

Land at Eccles Street, Ramsbottom BL0 9HQ

ECOLOGICAL SURVEY AND ASSESSMENT

Version 2
June 2023

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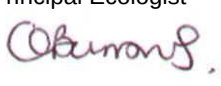
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Document Control

Survey Type:	Surveyors ¹	Survey Date(s)
Phase 1 Habitat Survey	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	24 th February 2022 24 th April 2022
Reporting	Personnel	Date
Author	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	15 th May 2022
Signature(s)		
Checked	Rachel Platt B.Sc. (Hons) M.Sc.	20 th May 2022
Revised and issued	Victoria Burrows	23 rd May 2022
Report issued to	Mr Simon Froude	
Revision	1st June 2023 Updated to take account of Revised Scheme 3191/Revision B (Rural Solutions, April 2023)	
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¹ Licence reference numbers Bats Victoria Burrows, Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-10390-CLS-CLS Great crested newt Victoria Burrows Natural England Class Survey Licence (Level 1) Registration Number 2015-16651-CLS-CLS Barn owl Victoria Burrows Natural England Class Survey Licence Registration Number CL29/00061		

SUMMARY

Introduction and Scope

- i. This ecological survey and assessment has been prepared for the land off Eccles Street, Ramsbottom BL0 9HQ. The assessment was requested in connection with a planning application under paragraph 79 of the National Planning Policy Framework (NPPF) to construct one residential dwelling with secured benefits for biodiversity.
- ii. This report presents the results of a desktop study and data search, extended Phase 1 Habitat Survey and a licensed bat survey and assessment carried out on dates in February, April and May 2022. The scope of survey undertaken is appropriate to identify potential ecological constraints, the remit of mitigation required and opportunities for biodiversity associated with the development proposals.

Results of Survey and Assessment

- iii. The approximately 0.67 hectare site is located to the west of Eccles Street on the western margin of Ramsbottom. The site comprises a mosaic of acid grassland, neutral semi-improved grassland, dense Bramble scrub, an ephemeral pond and scattered trees and shrub habitats. The northern and western site boundaries meet off-site woodland habitat on sloping ground. The south-western site boundary is marked by a dry-stone wall, beyond which is open acid and neutral grassland. The southern tip of the site meets the existing residential properties off The Rake and Milton Street. The eastern site boundary is marked by a stone retaining wall, beyond which is Eccles Street (the site access) and existing residential properties.
- iv. The proposals can be achieved with no adverse direct or indirect effect on statutory and non-statutory designated sites for nature conservation present in the wider area.
- v. The site contains only common and widespread plant species. The acid grassland habitat has affinities with a Priority Habitat and the off-site woodland is Priority Habitat; both these habitats will be retained by the proposals and protected during construction.
- vi. Montbretia, an invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), is present within the former allotment area of the site. The proposals provide an opportunity to remove this species to minimise the risk of further spread into the wild and to enhance the condition of the retained habitats on site.
- vii. Badger activity is present in the site and in the wider area. The proposals can be achieved with direct impacts on badger setts or a breach of wildlife legislation. Best practice measures to be applied for the protection of badger and habitats used by badger prior to and during the construction period are of relevance and are described at **Section 5.3**.
- viii. Trees 1 and 2 (identified to have moderate and low suitability for use by roosting bats respectively) will be retained by the proposals. The risk of adverse effects on foraging bats (and other crepuscular / nocturnal wildlife) by inappropriate lighting is an identified impact of the proposals. Guidance to secure the continued suitability of the site for use by foraging bats in the presence of the proposals and measures to enhance the opportunities for use by roosting bats at the site are described in **Sections 5.3 and 5.4**.
- ix. Protection of nesting birds and recommendations for the provision of compensatory and enhanced habitats and opportunities for nesting birds are feasible and will be accommodated (**Sections 5.3 and 5.4**).
- x. Appropriate survey effort and / or assessment in accordance with standard guidance, has been carried out to reasonably discount adverse effects on other relevant protected species.

Recommendations

- xi. The following recommendations have been secured by the site design / Landscape Masterplan and the proposals:

- Enhancement of the existing acid grassland habitats by securing the appropriate long-term management;
- Enhancement of the retained areas of existing neutral grassland habitats by overseeding with native wildflowers and securing the appropriate long-term management;
- Enhanced habitat connectivity for the movement of wildlife around the site and provision of additional opportunities for nesting birds by the planting of native hedgerows (125 metres in length);
- Installation of opportunities for nesting birds, including Priority Species and conservation priorities;
- Installation of opportunities for use by roosting bats;
- Construction of a wildlife pond for use by amphibians and aquatic invertebrates in a sustainable location;
- Accommodation of opportunities for biodiversity, such as feeding invertebrates, at the built environment by the installation of a wildflower green roof (258m²);
- Use of native species and species known to be of value for the attraction of wildlife such as fruit trees in the landscape proposals around the new property;
- Implementation of best practice measures to be applied prior to and during the construction period such as secured pre-works surveys for badger activity, roosting bats and nesting birds (subject to the time of year); and
- Commitment to the long-term management and maintenance of the habitats by preparation and implementation of a Landscape and Ecological Management Plan (including the accommodation of non-intervention, as appropriate).

Conclusion

- xii. The construction of the property and associated works, in accordance with the Landscape Masterplan, at land off Eccles Street, Ramsbottom can be achieved in accordance with relevant planning policy, identified ecological considerations, wildlife legislation, best practice and local conservation objectives.
- xiii. As demonstrated at **Section 5.4** and **Appendices 2** and **3**, the site proposals achieve a net gain for biodiversity in accordance with the Biodiversity Metric Calculation Tool and the Biodiversity Net Gain: Good Practice Principles for Development (CIEEM, 2016).

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Mr Simon Froude to carry out an ecological survey and assessment of land at Eccles Street, Ramsbottom BL0 9HQ (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 78603 16914. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The assessment was requested in connection with a planning application for the construction of one dwelling with secured benefits for biodiversity. The planning application is being made under Paragraph 79 of the National Planning Policy Framework (NPPF).

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment;
 - Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
 - Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife including badger (*Meles meles*), barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), bird species and reptiles;
 - A licensed daylight bat survey of the buildings and trees;
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance;
 - The identification of any further surveys or precautionary actions that may be required to inform a planning application and / or prior to the commencement of construction activities; and
 - Collation of appropriate information including habitat condition assessments to inform the implementation of the Defra Biodiversity Metric Calculation Tool (version 3.1), refer to **Appendices 2 and 3**.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

- 2.1.1 The following sources of information and ecological records were consulted:
- MAGiC Maps: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development. In this instance (for example) there are no water courses within, adjacent to or within a zone of potential influence of the proposals to redevelop the site; there has been no requirement to consider water vole (*Arvicola amphibius*) or otter (*Lutra lutra*) as part of this assessment.

- b. The Greater Manchester Local Record Centre (GMLRC);
- c. Greater Manchester Badger Group; and
- d. Greater Manchester Biodiversity Action Plan (BAP).

2.1.2 An *Ecological Appraisal*² prepared for the site in 2016 was also consulted for background information.

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Victoria Burrows on 24th February 2022. The weather was overcast with sunny intervals, a moderate breeze (Beaufort scale 4) and an air temperature of 5°C.
- 2.2.2 An updated survey was carried out on 24th April 2022. The weather conditions were dry and sunny with a light breeze (Beaufort scale 2) and an air temperature of 7°C throughout the survey.
- 2.2.3 A habitat and vegetation map was produced for the site and the immediate surrounding area (refer to **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.
- 2.2.4 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.
- 2.2.5 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.
- 2.2.6 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales: fine scale (25m² or 5 metres length) and large scale (400m² or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m² or 5 metres length is appropriate.
- 2.2.7 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).
- 2.2.8 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figure 2**) and extended to accessible land within a radius of 50 metres from the site boundary. Private gardens were not accessed as part of the survey but the accessible boundaries were searched for badger activity (particularly pathways leading between the site and the adjacent gardens).

² *Ecological Appraisal. Land off Eccles Street, Ramsbottom, Bury* (Envirotech NW Ltd, 2016)

2.3.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: surveys and mitigation for development projects* (Natural England, 2015).

2.3.3 The following signs of badger activity were searched for:

- a. Setts entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
- b. Large spoil heaps outside sett entrances;
- c. Bedding outside sett entrances;
- d. Badger footprints;
- e. Badger paths;
- f. Latrines;
- g. Badger hairs on fences or bushes;
- h. Scratching posts; and
- i. Signs of digging for food.

2.3.4 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Habitat Assessment for Commuting / Foraging Bats

2.3.5 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented below.

Table 2.1: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Daylight Survey

Survey Personnel

- 2.3.6 The site was assessed for its suitability to support roosting bats by Victoria Burrows, (Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-10390-CLS-CLS). The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).

