by design) as part of the Proposed Development; this benefit also extends to various scattered trees, hedgerows, grassland fields and both watercourses that flow through/adjacent to the site.
- 4.2.1.3 As a consequence of this habitat retention, direct impacts on high quality foraging and commuting habitats for bats, barn owl, and otter, as well as nesting habitat for birds will also be avoided.
- 4.2.1.4 Retention of the aforementioned ecological features is intentional and is therefore considered avoidance (and therefore embedded mitigation); which is the primary and most favourable mechanism through which species and habitats are protected, following the mitigation hierarchy.

# 4.3 Operational Phase

4.3.1.1 There is currently no confirmed embedded mitigation for the operational phase of the development. Although it is likely that a Construction Environment Management Plan (CEMP) will be produced for the Proposed Development, this has not yet been authored and therefore the assessment will proceed in lieu of this or other documents that will be produced in the future (e.g. Ecological Enhancement Plan)

# 5 Assessment of Likely Significant Effects

This section details the potential effects of the scheme and their significance (taking into account embedded mitigation where appropriate); covering the potential effects. Where recommendations (within existing ecological or arboricultural reports) have been made, but there is no evidence that these have been solidified as 'embedded mitigation within the Proposed Development, 'potential effects' will be assessed in the absence of these recommendations.

Table 9. Likely Significant Effects - Construction Phase

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)
Broadleaved woodland, scattered trees, and hedgerows	Broadleaved woodland is a Habitat of Principal Importance (HPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).  The Proposed Development would necessitate the removal of one individual tree (T52) assessed as BS 5837: 2012 'High Quality' Retention Category 'A'; three hedgerows (H7, H8 and H16) and a section of one further hedgerow (H34) assessed as BS 5837: 2012 'Moderate Quality' Retention Category 'B'; and four individual trees (T9, T10, T11 and T46) and one tree group (G12) assessed as BS 5837: 2012 'Low Quality' Retention Category 'C',  Broadleaved woodland, trees, and hedgerows are an important habitat for many species of fauna providing roosting, nesting and foraging opportunities (namely in the context of birds and bats). For this reason, bat roosts have the potential to be lost, as well as direct impacts (destruction) of bird nests and their eggs and/or young. As bat and birds are discussed separately below, the Potential Effect will focus on habitat loss in isolation.	Although the majority of broadleaved woodland will be retained as part of the Proposed Development, there is currently not embedded mitigation that is directly linked with tree felling or compensatory planting.  An Arboricultural Method Statement (AMS) was recommended as part of the AIA but has not yet been commissioned. For that reason, there is no embedded mitigation to address removal of these individual trees and hedgerows or potential impacts to the root systems of retained trees or woodland parcels.	As the proposals include the removal of individual trees, both isolated and within areas of woodland as well as tree groups and hedgerows the potential effect associated with these activities is assessed as moderate adverse in the long term at the local level and would equate to a significant effect.  Given the maturation period required to replace woodland habitat, the loss would be reversable, however over 20-30 year time period.
Rivers/watercourses	Rivers are a Habitat of Principal Importance (HPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).  While Pendleton Brook is not strictly present with the site extent it immediately borders the southern boundary and an unnamed stream which is a direct tributary flows within the site extent.	Pendleton Brook is to be completely retained as part of the Proposed Development, which would equate to embedded mitigation.	As the proposals include the retention of Pendleton Brook and its unnamed tributary the potential effects are likely to fall to indirect impacts i.e., increased run off.  Such impacts have the potential to degrade the water quality of the watercourses.

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)
	Rivers and other watercourse are an important habitat for a variety of species of fauna providing nesting, foraging, and commuting opportunities (namely in the context of birds, bats, otter).  Therefore, there is the potential for nesting birds, bats and other aquatic mammals to be impacted by the Proposed Development.  As bats, birds and otter are discussed separately below, the Potential Effect will focus on impacts to the river habitat in isolation.		The potential effect associated with these impacts are assessed as <b>moderate adverse</b> in the <b>long term</b> at the <b>regional level</b> and would equate to a <b>significant effect</b> .
Bats	The Proposed Development will result in the loss of <i>potential</i> roosting sites and foraging areas. Furthermore, in the absence of mitigation, felling of trees on site could result in the killing and injuring of individual bats.  Five trees assessed as PRF-I are to be felled as part of the proposals, with one building assessed as high bat roosting potential also to be demolished.  All UK bat species are strictly protected under the Habitats and Species Regulations (2017) as well as the Wildlife and Countryside Act (WCA) (1981), as amended.	There is currently no embedded mitigation that addresses impacts to bats on site.  Notwithstanding this, various recommendations relating to bats have been made within the combined 2023 protected species report (Urban Green, 2024b) and the roosting bat report (Urban Green, 2024d) which include mitigation and enhancement in the form of lighting, protective fencing, installation of bat boxes and compensatory planting.	Under the worst-case assumption that the potential roosting sites support bat roosts the loss of roosts combined with the killing or injury of bats is assessed as major adverse in the short term at the local level. This effect would be permanent and constitute a significant impact.  In the context of the permanent loss of some foraging areas on site the potential effect would be minor adverse in the long term at the local level, though would be deemed as non-significant.  This effect would be reversable by the means of compensatory planting schemes.
Breeding birds (including barn owl and kingfisher)	The Proposed Development will lead to the direct loss of suitable nesting habitat and potential nest sites of common bird species. All active bird nests are protected through the WCA (1981) making it an offence to intentionally damage or destroy a bird nest when in active use.  Further to the above, birds listed on Schedule 1 of the WCA (1981) (kingfisher and barn owl) are also protected from disturbance while nesting.  A single pair of kingfisher were recorded breeding directly adjacent the site extent along Pendleton Brook.  Barn owl were observed utilising the site in both 2023 and 2024 though nesting activity on site was never confirmed. However, the abandoned barn building onsite still provides high suitability for nesting barn owl in the future.	Following the results of the kingfisher surveys in 2023 and the confirmation of an active kingfisher nest hole, the central block of woodland adjacent to Pendleton Brook was included as retained within the proposals, this has been assessed as equating to embedded mitigation.  Further to this the proposals for the site aim to retain a large quantity of suitable nesting habitat (i.e. woodland, hedgerows, and scattered trees). This has also been assessed as embedded mitigation.	The potential effect of the Proposed Development would consist of the destruction of active bird nests, their eggs, and young as part of scheduled vegetation clearance as well disturbance to an active kingfisher nest site during construction works.  The effects in relation to common nesting birds are assessed as moderate adverse in the short term at the local level and would be permanent, equating to a significant effect.  The effects in relation to kingfisher are assessed as moderate adverse in the short term at the local level and would be permanent, equating to a significant effect.