Survey Guidelines

- 2.3.7 The surveys was carried out in accordance with standard methodology including the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), the *Bat Workers' Manual 3rd Edition* (Mitchell-Jones & Mcleish, 2004) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).

Buildings

- 2.3.8 There are three garages (Buildings 1 to 3) at the north-eastern corner of the site. All other buildings comprise dilapidated, and in some instances collapsed, timber sheds, chicken coops that are remnant from when part of the site was used for allotments.
- 2.3.9 An inspection of the external surfaces, walls and roofs of the buildings was carried out to find potential bat roosting habitat or accesses into internal areas where roosts may be present. Searches for bats and evidence of bat presence in the form of droppings, urine stains, feeding signs, grease marks and other evidence were carried out.
- 2.3.10 The internal areas of the Buildings 1 to 3 were not accessible.
- 2.3.11 The suitability of each building for use by roosting bats has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016), taking into account any presence of gaps suitable for access by bats, features suitable for use by roosting bats within the building (including crevice dwelling species and species which can roost in the open in roof voids), and the suitability of the surrounding habitats for use by foraging and commuting bats.

Trees

- 2.3.12 Trees were assessed from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:

Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.

- 2.3.13 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).
- 2.3.14 Detected features assessed to have suitability for use by roosting bats were then examined by Victoria Burrows using (where suitable) ladders, a high-powered torch, and a video endoscope. The following signs of roosting bats were searched for:

Bats, bat droppings (in, around or below the feature), odours emanating from the feature, staining below the feature, and the presence of smoothed surfaces within the feature, indicative of regular passage by small mammals.

- 2.3.15 The requirement for further presence / absence surveys at each tree was then considered.

Equipment

- 2.3.16 A list of equipment used is detailed below:

Table 2.2: Survey Equipment Used During Daylight Bat Survey

Ladders
LED Lenser P14 torch
Canon Ixus digital camera
8x20 binoculars
Rigid Micro Inspection Camera Endoscope CA-300

Bird Species

- 2.3.17 Bird species observed and heard during the survey were recorded.
- 2.3.18 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.
- 2.3.19 The buildings were searched for suitable accesses and pellets, faecal splashes and feathers which may indicate use by roosting or nesting barn owl in accordance with *The Barn Owl Conservation Handbook* (Barn Owl Trust, 2012) and *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Developing Best Practice in Survey and Reporting* (Shawyer, 2011).

Great Crested Newt and Amphibians

Egg Search and Habitat Suitability Index Assessment

- 2.3.20 During the Phase 1 Habitat Survey a small (1.5 metres by 1.5 metres) ephemeral pool (Pond 1) was detected at the northern margin of the site (refer to **Photo 7** and **Figure 2**).
- 2.3.21 On the 24th April 2022 water-margin vegetation, including the leaves of terrestrial plants that had fallen into the water, was checked in daylight for the presence of great crested newt eggs.
- 2.3.22 In addition, the suitability of Pond 1 for use by breeding great crested newt was assessed with reference to the Habitat Suitability Index (HSI) (Oldham, et al., 2000) by Victoria Burrows on 24th April 2022. The pond was examined with reference to the ten HSI scoring criteria, which are: **SI**₁: Geographical location; **SI**₂: Pond area; **SI**₃: Pond drying; **SI**₄: Water quality (as indicated by the diversity of aquatic plants and invertebrates); **SI**₅: Shade; **SI**₆: Waterfowl; **SI**₇: Fish; **SI**₈: Abundance of other ponds within a one kilometre radius; **SI**₉: Quality of terrestrial habitat; and **SI**₁₀: Macrophyte cover (i.e. aquatic and emergent plants). The survey was conducted in accordance with *ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom* (ARG UK, 2010).
- 2.3.23 The assessment followed guidance in relation to interpreting HSI scores, following the categorical scale shown below.

Table 2.3: Pond Habitat Suitability Index Categories

HSI Score	Pond Suitability for Great Crested Newt
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

- 2.3.24 A site visit on 20th May 2022 confirmed that Pond 1 had dried out.

Desktop Search for Ponds

- 2.3.25 In accordance with current Natural England guidance (Natural England, 2020) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested

newts. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.

- 2.3.26 Examination of OS maps of the site and wider area indicated that there are five ponds within an unobstructed 500 metres radius from the site boundary, as detailed below.

Table 2.4: Ponds within 500 metres of the Site

Pond Reference	OS Grid Reference	Distance from Site Boundary	Location (refer to Figure 1)
2	SD 7867 1715	190 metres	In woodland to the north
3	SD 7862 1725	250 metres	In woodland to the north
4	SD 7878 1724	286 metres	Large pond / mill lodge located beyond existing built development to the north-east of the site
5	SD 7888 1707	258 metres	Large pond / mill lodge located beyond existing built development to the north-east of the site
6	SD 7871 1726	305 metres	To the north of the site

Note: This table includes ponds which occur on OS maps and does not include garden ponds

Consideration of Requirement for Further Survey

- 2.3.27 The requirement for further survey at each pond was then assessed using the following criteria:
- Presence of dispersal barriers to great crested newt movements between ponds and the site, as detected during the walkover survey;
 - Distance of ponds from the site, and the potential influence of the proposed development of the site on any populations of great crested newt (if present at ponds), using the Natural England rapid risk assessment tool; and
 - Presence of other ponds which may form metapopulations and/or alter the influence of the site on ponds at greater distances.
- 2.3.28 Ponds 4 and 5 are located on the opposite side of existing built development (including sloping land with retaining walls and physical barriers to amphibian dispersal). The likelihood of migration of great crested newt and other amphibians between Ponds 4 and 5 and the site is reasonably discounted.
- 2.3.29 There are no physical barriers to amphibian dispersal between Ponds 2, 3 and 6 and the site.
- 2.3.30 To inform the requirement for further surveys, the Natural England Rapid Risk Assessment tool from *GCN Method Statement WML-A14-2 (Version April 2020)* (Natural England, 2020) has been completed, as presented below. The tool has been completed based on the distances of the ponds from the site, and the area of suitable habitat in the site that will be directly affected (i.e. lost or damaged) by the construction and landscape proposals (i.e. maximum of 0.45ha). The rapid risk assessment tool assumes that the ponds remain present and that great crested newt are present at any or all of Ponds 2, 3 and 6.

Table 2.5: Rapid Risk Assessment Result

Component	Likely Effect	Notional Offence Probability Score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
	Maximum:	0.01
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

- 2.3.31 The Natural England Rapid Risk Assessment indicates that the site is sufficiently small and distant from Ponds 2, 3 and 6 that the proposals at the site are highly unlikely to result in an offence / impact on great crested newt populations (if present) and their habitats.
- 2.3.32 In combination with the surveys carried out at Pond 1 (on-site) and the ephemeral conditions at Pond 1 it is advised, in accordance with Natural England guidance and *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005), that no further survey for great crested newt is required to inform the planning application.

Assessment of Terrestrial Habitat

- 2.3.33 An assessment of the terrestrial habitat within the site for great crested newts and amphibians was conducted, as informed by the *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) and the *Great Crested Newt Conservation Handbook* (Langton, et al., 2001).
- 2.3.34 Habitats present within the site were assessed for their value to support foraging, sheltering and hibernating amphibians. Favourable habitats can comprise rough grassland, scrubland, woodland and sites with underground crevices or cracks, such as mammal holes, voids in tree stumps or banks, and refugia such as rock piles or dead wood.

Reptile Species

- 2.3.35 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document '*Reptile Mitigation Guidelines*' (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined below.

Table 2.6: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby good quality habitat
2. Vegetation Structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Other Wildlife

- 2.3.36 Evidence of other wildlife (including Priority Species) observed whilst on site (but for which specific surveys were not made) was recorded and has been included in this report where it is considered of relevance to the planning application.

2.4 Survey and Reporting Limitations

- 2.4.1 It is advised that the search for badger activity extended up to 50 metres from the site boundary where access was possible. The survey beyond 50 metres, particularly within the off-site woodland to the north-west was restricted owing to landownership and access. It is advised that as the critical 50 metres buffer from the site boundary was accessed and searched for setts, and a precautionary approach is recommended (refer to **Section 5.3**) then an appropriate survey effort has been applied at this stage to inform a planning application.
- 2.4.2 It is recognised that the survey was conducted in spring, when some plant species are not yet in flower or may not be fully evident above ground. The surveyor is experienced in surveying plant species from their vegetative characteristics, and in consultation with plant species keys and background information relevant to the site, where appropriate, it has been possible to reliably identify the habitats and principal plant species present.