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)
Otter	Otter are strictly protected under the Habitats and Species Regulations (2017) as well as the Wildlife and Countryside Act (WCA) (1981), as amended.  Otter were not recorded breeding or resting on site, though	There is currently no embedded mitigation that	The potential effect of the Proposed Development would comprise the degradation of suitable commuting and foraging grounds for otter.  This would mainly be through the decline of the water quality as a result of increased surface run off and other
	evidence of commuting and foraging activity along Pendleton Brook was present.  The Proposed Development will not lead to the direct loss of otter breeding or resting sites. However, there is the potential that suitable commuting and foraging grounds could be impacted.	addresses impacts to bats on site.	pollution pathways.  The potential effect associated with these impacts are assessed as minor adverse in the long term at the local level, though would be deemed non-significant.

Table 10. Likely Significant Effects - Operational Phase

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)
Broadleaved woodland, scattered trees, and hedgerows	As the Proposed Development comprises the construction of 265 units (total), over two phases, and following the precautionary principle and assuming that all residents are new residents moving into the local area. The Proposed Development will lead to an increase approximately 636 new residents (based on the 2.4 residents per dwelling as suggested by the Office for National Statistics, 2021).  As such, during the operational phase of the development there is the potential for the woodland parcels, scattered trees and hedgerows present within the site extent to be subject to increased levels of disturbance through both direct and indirect means.	The proposals for the site include the retention of the central band of grassland which equates to approximately 30% of the total site area. The retention of this green space within the site provides residents suitable areas for recreation away from the woodland habitat.  Therefore, this retention of green space has been assessed as embedded mitigation.	The Proposed Development has the potential to impact the onsite woodland through an increased level of disturbance by residents (i.e. trampling, littering, antisocial behaviour).  The potential effect associated with these impacts are assessed as minor adverse in the long term at the local level, though would be deemed non-significant.
Rivers/watercourses	Similar to that described in the row above, the operational phase of the development has the potential to impact the quality of the watercourses that flow through and adjacent to the site both through direct and indirect means.	Pendleton Brook is to be completely retained as part of the Proposed Development, and a Sustainable Drainage System (SuDS) is proposed to be created at the western extent of the site.  These actions are assessed as embedded mitigation.	The Proposed Development has the potential to impact the watercourses on site and adjacent through an increased level of disturbance by residents (i.e. littering and dog walking).  There is also the potential for increased runoff into the watercourses as a result of the introduction of impermeable surfaces, which may reduce their water quality.  The potential effect associated with these impacts are assessed as minor adverse in the long term at the regional level and would be deemed non-significant.
Bats	The Proposed Development will require the installation of permanent artificial lighting infrastructure.  Furthermore, the operational phase of the development will result in an increased level of noise within the site extent.	There is currently no embedded mitigation that addresses impacts to bats on site.	Changes to the artificial lighting conditions on site (and in particular adjacent to woodland parcels and watercourses) and an increased noise level has the potential to impact bat roosts, as well as commuting and foraging routes through the abandonment of roost locations or reduction in foraging quality/fragmentation to other suitable habitats.  The potential effect associated with these impacts are assessed as moderate adverse in the long term at a local level and would equate to a significant effect.

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)
Breeding birds (including barn owl and kingfisher)	In respect to birds (i.e. kingfisher and barn owl) listed on Schedule 1 of the WCA (1981), as amended, the Proposed Development has the potential to disturb breeding activity of protected bird species as a result of increased noise and lighting, as well as the loss of suitable foraging grounds.	There is currently no embedded mitigation that addresses impacts to breeding birds on site.	Increased levels of noise and lighting, coupled with the loss of suitable foraging grounds could lead to the abandonment of nesting sites or disturbance to breeding activity.  The potential effect associated with these impacts are assessed as moderate adverse in the long term at a local level and would equate to a significant effect.
Otter	The Proposed Development will result in the construction of 265 homes. Applying the national average of dog ownership being at 36% of households (Statista Research Department, 2024) a total of 95.4 households will likely own at least on dog.  Dog walkers currently use the site as a regular route particularly along Pendleton Brook. As a result, an increase in dog walkers may impact otters using the watercourse.	Pendleton Brook is to be completely retained as part of the Proposed Development, which would equate to embedded mitigation.	An increase in dog walkers utilising Pendleton Brook as a recreational area may lead to the suitability of the watercourse for otter decreasing due to the increased predation risk and disturbance, particularly during daylight hours.  The potential effect associated with these impacts are assessed as minor adverse in the long term at the local level and would be deemed as non-significant.

# 6 Additional Mitigation/Enhancement Measures

- 6.1.1.1 It is an established principle (CIEEM, 2018) that, wherever possible, potential negative effects on the ecology of the site and its zone of influence should be avoided, or limited as best possible, through 'Mitigation by Design', as this gives greater certainty over deliverability, demonstrates a well-designed scheme and ensures the correct application of the 'Mitigation Hierarchy' (as advocated by BS42020:2013, Defra 2019 and CIEEM, CIRIA & IEMA 2016).
- 6.1.1.2 This section describes the measures that are required to mitigate any significant effects with regards to ecology. The measures detailed below are not designed into the proposals (i.e. are not considered embedded mitigation), and which require a commitment from the applicants to carry out further actions.

### 6.2 Construction Phase

### 6.2.1 Broadleaved Woodland, Hedgerows, and Trees

- 6.2.1.1 An Arboricultural Impact Assessment (Urban Green, 2024a) has been prepared in relation to the Proposed Development. This document provides detailed protection measures, which include protective fencing around all retained trees. Precise specifications are included and suitable signage recommended.
- 6.2.1.2 It was also recommended that an Arboriculural Method Statement (AMS) be produced that will provide solutions and working methods so that the impacts identified do not have detrimental effect on retained trees.

### 6.2.2 Rivers/watercourses

- 6.2.2.1 The protective fencing proposed in the AIA (Urban Green, 2024a), is assessed as providing a suitable buffer zone from both watercourses that flow through and adjacent to the site.
- 6.2.2.2 The buffer zone will prevent direct impacts to the watercourses; however, indirect impacts are still possible. As such, it is additionally recommended that silt fencing be installed along the parts of Pendleton Brook that flows adjacent to the site, and along the unnamed tributary that flows through the centre of the site.

### 6.2.3 Bats

- 6.2.3.1 The bat chapter within the Combined 2023 Protected Species Report (Urban Green, 2024b) and the Roosting Bat Report (Urban Green, 20204d) both provide mitigation recommendations to minimise the impact on bats during the construction phase. The recommendations from these reports are detailed below and should be adopted as additional mitigation as part of the Proposed Development;
  - Fencing off of important habitats for commuting and foraging bats (this will be suitably secured through protective fencing proposed within the AIA).
  - Sensitive lighting scheme following the principles laid out in Guidance Note 08/23: Bats and Artificial Lighting at Night (BCT &ILP, 2023).
  - Suitable planting and management regime in areas of retained habitats and areas of Public Open Space (POS).
  - Trees assessed as PRF-I are to be felled under a Precautionary Method of Works (PMoW) document.

### 6.2.4 Breeding Birds

6.2.4.1 The associated chapters (Breeding Birds, Barn Owl, and Kingfisher) in the Combined 2023
Protected Species Report (Urban Green, 2024b) provide mitigation recommendations to
minimise impacts on breeding birds during the construction phase. These are detailed below:

### Breeding Birds/Barn owl

- Any works that require vegetation clearance should be timed to avoid the bird
  nesting season, generally accepted to be March to August, inclusive. If this timing is
  impractical then before any works commence, checks for the presence of breeding
  birds should be conducted by suitably qualified ecologist.
- The demolition of the abandoned barn structure should be sensitively undertaken during the least likely breeding season for barn owl (typically taken to be October to December) under the supervision of a suitably qualified ecologist.

### Kingfisher

 A 50m buffer zone from the confirmed kingfisher nest hole should be implemented and adhered to during all constructions works undertaken during the kingfisher breeding season (i.e. March to July, inclusive), following guidance laid out by Nature Scot (2024)

### 6.2.5 Otter

- 6.2.5.1 While active otter breeding sites have been reasonably discounted from the site extent commuting and foraging otter have been confirmed present along Pendleton Brook.
- 6.2.5.2 The associated chapter within the Combined 2023 Protected Species Report (Urban Green, 2024b) provides mitigation recommendations to minimise impacts on otter. This mainly relates to works adhering to a Precautionary Method of Works that include:
  - Requirement for a toolbox talk
  - No works within 30m of Pendleton Brook undertaken after dusk or before dawn
  - Any man-made excavations, trenches or pits relating to the development that must remain open overnight will either be securely fenced off or covered up overnight to avoid entrapment of otters, if left open, access ramps will be placed within the excavation each night near to crossing points to allow any animals that accidentally fall into the excavation a means of climbing out.
  - Any temporarily exposed open pipe system will be capped in such a way as to prevent otters gaining access, as this may happen when contractors are off-site.
  - Stacked pipes and pallets, where they are within 30m of Pendleton Brook are to be inspected daily before the start of works.
- 6.2.5.3 The previously recommended protective fencing and lighting mitigation measures will also provide suitable mitigation in regard to otter.

### 6.3 Operational Phase

### 6.3.1 Broadleaved Woodland, Hedgerows, and Trees

6.3.1.1 It is additionally recommended that the plans for the site include designated public paths through the woodland where appropriate to prevent the public roaming freely through more sensitive areas. The scheme should also provide a suitable number of bins in suitable locations to prevent littering.

### 6.3.2 Rivers/Watercourses

6.3.2.1 It is recommended that enhancement planting of riparian vegetation along the buffer of Pendleton Brook and its tributary is completed to intercept potential pollutants.

### 6.3.3 Bats

- 6.3.3.1 A lighting scheme for the operational phase should also be produced that follows the principles laid out in Guidance Note o8/23: Bats and Artificial Lighting at Night (BCT &ILP, 2023).
- 6.3.3.2 Additional enhancement measures have been recommended as part of the operational phase relating to the installation of alternative artificial roosting provisions, targeting the bat species identified utilising the site.

### 6.3.4 Breeding Birds

### Breeding Birds/Barn Owl

- 6.3.4.1 The Combined 2023 Protected Species report (Urban Green, 2024b) recommended that the scheme include alternative artificial nest boxes in the following quantities:
  - Barn owl two boxes
  - Common breeding birds 10 boxes (targeting the Birds of Conservation Concern listed species within the survey area, such as tawny owl, stock dove, house sparrow, starling, and kestrel, as well swifts).

### Kingfisher

- 6.3.4.2 The kingfisher chapter of the Combined 2023 Protected Species report (Urban Green, 2024b), recommended the following mitigation measures to protect the confirmed kingfisher breeding site during the operational phase:
  - Directional fencing and planted screening, where practicable, along Pendleton Brook to prevent access to the western half of the brook for people and dogs.
  - Consideration of targeted viewing areas that will encourage the public not to attempt
    access to the watercourse at sporadic locations, supplemented with notice boards
    and signs that will raise local awareness.

### 6.3.5 Otter

6.3.5.1 The recommendations detailed above in relation to kingfisher will also provide mitigation in regard to commuting and foraging otter by dissuading the public from utilising the entire length of the watercourse and maintaining a level of suitably secure foraging grounds.

# 7 Residual Effects and Mitigation Measures

7.1.1.1 The residual effect assessment (detailed in the Residual Effects tables below) assume that the additional mitigation measures described in the section above will be implemented in full. Negligible residual effects are non-significant.