- 2.4.3 It is recognised that the daylight bat survey was carried out at a time of year when any field signs such as bat droppings from the previous bat activity season are likely to have been weathered away. However, as described in **Sections 3.3** and **4.4** below, given the conditions / suitability at the buildings to be removed, this is not assessed to be a survey limitation in this instance.
- 2.4.4 No other survey limitations were experienced.
- 2.4.5 All measurements within this report are approximate only, and have been either estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC Maps and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.
- 2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2017* (as amended), is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and/or species listed by the Greater Manchester Biodiversity Action Plans and the IUCN Red Lists (IUCN, 2022) has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site and adjacent land have no statutory designation for nature conservation.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for West Pennine Moors SSSI, which lies 375 metres to the west.
- 3.1.3 The West Pennine Moors SSSI supports an extensive mosaic of upland and upland-fringe habitats. It is of special interest for the following nationally important features that occur within and are supported by the wider habitat mosaic:
- blanket bogs;
 - wet and dry heathlands;

- acid and lime-rich flushes;
- rush pastures and mire grasslands;
- acid grasslands;
- neutral hay meadows and pastures;
- wet and dry broadleaved woodlands and scrub;
- diverse assemblages of upland moorland, in-bye and woodland breeding birds;
- breeding black-headed gulls (*Chroicocephalus ridibundus*), Mediterranean gulls (*Larus melanocephalus*) and grey herons (*Ardea cinerea*); and
- populations of starry lady's-mantle (*Alchemilla acutiloba*), large-toothed lady's-mantle (*A. subcrenata*) and floating water-plantain (*Luronium natans*).

3.1.4 The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2022):

- a. Pipelines, pylons and overhead cables. Any transport proposals including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals;
- b. Solar schemes with footprint greater than 0.5 hectares and all wind turbines;
- c. Planning applications for quarries including new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil and gas exploration / extraction;
- d. Large non-residential developments outside existing settlements / urban areas where net additional gross internal floorspace is greater than 1,000m² or footprint exceeds 0.2 hectares;
- e. Residential development of 100 units or more;
- f. Any residential development of 10 or more houses outside existing settlements / urban areas;
- g. Any development that could cause air pollution including industrial / commercial processes, livestock and poultry units, slurry lagoons and digestate stores and manure stores;
- h. All general combustion processes including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works and other incineration / combustion;
- i. Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste and other waste management;
- j. Any composting proposal including open windrow composting, in-vessel composting, anaerobic digestion and other waste management; and
- k. Large infrastructure such as warehousing / industry where net additional gross internal floorspace is greater than 1,000m² or any development needing its own water supply.

3.1.5 It is considered that the proposals do not meet any of the criteria that would trigger the requirement for the local planning authority to consult with Natural England in relation to likely risks to the designated sites.

Non-statutory Designated Sites for Nature Conservation

3.1.6 The site and adjacent land have no non-statutory designated site for nature conservation.

3.1.7 Nine non-statutory sites for designation, termed Sites of Biological Importance (SBI) in Greater Manchester, lie within 2 kilometres of the site, as summarised in **Table 3.1** below. Non-statutory designated sites within a 500 metres buffer from the site are annotated on **Figure 1**.

Table 3.1: SBI within 2 Kilometres of the Site

Site of Biological Importance (SBI) and OS Central Grid Reference	Distance and Direction from site	Reasons for Designation
Dick Field Clough	0.12 kilometres north	Woodlands (Wd1); Grassland (Gr2).
Holcombe Moor	0.29 kilometres west	Heathland & Bog (HB1); Grassland (Gr2); Birds
Crow Lumb Wood	0.63 kilometres south-east	Woodland (Wd1)
Carr Barn Wood	0.73 kilometres north-east	Woodland (Wd1)
Nuttall Farm Pasture	0.98 kilometres south-east	Grassland (Gr2)
Broadhey Wood and Woodhey	1.01 kilometres south	Ancient Woodland (Wd1)
Gollinrod Wood	1.01 kilometres south-east	Ancient Woodland (Wd1)
Redisher Woods and Holcombe Brook	1.39 kilometres west	Woodland (Wd1); Grassland (Gr2); Ponds & small lodges (Fw2); Aquatic Invertebrates (Al1)
Wetland around Spenleach Lane	1.96 kilometres south-west of the site	Heathland & Bog (HB1); Small ponds & Lodges (Fw2); Running Water (Fw4)

3.1.8 The presence of the SBI is considered further at **Section 4.2** below.

Priority Habitats Inventory and Soilscape Information

3.1.9 The Priority Habitats Inventory³ was checked via MAGiC Maps. No Priority Habitats are identified within the site. Land to the north and west of the site (off-site) is identified as Deciduous Woodland Priority Habitat.

3.1.10 In accordance with *Soilscape (England)* as presented on MAGiC Maps (National Soil Resources Institute, 2005), the site supports '*slowly permeable seasonally wet acid loamy and clayey soils*', and the characteristic semi-natural habitats associated with the soils comprise '*seasonally wet pastures and woodland mainly, but not exclusively, on the upland fringe*'.

Protected and Notable Species

3.1.11 GMLRC hold no records of protected and notable species for the site.

3.1.12 Reported records of protected and notable species within a 2 kilometre radius of the site are summarised at **Table 3.2** below.

Table 3.2: Records of Protected Species Within a 2 Kilometre Radius of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Birds – WCAs1 Species	Barn owl (<i>Tyto alba</i>): WCAs1. 1 record, dated 2013, 525 m south-east of the site.
	Peregrine (<i>Falco peregrinus</i>): WCAs1. 1 record, dated 2009, 595m south-west of the site.
	Hobby (<i>Falco Subbuteo</i>): WCAs1. 1 record dated 2005, 595m south-west of the site.
	Kingfisher <i>Alcedo atthis</i> : WCAs1. 4 records, dated between 2005 and 2014. The closest record is 370m south of the site.
Birds – Priority Species	PS Only: Bullfinch (<i>Pyrrhula pyrrhula</i>), cuckoo (<i>Cuculus canorus</i>), curlew (<i>Numenius arquata</i>), dunnoek (<i>Prunella modularis</i>), song thrush (<i>Turdus philomelos</i>), grasshopper warbler (<i>Locustella naevia</i>), starling (<i>Sturnus vulgaris</i>), skylark (<i>Alauda arvensis subsp. arvensis/scotica</i>) and wood warbler (<i>Phylloscopus sibilatrix</i>).
Bony Fish (Actinopterygii)	Brown trout (<i>Salmo trutta</i>) PS. 1 record dated 2016, 715m south-east of the site.

³ A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Taxon Group	Species Name and Designations ¹ and Notes
Insect Butterflies	Small heath (<i>Coenonympha pamphilus</i>): PS. 14 records, dated between 2017 and 2019. The closest, most recent record is 640m west from 2018.
	Wall (<i>Lasiommata megera</i>): PS. 2 records, both dated 2019, the nearest record is 685 north of the site.
	White-letter hairstreak (<i>Satyrrium w-album</i>): PS. 2 records, dated 2011 and 2015. The closest record is 245m north in 2011.
Terrestrial Mammals	Badger (<i>Meles meles</i>): PBA92. 7 records, dated between 1999 and 2020, including two records previously supplied by ERAP (Consultant Ecologists) Ltd. These data are marked confidential and are not disclosed here but have been taken into consideration as part of the assessment.
	Bat (Order <i>Chiroptera</i>): EPS, WCAs5 and GMBAP. 5 records dated between 2001 and 2016. The closest record is 150m north-east of the site from 2016.
	Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5, GMBAP. 91 records dated between 1996 and 2020. The closest record is 110m south-east from 2013.
	Daubenton's bat (<i>Myotis daubentonii</i>): EPS, WCAs5 and GMBAP. 35 records dated between 2009 and 2018. The closest and most recent record is from 650m east from 2018.
	West European hedgehog (<i>Erinaceus europaeus</i>): PS. 5 records, all dated 2020. The closest record is 325m north-east.
	Nathusius's pipistrelle (<i>Pipistrellus nathusii</i>): EPS, WCAs5, GMBAP. 1 record, dated 2017, 750m north-east of the site.
	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, WCAs5, PS, GMBAP. 3 records, dated 2003 and 2017. The closest record is 570m north-east of the site in 2003.
	Pipistrelle sp (<i>Pipistrellus</i>): EPS, WCAs5 & GMBAP. 26 records, dated between 1996 and 2019. The closest record is 160m south of the site in 2006.
¹ Key to Designation Codes: EPS = European Protected Species under the <i>Conservation of Habitats and Species Regulations 2017</i> (as amended). WCAs1 = Species receives full protection under Schedule 1 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs5 = Species receives full protection under Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> (as amended). PBA92 = Protection of Badger Act 1992. PS = Priority Species listed under Section 41 of the NERC Act 2006. GMBAP = Species listed on the Greater Manchester Biodiversity Action Plan Provisional Long List.	

3.1.13 Records provided by the Greater Manchester Badger Group are not disclosed here but have been taken into consideration as part of the assessment.