Table 11. Residual Effects Summary - Construction Phase

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Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)	Additional Mitigation / Enhancement Measures	How are Additional Mitigation / Embedded Mitigation / Enhancement Measures secured?	Residual Effect (inc. Significance)
Broadleaved woodland, scattered trees, and hedgerows	Broadleaved woodland is a Habitat of Principal Importance (HPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).  The Proposed Development would necessitate the removal of one individual tree (T52) assessed as BS 5837: 2012 'High Quality' Retention Category 'A'; three hedgerows (H7, H8 and H16) and a section of one further hedgerow (H34) assessed as BS 5837: 2012 'Moderate Quality' Retention Category 'B'; and four individual trees (T9, T10, T11 and T46) and one tree group (G12) assessed as BS 5837: 2012 'Low Quality' Retention Category 'C',  Broadleaved woodland, trees, and hedgerows are an important habitat for many species of fauna providing roosting, nesting and foraging opportunities (namely in the context of birds and bats). For this reason, bat roosts have the potential to be lost, as well as direct impacts (destruction) of bird nests and their eggs and/or young. As bat and birds are discussed separately below, the Potential Effect will focus on habitat loss in isolation.	Although the majority of broadleaved woodland will be retained as part of the Proposed Development, there is currently not embedded mitigation that is directly linked with tree felling or compensatory planting.  An Arboricultural Method Statement (AMS) was recommended as part of the AIA but has not yet been commissioned. For that reason, there is no embedded mitigation to address removal of these individual trees and hedgerows or potential impacts to the root systems of retained trees or woodland parcels.	As the proposals include the removal of individual trees, both isolated and within areas of woodland as well as tree groups and hedgerows the potential effect associated with these activities is assessed as moderate adverse in the long term at the local level.  Given the maturation period required to replace woodland habitat, the loss would be reversable, however over 20-30 year time period.	An AIA (Urban Green, 2024a) has been prepared in relation to the Proposed Development. And the protective measures detailed (i.e. protective fencing) will be followed.  An AMS will also be produced and adhered to throughout the construction phase that will provide solutions and working methods so that the impacts identified do not have detrimental effect on retained trees.	Production of the AMS can be secured through planning conditions. Furthermore these documents should be directly referred to during the construction phase of the works or used to inform a Construction and Environment Management Plan (CEMP), which can also be secured through planning conditions.	Based on the assumption that a soft landscaping scheme and AMS are produced and the recommendations are followed during the construction phase, the residual impacts are assessed as negligible in the long term at the local level.

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Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)	Additional Mitigation / Enhancement Measures	How are Additional Mitigation / Embedded Mitigation / Enhancement Measures secured?	Residual Effect (inc. Significance)
Rivers / watercourses	Rivers are a Habitat of Principal Importance (HPI) under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).  While Pendleton Brook is not strictly present with the site extent it immediately borders the southern boundary and an unnamed stream which is a direct tributary flows within the site extent.  Rivers and other watercourse are an important habitat for a variety of species of fauna providing nesting, foraging, and commuting opportunities (namely in the context of birds, bats, otter). Therefore, there is the potential for nesting birds, bats and other aquatic mammals to be impacted by the Proposed Development.  As bats, birds and otter are discussed separately below, the Potential Effect will focus on impacts to the river habitat in isolation.	Pendleton Brook is to be completely retained as part of the Proposed Development, which would equate to embedded mitigation.	As the proposals include the retention of Pendleton Brook and its unnamed tributary the potential effects are likely to fall to indirect impacts i.e., increased run off.  Such impacts have the potential to degrade the water quality of the watercourses.  The potential effect associated with these impacts are assessed as moderate adverse in the long term at the regional level.	The protective fencing proposed in the AIA (Urban Green, 2024a), provides a suitable buffer zone from both watercourses that flow through and adjacent to the site.  The buffer zone will prevent direct impacts to the watercourses; however, indirect impacts are still possible. As such, it is additionally recommended that silt fencing be installed along the parts of Pendleton Brook that flows adjacent to the site, and along the unnamed tributary that flows through the centre of the site.	The measures recommended can be included within a CEMP that can be secured through planning conditions.	Based on the assumption that a CEMP covering the recommended items is produced and adhered during the construction phase, the residual impacts are assessed as negligible in the long term at the regional level.
Bats	The Proposed Development will result in the loss of potential roosting sites and foraging areas. Furthermore, in the absence of mitigation, felling of trees on site could result in the killing and injuring of individual bats.  Five trees assessed as PRF-I are to be felled as part of the proposals, with one building assessed as high bat roosting potential also to be demolished.  All UK bat species are strictly protected under the Habitats and Species Regulations (2017) as well as the Wildlife and Countryside Act (WCA) (1981), as amended.	There is currently no embedded mitigation that addresses impacts to bats on site.  Notwithstanding this, various recommendations relating to bats have been made within the combined 2023 protected species report (Urban Green,	Under the worst-case assumption that the potential roosting site s support bat roosts the loss of roosts combined with the killing or injury of bats is assessed as major adverse in the short term at the local level. This effect would be permanent.  In the context of the permanent loss of some	The habitats of most importance to foraging and commuting bats will be retained within the development and fenced off during construction works with a suitable buffer distance in place.  A sensitive lighting scheme during construction will be implemented that follows the principles laid out in the	The measures recommended can be secured through targeted planning conditions, in relation to production of a CEMP and sensitive lighting scheme.	In regard to roosting bats and based on the assumption that the recommended measures are implemented in full and followed throughout the construction phase the residual impacts are assessed as negligible in the long term at the local level.

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)	Additional Mitigation / Enhancement Measures	How are Additional Mitigation / Embedded Mitigation / Enhancement Measures secured?	Residual Effect (inc. Significance)
		2024b) and the roosting bat report (Urban Green, 2024d) which include mitigation and enhancement in the form of lighting, protective fencing, installation of bat boxes and compensatory planting.	foraging areas on site the potential effect would be minor adverse in the long term at the local level. This effect would be reversable by the means of compensatory planting schemes.	best practice guidance from the BCT & ILP (2023). Furthermore, the trees with PRF-I roosting potential are to be felled under a PMoW document.		In regard to commuting and foraging bats and based on the assumption that the recommended measures are implemented in full and followed throughout the construction phase the residual impacts are assessed as minor adverse in the short term at the local level. Though would be deemed non-significant.
Breeding birds (including barn owl and kingfisher)	The Proposed Development will lead to the direct loss of suitable nesting habitat and potential nest sites of common bird species. All active bird nests are protected through the WCA (1981) making it an offence to intentionally damage or destroy a bird nest when in active use.  Further to the above, birds listed on Schedule 1 of the WCA (1981) (kingfisher and barn owl) are also protected from disturbance while nesting.  A single pair of kingfisher were recorded breeding directly adjacent the site extent along Pendleton Brook.  Barn owl were observed utilising the site in both 2023 and 2024 though nesting activity on site was never confirmed. However, the abandoned barn building onsite still provides high suitability for nesting barn owl in the future.	Following the results of the kingfisher surveys in 2023 and the confirmation of an active kingfisher nest hole, the central block of woodland adjacent to Pendleton Brook was included as retained within the proposals, this has been assessed as equating to embedded mitigation.  Further to this the proposals for the site aim to retain a large quantity of suitable nesting habitat (i.e. woodland, hedgerows,	The potential effect of the Proposed Development would consist of the destruction of active bird nests, their eggs, and young as part of scheduled vegetation clearance as well disturbance to an active kingfisher nest site during construction works.  The effects in relation to common nesting birds are assessed as moderate adverse in the short term at the local level and would be permanent.  The effects in relation to kingfisher are assessed as	Through the construction phase any vegetation removal will be timed to avoid the bird nesting season (March to August, inclusive), if this is not possible checks for breeding bird activity will be conducted by a suitably experienced ecologist.  The demolition of the barn will be undertaken between October and December under the supervision of a suitably qualified ecologist.  A 50m buffer zone from the confirmed kingfisher breeding site will be	The measures recommended can be implemented within a CEMP that can be secured through planning conditions.	Assuming that all recommended mitigation measures are implemented and adhered to throughout the construction phase;  The residual impacts in regard to common breeding birds and barn owl are assessed as being negligible in the long term at the local level.  The residual impacts in regard to kingfisher are assessed as being minor adverse in the short term at the local level, though would be deemed non-significant.

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)	Additional Mitigation / Enhancement Measures	How are Additional Mitigation / Embedded Mitigation / Enhancement Measures secured?	Residual Effect (inc. Significance)
		and scattered trees). This has also been assessed as embedded mitigation.	moderate adverse in the short term at the local level and would be permanent.	implemented during construction works during the kingfisher breeding season (March to July, Inclusive).		
Otter	Otter are strictly protected under the Habitats and Species Regulations (2017) as well as the Wildlife and Countryside Act (WCA) (1981), as amended.  Otter were not recorded breeding or resting on site, though evidence of commuting and foraging activity along Pendleton Brook was present.  The Proposed Development will not lead to the direct loss of otter breeding or resting sites. However, there is the potential that suitable commuting and foraging grounds could be impacted.	There is currently no embedded mitigation that addresses impacts to bats on site.	The potential effect of the Proposed Development would comprise the degradation of suitable commuting and foraging grounds for otter.  This would mainly be through the decline of the water quality as a result of increased surface run off and other pollution pathways.  The potential effect associated with these impacts are assessed as moderate adverse in the long term at the local level.	A PMoW document will be produced that details precautionary working methods in relation to commuting and foraging otter such as requirement for a toolbox talk and a 30m buffer zone from Pendleton Brook after dusk and before dawn.	The recommended mitigation can be included within the CEMP that can be secured through planning conditions.	Assuming the recommended mitigation measure are implemented in full the residual impacts are assessed as negligible in the long term at the local level.

Table 12. Residual Effects Summary – Operational Phase

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)	Additional Mitigation / Enhancement Measures	How are Additional Mitigation / Embedded Mitigation / Enhancement Measures secured?	Residual Effect (inc. Significance)
Broadleaved woodland, scattered trees, and hedgerows	As the Proposed Development comprises the construction of 265 units (total), over two phases, and following the precautionary principle and assuming that all residents are new residents moving into the local area. The Proposed Development will lead to an increase approximately 636 new residents (based on the 2.4 residents per dwelling as suggested by the Office for National Statistics, 2021).  As such, during the operational phase of the development there is the potential for the woodland parcels, scattered trees and hedgerows present within the site extent to be subject to increased levels of disturbance through both direct and indirect means.	The proposals for the site include the retention of the central band of grassland which equates to approximately 30% of the total site area. The retention of this green space within the site provides residents suitable areas for recreation away from the woodland habitat.  Therefore, this retention of green space has been assessed as embedded mitigation.	The Proposed Development has the potential to impact the onsite woodland through an increased level of disturbance by residents (i.e. trampling, littering, antisocial behaviour).  The potential effect associated with these impacts are assessed as minor adverse in the long term at the local level.	The site design will include designated footpaths through the woodland habitat in appropriate areas away from more sensitive locations and a suitable number of bins will be provided within the design.	This can be secured through the landscape drawings for the site that will provide specific detail on specification and location of recommended features.	Assuming that the proposed measures are integrated into the site design then the residual impact at the operational phase is assessed as being negligible in the long term at the local level.
Rivers/watercourses	Similar to that described in the row above, the operational phase of the development has the potential to impact the quality of the watercourses that flow through and adjacent to the site both through direct and indirect means.	Pendleton Brook is to be completely retained as part of the Proposed Development, and a Sustainable Drainage System (SuDS) is proposed to be created at the western extent of the site.	The Proposed Development has the potential to impact the watercourses on site and adjacent through an increased level of disturbance by residents (i.e. littering and dog walking).  There is also the potential for increased runoff into the watercourses as a result of the introduction of impermeable	Additional enhancement planting of riparian vegetation is recommended along Pendleton Brook and it's tributary to intercept potential pollutants during the operation phase.	The additional measures can be included within the landscape drawings for the site.	Assuming that the proposed measures are integrated into the site design then the residual impact at the operational phase is assessed as being negligible in the long term at the regional level.