3.1.14 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

3.2.1 The approximately 0.67 hectare site is located to the west of Eccles Street on the western margin of Ramsbottom. The comprises one field of a mosaic of the following Phase 1 Habitats:

- B1.2 Acid grassland (semi-improved)
- B2.2 Semi-improved neutral grassland (unmanaged)
- A2.1 Scrub and Bramble scrub
- G1 Standing water (Pond 1)
- J4 Hard-standing
- J3.6 Buildings

3.2.2 The northern and western site boundaries meet the woodland habitat on sloping ground. The south-western site boundary is marked by a dry-stone wall, beyond which is open acid and neutral grassland. The southern tip of the site meets the existing residential properties off The Rake and Milton Street. The eastern site boundary is marked by a stone retaining wall, beyond which is Eccles Street (the site access) and existing residential properties.

3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2**. Photographs are appended at **Table 8.1**.

Acid Grassland / Neutral Grassland Mosaic (Target Note 1)

3.2.4 Refer to **Photo 2**. The sloping ground with a north-eastern aspect at the western corner of the site is occupied by a mosaic of unmanaged acid and neutral grassland. The vegetation is characterised by constant and abundant Yorkshire-fog (*Holcus lanatus*), Common Bent (*Agrostis capillaris*) and Sweet Vernal-grass (*Anthoxanthum odoratum*) with frequent Sheep's Fescue (*Festuca ovina*), Field Wood-rush (*Luzula campestris*) and Common Sorrel (*Rumex acetosa*). Other acid grassland indicator species detected comprise frequent patches of Sheep's Sorrel (*Rumex acetosella*) with areas of very locally abundant Heath Bedstraw (*Galium saxatile*) and occasional shrubs of Bilberry (*Vaccinium myrtillus*).

3.2.5 Further down the sloping land to the east and towards the centre of the site, the acid grassland indicator species decrease in cover and are replaced with species indicative of neutral conditions including Meadow Foxtail (*Alopecurus pratensis*), Rough Meadow grass (*Poa trivialis*) and Cock's-foot (*Dactylis glomerata*) (as described below).

3.2.6 The grassland is unmanaged with the exception of grazing roe deer that visit the site from the adjacent woodland (as observed during the survey).

3.2.7 The acid grassland is characteristic of a U4 *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile* community of the NVC and is described by the UKHab as g1d other lowland acid grassland with the following secondary codes: 13 scattered dwarf shrubs and 80 unmanaged. A plant species list is appended at **Table 8.2**.

Neutral Semi-improved Grassland with Scattered Trees

3.2.8 Refer to **Photo 3**. The grassland that occupies the majority (49%) of the site is neutral, semi-improved grassland characterised by constant and abundant Sweet Vernal-grass and Meadow Foxtail with constant and frequent / locally abundant Yorkshire-fog and constant and frequent Common Sorrel. Other grass species present in the sward include locally frequent Rough Meadow-grass and very locally abundant Cock's-foot.

3.2.9 Dandelion (*Taraxacum officinale* agg.) is locally frequent in the grassy sward, otherwise herb species attain a low cover with locally frequent Creeping Buttercup (*Ranunculus repens*), very locally frequent Common Hogweed (*Heracleum sphondylium*) and occasional Common Ragwort (*Senecio jacobaea*) and Broad Buckler-fern (*Dryopteris dilatata*). Dense stands of Bramble (*Rubus fruticosus* agg.) scrub and Raspberry (*Rubus idaeus*) canes are present at the grassland / site margins (as described below) and these species encroach into the grassland owing to the absence of recent management.

3.2.10 Scattered trees are present within the grassland including semi-mature Sycamore (*Acer pseudoplatanus*) and Pedunculate Oak (*Quercus robur*) and young Rowan (*Sorbus aucuparia*) trees. Beneath the trees at the western area of the site are dense stands of Bluebell (*Hyacinthoides non-scripta*).

3.2.11 The grassland is unmanaged with the exception of grazing deer.

3.2.12 The neutral grassland is described by the UKHab as g3c other neutral grassland with the following secondary codes: 10 scattered scrub, 11 scattered trees and 80 unmanaged. A plant species list is appended at **Table 8.3**.

Scrub and Bramble Scrub with Tall-herb Vegetation / Former Allotment Area

- 3.2.13 Around the site margins, particularly over the former allotment area at the eastern margin of the site, is dense Bramble scrub and areas of Raspberry canes. Bramble is constant and abundant / locally dominant with constant and abundant Raspberry and Common Nettle (*Urtica dioica*).
- 3.2.14 Other species in these areas where the Bramble scrub is not as dense are similar to those listed for the neutral grassland with frequent Yorkshire-fog, locally frequent Creeping Buttercup, very locally abundant Rosebay Willowherb (*Chamerion angustifolium*), Wood Avens (*Geum urbanum*) and Meadow Buttercup (*Ranunculus acris*) were also detected.

Former Allotment Area

- 3.2.15 Refer to **Photo 5** and **6**. In addition, in the former allotment area are non-native and ornamental shrubs and plants including Mahonia, Garden Privet (*Ligustrum ovalifolium*), Hydrangea, Fuchsia and Forget-me-not species (*Myosotis* sp.). As a result of its previous use as an allotment this whole area is littered with wire, metal, plastic and other man-made materials that are potentially hazardous to wildlife.
- 3.2.16 This area also supports lines of young to semi-mature trees of Goat Willow (*Salix caprea*), Ash (*Fraxinus excelsior*), Sycamore, Leyland Cypress (*Cupressus* × *leylandii*), Larch (*Larix decidua*) and Apple (*Malus* sp.) trees.
- 3.2.17 The scrub habitats are indicative of a mosaic of the W24 *Rubus fruticosus*-*Holcus lanatus* scrub community with smaller areas of the OV24 *Urtica dioica* – *Galium aparine* and the OV27 *Chamerion angustifolium* tall-herb communities of the NVC. The vegetation is described by the UKHab as h3d Bramble scrub with the following secondary codes: 11 scattered trees and 80 unmanaged.
- 3.2.18 A plant species list for the scrub and tall-herb vegetation, including the allotment area is appended at **Table 8.4**.

Pond 1 (Target Note 2)

- 3.2.19 Refer **Photo 7**. Pond 1 is a 1.5 metres by 1.5 metres square pit that has been excavated and has filled with water to a depth of 0.15 metres in April 2022. A site visit on 20th May 2022 confirmed that the pond had dried out. No aquatic or emergent plant species were detected in April 2022; a stand of Yellow Iris is positioned approximately 3 metres to the south of the pond.

Off-site Habitats

Woodland Habitats Beyond the Site Boundary

- 3.2.20 The off-site woodland to the north and west of the site supports Oak species in the canopy. The shrub layer is open and the ground flora comprises frequent Yorkshire-fog, Creeping Soft-grass (*Holcus mollis*) with locally abundant Bramble and Bilberry and very locally frequent Rosebay Willowherb and Wavy Hair-grass (*Deschampsia cespitosa*). The woodland has affinities with the W16 *Quercus* spp. *Betula* spp. – *Deschampsia cespitosa* community of the NVC (Rodwell, 1991).

Grassland to the South-west

- 3.2.21 South-west of the site, beyond the dry stone wall at the south-western margin is a field colonised by a continuation of the acid / natural grassland mosaic present at the site. Pignut (*Conopodium majus*)⁴ is abundant present in this off-site field.

⁴ Pignut is a favoured food of badger and badger feeding signs were detected.

Invasive Plant Species

- 3.2.22 No Japanese Knotweed is present at the site.
- 3.2.23 Scattered plants of Montbretia (*Crocasmia crocosmiiflora*) were detected in the former allotment area. This species is listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread or cause its spread in the wild. This is considered further at **Section 4.3** below.

3.3 Animal Life

Badger

- 3.3.1 No badger setts were found in the site or within a radius of 50 metres from the site boundary.
- 3.3.2 Refer to **Photos 9 and 10**. Badger activity is present on site and includes paths (with badger hairs) traversing the whole site (particularly at the western corner and south-eastern areas). Evidence of use of the site by feeding badger comprising snuffle marks was also detected. The paths were followed to off-site land, particularly at the south-western boundary (in accordance with best practice, further information in relation the location of off-site setts is not disclosed in this report).
- 3.3.3 The grassland habitats provide opportunities for foraging badger and the whole site is accessible to badger from the suitable habitats for use by badger in the wider area (particularly from the woodland to the west and north the grassland to the south-west)

Bat Species

Habitat Assessment for Commuting and Foraging Bats

- 3.3.4 The mosaic of unmanaged grasslands with scrub and scattered trees along the edge of the off-site woodland habitats are assessed to be of high suitability for use by foraging bats, particularly edge feeding species such as pipistrelle species, as part a wider foraging habitat range. For example, the habitats at the site have connectivity with the woodland and grassland habitats along the west margin of Ramsbottom and link to the favourable habitats for use by foraging bats at Dick Field Clough to the north and the linear areas of woodland and water courses with on-line lodges and the grassland at Lower Red Lees Pasture SSSI located further north.