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)	Additional Mitigation / Enhancement Measures	How are Additional Mitigation / Embedded Mitigation / Enhancement Measures secured?	Residual Effect (inc. Significance)
		These actions are assessed as embedded mitigation.	surfaces, which may reduce their water quality.  The potential effect associated with these impacts are assessed as minor adverse in the long term at the regional level.			
Bats	The Proposed Development will require the installation of permanent artificial lighting infrastructure.  Furthermore, the operational phase of the development will result in an increased level of noise within the site extent.	There is currently no embedded mitigation that addresses impacts to bats on site.	Changes to the artificial lighting conditions on site (and in particular adjacent to woodland parcels and watercourses) and an increased noise level has the potential to impact bat roosts, as well as commuting and foraging routes through the abandonment of roost locations or reduction in foraging quality/fragmentation to other suitable habitats.  The potential effect associated with these impacts are assessed as moderate adverse in the long term at a local level.	A lighting scheme that follows the principles laid out in the best practice guidance note (BCT & ILP, 2023) will be implemented throughout the operational phase of the development.  Further to this, alternative artificial roosting provisions will be included within the site design.	The proposed mitigation and enhancements can be secured in planning conditions that specially target lighting schemes and an ecological enhancement plan.	Assuming that all mitigation and enhancement recommendations are integrated into the post development;  The residual impact in regard to roosting bats is assessed as being negligible/minor beneficial in the long term at the local scale.  The residual impact in regard to commuting and foraging bats is assessed as being negligible in the long term at the local scale
Breeding birds (including barn owl and kingfisher)	In respect to birds (i.e. kingfisher and barn owl) listed on Schedule 1 of the WCA (1981), as amended, the Proposed Development has the potential to disturb breeding activity of protected bird species as a result of increased noise and lighting, as well as the loss of suitable foraging grounds.	There is currently no embedded mitigation that addresses impacts to breeding birds on site.	Increased levels of noise and lighting, coupled with the loss of suitable foraging grounds could lead to the abandonment of nesting sites or disturbance to breeding activity.	Alternative artificial nesting provisions targeting barn owl and other Birds of Conservation Concern that were recorded using the site will be included within the site design.	The additional recommendations can be secured through the landscape designs for the site and through the	Assuming that the recommended measures are implemented in full;  The residual impact in regard to common breeding birds and barn

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)	Additional Mitigation / Enhancement Measures	How are Additional Mitigation / Embedded Mitigation / Enhancement Measures secured?	Residual Effect (inc. Significance)
			The potential effect associated with these impacts are assessed as moderate adverse in the long term at a local level.	Further to this directional fencing and planted screening along Pendleton Brook should be incorporated into the design within the vicinity of the confirmed kingfisher breeding site and targeted viewing areas considered to deter the public from attempting access to the watercourse and sporadic/sensitive locations.	production of an ecological enhancement plan, which can be conditioned at planning.	owl is assessed as negligible in the long term at the local scale.  The residual impact in regard to kingfisher is assessed as negligible in the long term at the local scale.
Otter	The Proposed Development will result in the construction of 265 homes. Applying the national average of dog ownership being at 36% of households (Statista Research Department, 2024) a total of 95.4 households will likely own at least on dog.  Dog walkers currently use the site as a regular route particularly along Pendleton Brook. As a result, an increase in dog walkers may impact otters using the watercourse.	Pendleton Brook is to be completely retained as part of the Proposed Development, which would equate to embedded mitigation.	An increase in dog walkers utilising Pendleton Brook as a recreational area may lead to the suitability of the watercourse for otter decreasing due to the increased predation risk and disturbance, particularly during daylight hours.  The potential effect associated with these impacts are assessed as minor adverse in the long term at the local level.	The mitigation measures detailed above in relation kingfisher and the river/watercourses are assessed as providing suitable mitigation in relation to otter as well.	Recommendations can be secured through landscape designs for the site.	Assuming that the recommended measures are implemented in full the residual impact is assessed as negligible in the long term at the local scale.

# 7.2 Summary of Residual Effects

- 7.2.1.1 When assessing the potential effects of the Proposed Development on ecological features, embedded mitigation (in isolation) was sufficient to avoid some (but not all) adverse impacts (ranging from major to minor) at a local scale. Notwithstanding this, realistic and achievable 'additional' mitigation and enhancement measures have shown that these adverse impacts can be eliminated or significantly reduced (to minor impacts at a local scale).
- 7.2.1.2 Additional mitigation can be summarised as:
  - Production of a CEMP/PMoW covering precautionary working methods, defined working zones and buffer zones, sensitive timeframes, and use of specialist equipment, (i.e. silt fencing);
  - Production of a sensitive lighting scheme;
  - Production of an AMS;
  - Production of an Ecological Enhancement Plan; and
  - Inclusion of supplementary riparian planting along Pendleton Brook and its tributary, as well as designated footpaths and provision of bins in suitable locations within the landscape plans and sensitive fencing/planting around the confirmed kingfisher breeding site.

# 8 Cumulative Impacts

- 8.1.1.1 In order to provide the most robust assessment, this section will include the consideration of the cumulative effects of the Proposed Development holistically with the wider development of the Land at Higher Standen Farm, Clitheroe.
- 8.1.1.2 Table 13 identifies provides details of the wider scheme which will be 'scoped in' to the assessment.

Table 13. Assessment of Cumulative Impacts

Site	Application No.	Distance &	Proposal	Scoped in / Scoped out	Justification
Land at Higher Standen Farm and Part Littlemoor Farm, Clitheroe	Outline Planning Application (ref: 3/2012/0942) Approved 17/04/2014  Subsequent Section 73 Planning Application, all phases (ref: 3/2015/0895  Non-Material Amendment to the outline Planning Application (ref: 3/2016/0324)  Reserved Matters, Phase 1 (ref: 3/2016/0324)  Reserved Matters, Phases 2, 3, and 4 (ref: 3/2019/0953)  Reserved Matters, Spine Road (ref: 3/2019/0951)  Reserved Matters, Phase 5 and 6 (ref: 3/2022/0317)	On-site	Redevelopment of the site in 6 phases for up to 1040 residential dwellings, 0.5ha for local retail, service and community facilities (Classes A1 to A4, B1 and D1), 2.25 ha for employment (Class B1) accommodating up to a maximum gross floorspace of 5,575m2, 2.1 ha of land for a primary school site, public open space including green corridors and areas for tree planting and landscaping, an improved (roundabout) junction between Pendle Road the A59, new vehicular, pedestrian and cycle accesses onto Pendle Road and Littlemoor, new pedestrian and cycle accesses onto Worston Old Road, New pedestrian and cycle access from the end of Shays Drive, Roads, sewers, footpaths, cycleways, services and infrastructure including: A sustainable urban drainage system,; New services such as gas, electricity, water and telecommunications.	Scoped in	This project is scoped in for further assessment as the Proposed Development constitutes the final phases (phases 5 and 6) of this project.  With a total of 1040 residential units proposed alongside other community services, there is the potential for cumulative negative impacts to occur as result of:  Habitat loss/Habitat fragmentation Impacts to protected species Visitor pressure on designated sites

# 8.2 Construction Phase

8.2.1.1 Table 14 details the potential impacts as a result of the cumulative effects during the construction phase, outlined in Table 13.

Table 14. Cumulative Effects - Construction Phase

Ecological Receptor	Description of Effect	Embedded Mitigation	Potential Effect (inc. significance)
Habitat Loss/ Habitat Fragmentation	The Proposed Development combined with the wider scheme will result in habitat loss in the form of grassland, woodland, and hedgerows. The most substantial loss comes in the form of agricultural/improved grassland where the majority of development is situated.  The surrounding landscape, particularly to the north, east, and south forms large expanses of similar habitat (i.e. agricultural fields, pockets of woodland and hedgerows)	Habitats of highest importance, namely woodland and Pendleton Brook (which are also the features that are the most important connectivity corridors) have been/are being retained, with only a small area of woodland (>10% of all woodland) having to be removed to facilitate the development of the spine road.	As the vast majority of habitat to be lost comprises agricultural/improved grassland the potential effects in relation to habitat loss/habitat fragmentation are assessed as minor adverse in the long term at the local level, though is deemed not significant.  This is because of the vast expanse of similar land that is present within the wider landscape. The loss of the habitats on site would be insignificant in relation to the wider landscape.
Protected Species	The Proposed Development combined with the wider scheme could result in impacts to protected species through loss of nesting/roosting sites and commuting/foraging grounds.	Protected species surveys have been undertaken in relation to each phase at the appropriate stage and the results of which have fed into the design and construction methods for the overarching development.	It is assumed that as part of the previous phase's mitigation measures relating to protecting species was secured through the relevant planning applications and subsequent conditions.  Therefore, potential effects are assessed as relating only to indirect impacts such as loss of nesting/roosting sites and commuting/foraging grounds.  Due to the large expanses of green space present within the wider area that are suitable receptor sites the cumulative potential impacts on protected species are assessed as minor adverse in the long term at the local level, though is deemed not significant.

# 8.3 Operational Phase

- 8.3.1.1 The total number of dwellings, cumulatively, will exceed 1000 properties. The main impact pathway as a result would equate to increased visitor pressure on surrounding designated sites.
- 8.3.1.2 However, as described previously, the designated sites within the zone of influence are all designated for geological reasons. Visitor pressure on geological sites (SSSIs) will be non-significant. This is because geological features are highly resistant to disturbance in the form of visitor pressure and visitors are unlikely to regularly visit geological sites for recreational activity.
- 8.3.1.3 This reasoning extends to non-statutory sites, which are designated to accommodate visitors, including dog walkers.
- 8.3.1.4 Therefore cumulative impacts as a result of increased visitor pressure are assessed as **negligible** in the **long term** at the **local level**.

## 9 Conclusion

# 9.1 Summary of Baseline Conditions

- 9.1.1.1 No statutory sites of international importance are present within 10km of the site, though eight sites of national importance (SSSIs) are present within 10km of the site, all of which were designated solely for geological features rather than ecological features and as such were reasonably scoped out of further assessment within this report.
- 9.1.1.2 During the Phase 1 Habitat Survey, the site was found to comprise a mosaic of habitats including: Improved grassland, hedgerows with trees, broadleaved woodland, scattered trees, watercourses, and a building
- 9.1.1.3 A suite of protected species have been conducted on site between March 2023 and September 2024, including;
  - Barn owl,
  - Bats,
  - Breeding birds,
  - Invertebrates,
  - Kingfisher,
  - Otter,
  - Reptiles,
  - Water vole, and
  - White-clawed crayfish

# 9.2 Summary of Likely Significant Effects

9.2.1.1 When assessing the potential effects of the Proposed Development on ecological features, embedded mitigation measures were insufficient to avoid adverse impacts (ranging from major to minor) at a local scale. Notwithstanding this, realistic and achievable 'additional' mitigation measures have shown that these adverse impacts can be eliminated (most resulting in a minor/negligible residual effect, deemed not significant) at both the construction and operational phases with some residual effects.

# 9.3 Summary of Mitigation and Enhancement Measures

9.3.1.1 The following mitigation and enhancement measures are required at each phase of the Proposed Development to eliminate adverse impacts (as described above). These will primarily be secured via planning conditions.

#### **Construction Phase:**

- Production of a CEMP/PMoW covering precautionary working methods, defined working zones and buffer zones, sensitive timeframes, and use of specialist equipment, (i.e. silt fencing).
- Production of a sensitive lighting scheme.
- Production of an AMS

Production of an Ecological Enhancement Plan

#### **Operation Phase**

 Inclusion of supplementary riparian planting along Pendleton Brook and its tributary, as well as designated footpaths and provision of bins in suitable locations within the landscape plans and sensitive fencing/planting around the confirmed kingfisher breeding site.

## 9.4 Conclusion

- 9.4.1.1 Given the relatively small nature of the Proposed Development, which will result in the construction of 265 new homes, it has been assessed that only a modest level of additional mitigation is required to nullify the potential effects.
- 9.4.1.2 Notwithstanding this, it should be highlighted that the applicant has taken the discipline of ecology seriously, evidenced by the early appointment of an ecologist and the subsequent commission of various protected species surveys and technical reports to inform baseline conditions.
- 9.4.1.3 Moreover, the applicant has incorporated the results and recommendations of the aforementioned technical reports to inform design. Most notably, the applicant has chosen to retain the large majority of woodland habitat present within the site extent and provide a suitable buffer zone during construction works/within the operational phase of the development. This is considered embedded mitigation but is also considered avoidance within the mitigation hierarchy and is a key reason why only minor levels of mitigation are required.
- 9.4.1.4 The ecological surveys, technical reports, and mitigation measures recommended aim to nullify/prevent significant effects occurring as a result of the Proposed Development and can be conditioned by the local planning authority.

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# Appendix 1 - Relevant Legislation

### Legislation relating to European Protected Species (e.g. bats, otter, great crested newt)

European Protected Species and their resting places (e.g. bat roosts) are protected under the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRoW) Act 2000, and the Conservation of Habitats and Species Regulations 2017.