Daylight Survey: Buildings

Building 1

- 3.3.5 Refer to **Photo 11**. Building 1 is a pre-fabricated garage with a pitched corrugated metal sheet covered roof. Horizontal timber planks are present although no warping or gaps or potential roost features / opportunities for bat access were detected. Building 1 is assessed to be of negligible suitability for use by roosting bats in accordance with Table 4.2 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016).

Building 2

- 3.3.6 Refer to **Photo 12**. Building 2 is a timber framed garage with a pitched corrugated sheet covered roof which is covered with moss species. The elevation walls support vertical timber boards; no gaps or potential roost features / opportunities for bat access were detected. Building 2 is assessed to be of negligible suitability for use by roosting bats.

Building 3

- 3.3.7 Refer to **Photo 13**. Building 3 is a pre-fabricated garage with a pitched corrugated sheet covered roof. No gaps or potential roost features / opportunities for bat access were detected. Building 3 is assessed to be of negligible suitability for use by roosting bats.

Dilapidated Timber Sheds and Coops

- 3.3.8 Refer to **Photo 14**. No evidence of use of the remnant dilapidated timber sheds and coops in the former allotment area by roosting bats was detected. Owing to their dilapidated condition the sheds are assessed to be of negligible suitability for use by roosting bats.

Stone Wall

- 3.3.9 Refer to **Photo 1**. The stone retaining all along the eastern site boundary (along Eccles Street) supports cracks and crevices that may be suitable for use by single bats. No bat droppings were detected along the wall on the survey visits in April and May 2022. This wall is often obscured by the presence of parked cars which may act to restrict use by bats.

Trees

- 3.3.10 Two trees within the site are identified to support features with suitability for use by roosting bats, as described below and annotated on **Figure 2**.

Table 3.3: Description of Trees with Suitability for Use by Roost Bats and Results of Further Inspections

Tree Reference (Figure 2)	Tree Reference in the Tree Report ⁵	Species	Description of Potential Roost Feature	Result of Further Inspection in April and May 2022	Assessment of Suitability for Use by Roosting Bats
T1 Photos 15 and 16	T15	Sycamore	Mature tree on the northern site boundary. Hollow stem with a large basal butt-rot cavity. Knothole present on the south side at a height of 3 metres from ground level.	Examination with an endoscope confirmed that the stem is hollow with a cavity extending up to a height of 4 metres inside the tree. No bats or bat droppings detected.	Moderate
T2 Photo 17	T9	Sycamore	Multi-stemmed tree with two wounds / possible frost cracks. Wound on the most northerly stem (south side) is blind. Wound on the southern-most stem but north side of the tree extends upwards to a small (0.15 metres long) cavity	Inspection of the cavity at the wound on the southern-most stem confirmed the presence of a slug and woodlice. No bats or evidence of the previous use of the feature by bats was detected.	Low

- 3.3.11 All other trees and shrubs within the site boundary are assessed to be of negligible suitability for use by roosting bats.

⁵ Eccles Street, Ramsbottom, Lancashire BS5837: Tree Report (Envirotech NW Ltd, 2016)

Bird Species

3.3.12 Birds detected in the site during the site visits in 2022 are listed below.

Table 3.4: Bird Species Detected on 24th February 2022 and 24th April 2022

Scientific Name	Common Name	BOCC Status ¹	Notes
<i>Columba palumbus</i>	Wood pigeon	Amber	Within the trees on site and in the off-site woodland
<i>Corvus corone</i>	Carrion crow	Green	Within off-site woodland
<i>Erithacus rubecula</i>	Robin	Green	In scrub on site
<i>Turdus philomelos</i>	Song thrush	Amber	Territorial song in the wider area (off-site)
<i>Cyanistes caeruleus</i>	Blue tit	Green	Territorial song on site
<i>Phylloscopus collybita</i>	Chiff-chaff	Green	Territorial song in the woodland in the wider area (off-site)
<i>Corvus monedula</i>	Jackdaw	Green	Visiting site
<i>Fringilla coelebs</i>	Chaffinch	Green	Calling on site
<i>Pica pica</i>	Magpie	Green	Visiting site
<i>Streptopelia decaocto</i>	Collared dove	Green	Within the trees on site and in the off-site woodland
<i>Troglodytes troglodytes</i>	Wren	Amber	Within the on-site scrub
<i>Turdus merula</i>	Blackbird	Green	Within the on-site scrub

¹BOCC: Birds of Conservation Concern (Stanbury, et al., 2021).
Priority Species are presented in **bold**.

- 3.3.13 Opportunities for nesting passerine birds typically associated with scrub, including Priority Species such as song thrush and dunnock, are present in the trees, Bramble scrub and shrubs within the site.
- 3.3.14 Off-site habitats in the wider area namely the woodland to the west and north-west provide more favourable opportunities for woodland specialist species such as nuthatch (*Sitta europaea*) and possibly tawny owl (*Strix aluco*).
- 3.3.15 The sloping field of a relatively small size positioned in close proximity to the existing residential properties and associated disturbances is unlikely to provide optimum conditions for the attraction of ground nesting birds; no evidence of use of the site or the adjacent fields by ground nesting birds was detected on the 24th April 2022 and the 20th May 2022.

Barn Owl

- 3.3.16 No sign of nesting barn owl was detected during the inspections of the buildings.

Great Crested Newt and other Amphibians

Pond 1

- 3.3.17 Common frog tadpoles were detected in Pond 1 on the 24th April 2022. The pond had dried out by 20th May 2022.
- 3.3.18 No newt eggs were detected at Pond 1 on the 24th April or on 20th May 2022. The result of the Habitat Suitability Index (HSI) of Pond 1 is given below.

Table 3.5: Habitat Suitability Index Assessment for Pond 1

Criteria	Description	Pond 1	Score ¹
SI ₁	Location	Optimal	1.0
SI ₂	Pond Area	<50m ²	0.05
SI ₃	Permanence	Dries annually	0.1
SI ₄	Water Quality	Poor	0.33
SI ₅	Shade	0%	1.0
SI ₆	Waterfowl	Absent	1.0
SI ₇	Fish	Absent	1.0
SI ₈	Pond count ²	3 ponds	0.65
SI ₉	Terrestrial habitat	Moderate	0.67
SI ₁₀	Macrophyte cover	0%	0.3
Assessment Result:		Poor	0.43
¹ Calculated by $(SI_1 \times SI_2 \times SI_3 \times SI_4 \times SI_5 \times SI_6 \times SI_7 \times SI_8 \times SI_9 \times SI_{10})^{1/10}$			
² Ponds within an unobstructed 1 kilometre radius			

3.3.19 In consideration of great crested newt:

- The assessment of Pond 1 is 'poor' suitability for use by breeding great crested newt. The score is most affected by its ephemeral condition and the absence of macrophytes;
- There are no known records of great crested newt reported for the site and the 2 kilometres radius of the site⁶.

3.3.20 Based on the supporting evidence and rationale provided in **Section 2.3** (including the Natural England Rapid Risk Assessment result at **Table 2.5**), the distance to the nearest pond (Pond 2, if present), the status at Pond 1 and the conditions at the site it is advised that the presence of great crested newt at the site is reasonably discounted.

3.3.21 The presence of other amphibian species, including the confirmed presence of common frog, is taken into consideration in the assessment at **Section 4.4** and the recommendations in relation to site design at **Section 5.0**.

Reptiles

3.3.22 There are no reported records of reptiles for the site or within a 2 kilometres radius of the site. The habitats at the site, particularly the grasslands, are suitable for use by basking and feeding reptile species known to be present in the Greater Manchester area namely slow-worm and common lizard. The possible use of the site by reptile species is discussed in **Section 4.3** and recommendations are provided at **Section 5.3**.

Other Wildlife

Roe Deer

3.3.23 Five deer bed positions were found beneath the trees and within the scrub at the former allotment area. Deer footprints were recorded at the site and one roe deer adult was observed walking through the site on the 24th April 2022 (on disturbance the deer left the site at the western boundary and entered the woodland to the west). Although deer has no statutory protection and is not a material consideration in relation to a planning decision the presence of the deer and use of both the site and the habitats in the wider area by this species is reported for completeness.

⁶ It is recognised that absence of a record does not equate to absence of a species when taken in isolation; however, in consideration of the combination of all factors as listed the likelihood of presence of great crested newt at the site is reasonably discounted.

Hedgehog

- 3.3.24 It is advised that habitats at the site are suitable for use by sheltering and breeding hedgehog, a Priority Species.

Butterfly Species

- 3.3.25 Butterfly species recorded over the site on the 24th April 2022 comprised orange-tip (*Anthocharis cardamines*) feeding on Garlic Mustard (one its larval food plants), Peacock (*Aglais io*) and small white (*Pieris rapae*).
- 3.3.26 The grassland habitats support larval food plants for a variety of other butterfly species including meadow brown (*Maniola jurtina*), gatekeeper (*Pyronia tithonus*) and small heath (*Coenonympha pamphilus*) (a Priority Species).

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 The ecological baseline survey information, the need to apply the mitigation hierarchy and the need to demonstrate a net gain for biodiversity have informed the proposals from an early stage. Ecological guidance has been provided to the client, architect and landscape architect to assist in the preparation of the design of the building and site layout including the *Landscape Masterplan* (Rural Solutions, 2023) to demonstrate a collaborative approach.
- 4.1.2 **Section 4.2** provides an assessment of any impacts of the proposed development on the designated sites for nature conservation present in the wider area. The ecological value of habitats within the site is evaluated at **Section 4.3**, and the presence of protected and notable species is considered at **Section 4.4**.
- 4.1.3 The report at **Appendix 2** and the completed calculator at **Appendix 3** provide all methods applied to inform the Biodiversity Metric 3.1 Calculation.

4.2 Designated Sites for Nature Conservation

- 4.2.1 Owing to the distance between the site and any statutory and non-statutory designated sites for nature conservation within the wider area and the absence of habitat and hydrological connectivity, direct and indirect effects on any statutory and non-statutory designated sites are reasonably discounted.
- 4.2.2 It is identified that the enhancement of the site for biodiversity provides an opportunity to complement the existing habitats in the wider area, including at the Dick Field Clough SBI and surrounding woodland, located within 150 metres of the site. This is discussed further at **Section 5.4**.

4.3 Vegetation and Habitats

- 4.3.1 The site contains only common and widespread plant species. The National Vegetation Classification (NVC) communities present are typical of the geographical area and the conditions at the site.
- 4.3.2 The acid grassland mosaic at the western corner of the site is characteristic of the description of Lowland Dry Acid Grassland Priority Habitat (Maddock, 2008) although the area is not extensive (0.07ha) and not all indicator plant species are present (for example Tormentil (*Potentilla erecta*) was not detected and the grassland is relatively 'lush' (whereas Lowland Dry Acid Grassland Priority Habitat is often species-poor and limited to the calcifuge species). Nevertheless, retention of this grassland and protection both during construction and in terms of the avoidance of inappropriate management in the long-term is advised. In accordance with the Landscape Masterplan the development proposals will avoid the acid grassland habitat (with the exception of the creation of a seating area) and enhancement of this area by appropriate long-term management will be secured by the proposals (refer to **Sections 5.2** and **5.4**).

- 4.3.3 No other Priority Habitat is present at the site. The off-site woodland bordering the site to the north and west is identified as Lowland Mixed Deciduous Woodland Priority Habitat; this habitat will not be directly affected by the proposals and tree protection measures, as described in the Tree Report (Envirotech NW Ltd, 2016) will be in place during the construction period.
- 4.3.4 As advised during the preparation of the proposals, the position of the new property and the access avoids the Priority Habitat and the established trees and shrubs and is centred on the existing hard-standing (a very low distinctiveness habitat) and the neutral grassland and Bramble scrub (both habitats of medium distinctiveness). As identified above, the proposals provide an opportunity to secure the enhancement of the retained habitats for biodiversity by habitat creation and application of appropriate management; this is discussed further in **Sections 5.4** and **5.5**.
- 4.3.5 The loss of Pond 1 is an unavoidable identified impact of the proposals. However, given the ephemeral and poor conditions at Pond 1 the impact is not significant. As advised, to secure the retention of this habitat at the site, the Landscape Masterplan accommodates the creation of a new wildlife pond in a more appropriate and sustainable location.
- 4.3.6 The presence of scattered plants of Montbretia, an invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), within the site boundary is an essential consideration in connection with the development proposals. The proposals provide an opportunity to control and manage this species to minimise the risk of further spread into the wild (refer to **Section 5.3**).

4.4 Protected Species and Other Wildlife

Badger

- 4.4.1 The presence of badger activity within and in proximity to the site is recognised. The proposals can be achieved with no adverse effect on badger setts or a breach of wildlife legislation. In the presence of the relevant and proportionate mitigation measures described in **Section 5.0**, the proposals will not cause a significant reduction in the foraging habitat accessible to badger, cause the fragmentation of habitats or impede / sever badger access to foraging habitats and fresh water in the wider area. Based on the small scale nature of the proposals the likelihood of an increased risk of any post-development interference impacts such as disturbance, artificial lighting and collisions with cars is assessed to be negligible. Best practice measures to be applied for the protection of badger prior to and during the construction period are of relevance and are described at **Section 5.3**.

Bat Species

- 4.4.2 No evidence of a bat roost was detected at the site.
- 4.4.3 The Landscape Masterplan illustrates the retention of Trees 1 and 2 (identified to have suitability for use by roosting bats). The risk of adverse effects on foraging bats (and other crepuscular / nocturnal wildlife) by inappropriate lighting is an identified impact of the proposals. Guidance to secure the suitability of the site for use by roosting bats in the presence of the proposals and appropriate measures to enhance the opportunities for use by roosting bat at the site are described in **Section 5.4**.
- 4.4.4 Owing to the ability to examine all potential roost features at the relevant trees it is considered that appropriate survey effort and assessment has been carried out to ensure compliance with the relevant survey guidelines (*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn) (Collins, J. (ed), 2016)) and wildlife legislation is achieved. No further survey is necessary to inform the planning decision.

Nesting Birds

- 4.4.5 The trees and shrubs within the site and on the site boundaries provide suitable habitat for nesting and foraging passerine (perching) bird species, including Priority Species. The removal of areas of dense scrub to facilitate the proposals (particularly the access) will result in a temporary loss of habitat suitable for use

by nesting birds. In the presence of the habitat creation (particularly the scrub planting proposed by the Landscape Masterplan) it is advised that there is no net loss of opportunities for use by nesting passerine birds. Mandatory actions to protect nesting birds during site clearance and measures to provide compensatory opportunities for nesting birds are recommended at **Sections 5.3** and **5.4** and can be achieved by the proposals.

- 4.4.6 The recommendations at **Section 5.4** describe compensatory measures to be secured to ensure no net loss (and work towards a net gain) of opportunities for nesting birds in the presence of the proposals.

Other Protected Species and Fauna

- 4.4.7 As described in **Section 4.3** the creation of a new wildlife pond will secure an opportunity for the long-term conservation of breeding amphibians at the site.
- 4.4.8 In addition, the Landscape Masterplan and site proposals are designed to ensure the boundaries remain accessible to wildlife (badger, deer and hedgehog, for example); it is not the intention of the proposals to exclude the site for continued use by these species.
- 4.4.9 Appropriate survey effort and / or assessment in accordance with standard guidance, has been carried out to reasonably discount adverse effects on other relevant protected species.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

- 5.1.1 The recommendations and guidance provided in this section follows 'The Mitigation Hierarchy' (i.e. avoid, mitigate, compensate) as advised by the NPPF to aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the NPPF, relevant local planning policy and best practice.
- 5.1.2 The recommendations are appropriate and proportionate to the proposals and address the impacts associated with the proposals, as identified in **Section 4.0**. Where possible, opportunities to enhance the ecological value of the site, and habitat connectivity and secure biodiversity gain through appropriate landscape planting, habitat enhancement, habitat creation and management have been identified, as required by the NPPF and other relevant planning documents.
- 5.1.3 These recommendations aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.

5.2 Recommendations in Relation to Site Layout / Design

- 5.2.1 The following guidance was provided to the design team and has been accommodated by the proposals, including the Landscape Masterplan:

Site Layout / Position of the Property

- 5.2.2 The new property will be positioned on the area of neutral grassland and Bramble scrub. This position avoids the semi-mature trees, the areas of bluebells and the area of lowland dry acid grassland.

Property Design

- 5.2.3 To maximise opportunities for biodiversity, including feeding invertebrates, the property accommodates a wildflower green roof (minimum of 258m²), refer to **Section 5.4**.

- 5.2.4 In addition, the more formal areas of planting and soft landscaping are confined to the immediate curtilage of the property, whereas, following the habitat creation and enhancement works, the remainder of the site will have minimal intervention to secure conservation of the natural habitat types.

Boundary Features

- 5.2.5 The Landscape Masterplan accommodates with the retention of existing features and or native hedgerow planting at the site boundaries. If boundary fencing is proposed, to avoid adverse effects as a result of fragmentation and exclusion of access, it is essential that the boundary features / fencing continue to permit access for the movement of wildlife such as deer, badger and hedgehog between the site and the habitats in the wider area.

Lighting

- 5.2.6 Paragraph 180, bullet point 'c' in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

- 5.2.7 The lighting scheme to be implemented at the new property must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the retained and enhanced habitats within the site, and surrounding habitats particularly the woodland edge habitats to the north and west, as lighting overspill may deter use by wildlife such as foraging bats and badger.