The Conservation of Habitats and Species Regulations 2017 transpose the European Union's 'Habitats Directive' (Council Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora (EC Habitats Directive) into UK law. The Regulations provide for the designation and protection of 'European Sites', the protection of 'European Protected Species' (EPS), and the adaptation of planning and other controls for the protection of European Sites. EPS are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017.

## Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to:

- Intentionally kill, injure or take certain animals listed in Schedule 5;
- Intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to sale, possession and control of wild animals listed in Schedule 5.

- Under the Conservation of Habitats and Species Regulations 2017 it is an offence to:
- Deliberately capture, injure or kill any wild animal listed as a European Protected Species;
- Deliberately disturb wild animals of any such species in such a way as to be likely:
- to impair their ability:
  - o to survive, to breed or reproduce, or to rear or nurture their young, or;
  - o in the case of animals of a hibernating or migratory species, to hibernate or migrate, or;
- to affect significantly the local distribution or abundance of the species to which they belong.
- Deliberately take or destroy the eggs of such an animal, or;
- Damage or destroy a breeding site or resting place of such an animal.

In addition, under this legislation there are offences relating to possession, control sale and exchange of an EPS.

Great crested newt, otter and several species of bat are listed as a SoPI under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

## Legislation for white-clawed crayfish

White-clawed crayfish are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this act it is an offence to:

- Intentionally take white-clawed crayfish from the wild; and,
- Sell or attempt to sell, any part of a white-clawed crayfish, alive or dead, or advertise that one buys or sells, or intends to buy or sell any part of a white-clawed crayfish.

The white-clawed crayfish is listed under Annex II and V of the EC Habitats Directive. The Conservation of Habitats and Species Regulations 2010 implements the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Fauna and Flora) in Great Britain. Annex II requires that Special Areas of Conservation (SAC) are established specifically to conserve this and other listed species. In a SAC designated for white-clawed crayfish a precautionary principle must be applied when considering the potential impacts of any operations that may affect white-clawed crayfish and their habitat.

White clawed crayfish are listed as a SoPI under Section 41 of NERC Act 2006.

## Legislation for amphibians (other than great crested newt)

Under the Wildlife and Countryside Act 1981 (as amended) the four widespread amphibian species, smooth newt, palmate newt (*Triturus helveticus*), common toad and common frog receive limited protection through section 9(5) only which makes selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative) an offence.

Common toad is listed as a SoPI under Section 41 of the NERC Act 2006.

## Legislation relating to reptiles

All native reptile species have some degree of protection in the UK, through section 9(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). There are two different levels of protection afforded to reptiles through this legislation according to species and this is described in more detail below.

## Full Protection

Sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) are afforded protection under The Conservation of Habitats and Species Regulations 2010 (are species of European importance) and are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the CRoW Act (2000). The Conservation of Habitats and Species Regulations 2010 implements the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Fauna and Flora) in Great Britain. The relevant sections of this legislation make it an offence to:

- Intentionally kill, injure or capture or take a reptile;
- Possess or control (live or dead animal, part or derivative);
- Deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a reptile;
- Disturb whilst the reptile is occupying such a structure or place; and

• Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Sand lizard and smooth snake are listed as a SoPI under Section 41 of the NERC Act 2006.

Protection against killing, injuring and trade

This level of protection under section 9 (parts 1 and 5) applies to the four widespread species of reptile, namely the common lizard (*Zootoca vivipara*), slow-worm, grass snake and adder (*Viper berus*). Only part of sub-section 9(1) applies, which make it an offence to:

- Intentionally kill or injure, and
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Grass snake, slow-worm and adder are all listed as SoPI under Section 41 of the NERC Act 2006.

### Legislation relating to breeding birds

All birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended) and it is an offence, with certain exceptions, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy the egg of any wild bird; and
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird.

Schedule 1 of the Wildlife and Countryside Act 1981 provides further protection for selected species (including peregrine falcon (*Falco peregrinus*), barn owl (*Tyto alba*), little ringed plover (*Charadrius dubius*) and black redstart (*Phoenicurus ochruros*) during the breeding season. If any person intentionally or recklessly disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird. That person shall be guilty of an offence.

A number of bird species are listed as SoPI under Section 41 of the NERC Act 2006.

Conservation status - Birds of Conservation Concern (Eaton et al. 2015)

The UK's leading bird conservation organisations have worked together on the third quantitative review of the status of the birds that occur regularly in the UK, updating the last review in 2011. The status of birds within the UK have been regularly monitored through a series of surveys, including the national Breeding Bird Survey, Common Bird Census, sea bird monitoring programs and wetland monitoring programs. The result of this review and continued monitoring is The Population Status of Birds in the UK, Birds of Conservation Concern 4: 2015.

Birds are assessed against criteria to place each species on one of three alert lists, red, amber or green. Red list species are considered to be of high conservation concern, being either globally threatened, having historical UK population declines, having a rapid population decline or breeding range contraction of 50% or more in the last 25 years.

Amber list species are considered to be of medium conservation concern as they meet one or more of the following criteria (but none of the red list criteria):Red listed for historical decline in a previous review but with substantial recent recovery (more than doubled in the last 25 years), a UK breeding range contraction of between 25% and 49%, a reduction of breeding or non-breeding population of 25-49% in the last 25 years, a 5-year mean of 1-300 breeding pairs in the UK, an unfavourable European conservation status, at least 50% of the UK breeding population found in 10 or fewer sites, or where the breeding population in the UK represents 20% or more of the European breeding populations.

Green list species are considered to be of low conservation concern. They include all regularly occurring species that do not qualify under any of the red or amber criteria are green listed. The green list also includes those species listed as recovering from Historical Decline in the last review that have continued to recover and do not qualify under any of the other criteria.

# Legislation relating to water vole

The water vole is fully protected under Section 9 of the Wildlife & Countryside Act 1981 (as amended) through its inclusion in Schedule 5. The legal protection makes it an offence to:

- Intentionally kill, injure or capture or take a water vole;
- Possess or control (live or dead animal, part or derivative);
- Deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a water vole;
- Deliberately (intentionally) or recklessly disturb a water vole whilst occupying such as structure or place, and
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Water vole is listed as a SoPI under Section 41 of the NERC Act 2006.

# Appendix 2 Proposed Site Layout

U R B A N G R E E N