- 5.2.8 The lighting scheme will be designed with reference to current guidance, namely:

- a. *Guidance Note 8: Bats and Artificial Lighting in the UK* (Institution of Lighting Professionals & Bat Conservation Trust, 2018); and
- b. *Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Habitat Enhancement and Landscape Planting

- 5.2.9 Opportunities to maximise the benefits of the proposals to biodiversity have been secured by a combination of appropriate and complementary measures such as:

- a. Habitat enhancement comprising the removal of the wire, plastic and other materials from the former allotment area and supplementary planting of the existing scrub with native tree and shrub species and the introduction of woodland herbs, refer to **Section 5.4**;
- b. Habitat creation (i.e. excavation of a permanent wildlife pond, accommodation of provisions for roosting bats and nesting birds and the green roof at the new property);
- c. Habitat enhancement by securing wildflower grassland seeding which includes the larval foodplants for use by a diversity of butterfly species, the application of Yellow Rattle (*Rhinanthus minor*) as appropriate to suppress the cover of grass species and promote wildflowers, and application of appropriate management (including control of invasive plant species, as needed, and the creation of areas of shorter grassland and microclimates to secure habitats of a 'good' target condition under the Biodiversity Metric Calculation Tool);
- d. Enhanced habitat connectivity by planting of the native hedgerows (without causing the site to be too enclosed from the surrounding landscape);
- e. Planting of fruit trees for the attraction of feeding invertebrates and their predators (bird and bat species) and also opportunities for feeding badger; and
- f. Secured long-term management of the retained, enhanced and new habitats in accordance with conservation objectives.

5.2.10 Further detail is provided at **Section 5.4**.

Biodiversity Metric Calculation Tool

5.2.11 As demonstrated at **Appendices 2 and 3**, a preliminary assessment of the site proposals as described above and below and detailed on the Landscape Masterplan demonstrates that a net gain for biodiversity is achieved in accordance with the Biodiversity Metric Calculation Tool (version 3.1).

5.3 Protection of Existing Vegetation and Wildlife During Construction

Introduction

5.3.1 To inform the site preparation and construction activities it is recommended that a Construction Environment Management Plan (CEMP) for Biodiversity is prepared and implemented. The CEMP for Biodiversity will describe the following actions / measures:

Lighting

5.3.2 Paragraph 180, bullet point 'c' in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

5.3.3 Any lighting to be used during the construction phase must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the retained habitats as lighting overspill may deter use by wildlife such as foraging bats.

Protection of Existing Vegetation

5.3.4 During the construction phase, temporary protective demarcation fencing will be used to protect the pond, trees, hedgerows and shrubs to be retained. The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012) and the guidance provided in the Tree Report (Envirotech NW Ltd, 2016).

Invasive Plant Species

5.3.5 It is advised that the CEMP includes a method statement to describe the removal and burial on site of the Montbretia plants and associated corms.

Guidance in Relation to Bats and Trees

5.3.6 If, for arboricultural reasons Trees 1 and / or Tree 2 need to be crown lifted / pruned, the method outlined below is applicable. The method has been prepared in accordance with best practice guidance and consultation of the approved development proposals and Chapter 6 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016).

5.3.7 If works are required the following methods must be applied:

- a. Immediately prior to felling / arboricultural works, an updated inspection of the potential roost features at the trees will be carried out by a licensed bat surveyor; and
- b. Provided no current or previous evidence of use by roosting bats is found (i.e. the status quo) then trees must be section / soft felled under the supervision of a licensed bat surveyor. The licensed bat surveyor will be present to supervise the following works:
 - Careful section-felling of the tree(s). The sectioning must avoid cutting through or close to any cavities / dead wood, this is likely to involve climbing the tree;

- Cut sections will be lowered to the ground with the use of ropes;
- Once on the ground, any cavities, if present, will be re-inspected by the licensed bat surveyor and guidance issued; and
- Where relevant, allow all felled sections to lie on the ground for 24 hours before snedding (removing side branches).

5.3.8 If a roost is detected the licensed bat surveyor will provide appropriate guidance.

5.3.9 The appropriate time for tree removal, if needed, is between September and February inclusive.

Discovery of a Bat

5.3.10 It at any time during the works a bat is discovered or suspected all contractors must withdraw from the area and ERAP (Consultant Ecologists) Ltd (01772 750502) or Natural England must be contacted for further guidance.

Nesting Birds

5.3.11 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.

Badger

Pre-work / Updated Badger Survey

5.3.12 As the date of commencement of the site preparation and construction activities is not known it is recommended that an updated badger survey is carried out by a suitably qualified and experienced ecologist within three months prior to the commencement of works.

5.3.13 Following the pre-works survey the ecologist will issue the appropriate guidance in accordance with relevant wildlife legislation and best practice.

Best Practice Measures During Construction

5.3.14 During the site preparation and construction operations it is essential that the following best practice is applied:

- a. No machinery or construction operations must be carried out beyond the site boundary / demarcation fencing. Ecological guidance must be sought if works are necessary beyond the fencing;
- b. No trenches must be left open overnight. Trenches or holes must be covered with a board or fitted with a means of escape (such as ramped edge or a sloping plank of timber). This will ensure that any inquisitive badger do not become trapped;
- c. Any pipes must be stored with caps on (to prevent badger entry);
- d. No fires must be lit at the site; and
- e. Any chemicals or harmful materials must be stored so that they cannot be accessed by inquisitive badger.

Reasonable Avoidance Measures for the Protection of Amphibians, Reptiles, Hedgehog and Other Wildlife

5.3.15 In accordance with best practice the following Reasonable Avoidance Measures (RAMs) Method Statement will be applied prior to and during the construction phase of development:

- a. All site personnel must be made aware of this RAMs Method Statement;
- b. A Toolbox Talk will be provided by an ecologist to all site personnel;
- c. All site personnel must be trained in the identification of hedgehog, and amphibian and reptile species;
- d. The areas of debris and dilapidated buildings in the former allotment area must be removed by hand and searched for amphibians / reptiles. Subject to the absence of nesting birds, these works are most appropriately carried out outside the amphibian and reptile dormancy period (i.e. carry out works between April and October inclusive);
- e. During any vegetation clearance works all arising waste must be either removed from the area or placed in a skip to avoid the accumulation of materials that may create suitable habitat and shelter for wildlife;
- f. During construction, bricks etc. must be stored on pallets or raised from the ground in another suitable manner in order that no temporary habitats that are suitable for use by amphibians are created;
- g. During construction, any holes, trenches or other pits which animals could fall into must be covered overnight, or have sloped banks or ramps suitable for their escape;
- h. The use of chemicals (such as fertilisers and herbicides) harmful to amphibians should be avoided wherever possible;
- i. If it is suspected / confirmed that a great crested newt or a reptile species has been found ERAP (Consultant Ecologists) Ltd (01772 750502) or Natural England (0300 060 6000) must be contacted immediately for further assistance;
- j. No site contractors must handle a great crested newt or reptile species; and
- k. If a hedgehog or any other amphibian species (such as palmate newt, smooth newt, common toad or common frog) are detected on site, it must either be left undisturbed or if in a potentially hazardous location it should be carefully picked up, placed in a clean bucket and moved to an area of suitable habitat beyond the construction area.

5.4 Compensation and Enhancement for Biodiversity / Assessment of Biodiversity Net Gain

Introduction

5.4.1 Chapter 15, paragraph 180(d) of the NPPF states:

'opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.

5.4.2 At this stage in the planning application it is advised that the proposals and Landscape Masterplan secure the following enhancements for biodiversity and contribute to demonstrating compliance with the *Biodiversity Net Gain Good Practice Principles for Development* (CIEEM, 2016) and achieving a measurable net gain for biodiversity in accordance with the Metric Calculation Tool (refer to **Appendices 2 and 3**).

5.4.3 The secured measures of enhancement are described below:

Installation of Opportunities for Nesting Birds

5.4.4 A selection of bird boxes, including boxes designed for woodland species such as treecreeper and tawny owl, will be installed on suitable retained trees. Boxes to be installed at least 4 metres from ground level, and away from access by cats. To avoid the risk of chicks overheating in the box, south facing bird boxes are to be avoided.

Installation of Opportunities for Roosting Bats

- 5.4.5 Installation of bat boxes on suitable retained trees in accordance with the following guidance (Bat Conservation Trust, 2016):
- At least 4 metres above the ground (where safe installation is possible);
 - Sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west). Ideally several bat boxes will be installed to provide a variety of different thermal options for bats. Grouping a number of boxes each with a different aspect can achieve this; while a number of boxes is preferable to one, a single box is still viable and may be used by roosting bats;
 - Located close to unlit linear features, such as lines of trees or hedgerows; and
 - Installed where the bat box entrance is not cluttered or impeded by branches, or accessible to predators (such as cats) by large branches underneath them.

Green Roof

- 5.4.6 The 258m² area of green roof will be seeded with the ER1: Turf Roof Mixture⁷ (or similar) which contains grassland and herbs, including a number of butterfly larvae food plants such as Sheep's Sorrel (*Rumex acetosella*), Common Bird's-foot-trefoil (*Lotus corniculatus*) and food plants such as Heather (*Calluna vulgaris*) which provide invertebrate feeding opportunities in the late Summer. This selected mix is also complementary to the grassland habitats in the wider area.

Planting of a Native Hedgerow at the Site Boundaries

- 5.4.7 Planting of a native hedgerows of shrubs (not trees) at the boundaries will contribute to the maintenance of habitat connectivity through the site and will provide opportunities for nesting birds such as dunnock, a Priority Species.
- 5.4.8 An appropriate specification is a random mix of Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Hazel (*Corylus avellana*), Blackthorn (*Prunus spinosa*) and Dog Rose (*Rosa canina*).

Construction of Dead Wood Habitat Piles

- 5.4.9 Use of timber from felled trees / shrubs to construct deadwood habitat piles in the areas of retained and planted scrub on the site margins for colonisation by invertebrates, fungi and small mammals including hedgehog (a Priority Species).

New Pond

- 5.4.10 A wildlife pond is accommodated by the proposals. The pond will provide habitat for breeding amphibians and invertebrates such as dragonfly and damselfly species. The planting of native marginal plants such as Marsh Marigold (*Caltha palustris*) and Purple Loosestrife (*Lythrum salicaria*) will be attractive in this area.

Enhancement of the Neutral Semi-Improved Grassland

- 5.4.11 The retained neutral grassland over the site will be enhanced by overseeding with native wildflowers, consideration of sowing of Yellow Rattle (this species is a semi-parasite on grass species and, when applied appropriately can suppress the growth of grass species and permit the growth of wildflowers) and by securing the appropriate long-term management.
- 5.4.12 With the exception of the paths it is proposed that this area of grassland will remain 'wild' with only minimal management to meet the objectives and target condition of 'good'.

⁷ <https://wildseed.co.uk/mixtures/view/54/turf-roof-mixture> as supplied by Emorsgate Seeds

Native Trees and Fruit Trees

5.4.13 Planting native trees and fruit trees for the benefit of feeding invertebrates.

Landscape Planting within the Residential Curtilage

5.4.14 Provision is made on the *Landscape Masterplan* for the planting of herbaceous borders / introduced shrubs within the curtilage of the residential property by the client. Suggested suitable plant species for the attraction of wildlife within a garden habitat are detailed at **Table 5.1**.

Table 5.1: Recommended Plants For Use in Gardens to Attract Bats⁸ and Other Wildlife

Flowers for Borders		Herbs
Aubretia (spring to early summer)	Mexican aster (summer to autumn)	Angelica
Candytuft (summer to autumn)	Michaelmas daisy	Bergamot (summer to early autumn)
Cherry pie (summer to autumn)	Night-scented stock (summer)	Borage (spring to early autumn)
Corncockle	Ox-eye daisy (summer)	Coriander (summer)
Cornflower	Phacelia (summer to autumn)	English marigolds
Corn marigold	Poached egg plant (summer)	Fennel (summer to early autumn)
Corn poppy	Primrose (spring)	Feverfew (summer to autumn)
Echinacea	Red campion (spring)	Hyssop (summer to early autumn)
English Bluebell (spring)	Red valerian	Lavenders
Evening primrose	Scabious (summer)	Lemon balm
Field poppies (summer)	St John's wort (spring)	Marjoram (summer)
Honesty (spring)	Sweet William (summer)	Rosemary (spring)
Ice plant 'Pink lady' (early autumn)	Tobacco plant	Sweet Cicely
Knapweed (summer to autumn)	Verbena (summer to autumn)	Thyme (summer)
Mallow (summer to autumn)	Wallflowers	

5.5 Landscape and Ecological Management Plan

5.5.1 A Landscape and Ecological Management Plan will be prepared for the site. The Plan will confirm the management objectives, prescriptions, target conditions and responsibilities.

6.0 CONCLUSION

6.1 The construction of the property and associated works, in accordance with the Landscape Masterplan, at land off Eccles Street, Ramsbottom can be achieved in accordance with relevant planning policy, identified ecological considerations, wildlife legislation, best practice and local conservation objectives.

6.2 As demonstrated at **Section 5.4** and **Appendices 2 and 3**, the site proposals achieve a net gain for biodiversity in accordance with the Biodiversity Metric Calculation Tool and the Biodiversity Net Gain: Good Practice Principles for Development (CIEEM, 2016).

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8.0 APPENDIX 1: TABLES AND FIGURES

8.1 Photographs

Table 8.1: Photographs



Photo 1: Stone wall at the boundary with Eccles Street



Photo 2: Acid grassland / neutral grassland mosaic habitat



Photo 3: Neutral semi-improved grassland



Photo 4: Bluebells in the centre of the site



Photo 5: Former allotment area



Photo 6: Former allotment area



Photo 7: Pond 1 (Inset photo taken 20th May 2022 showing dry pond)



Photo 8: Oak woodland (off-site) to the west



Photo 9: Badger path (with hair) at the site boundary



Photo 10: Badger path in the grassland at the site

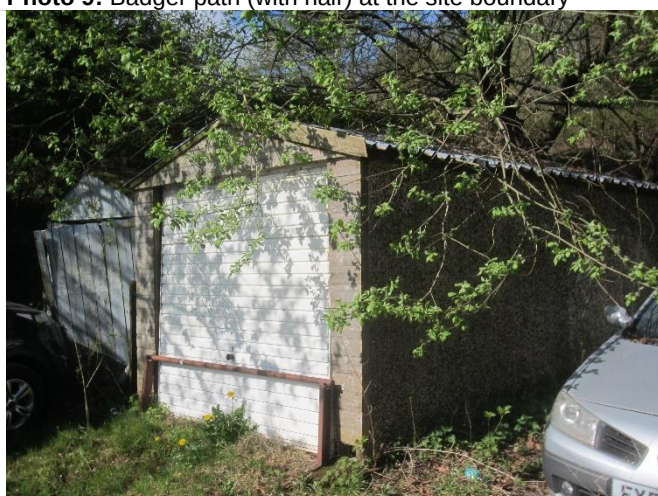


Photo 11: Building 1



Photo 12: Building 2

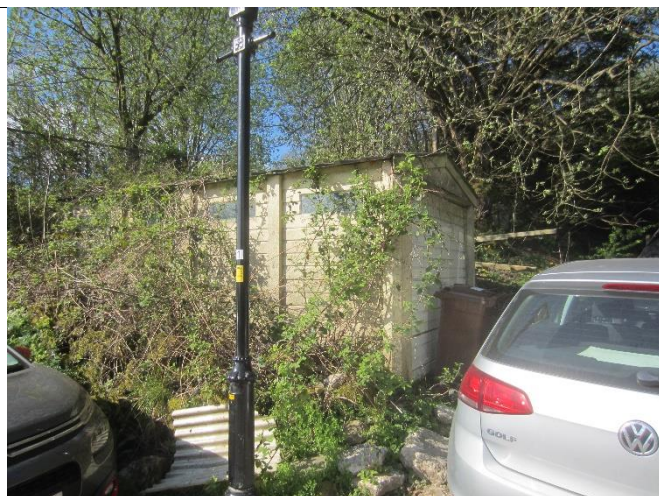


Photo 13: Building 3



Photo 14: Timber shed on the former allotment area



Photo 15: Tree 1 (Sycamore with moderate suitability for use by roosting bats)



Photo 16: Inside the hollow stem at T1

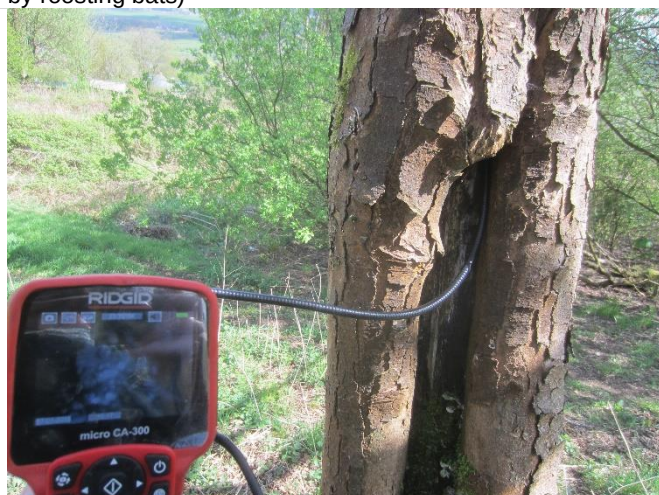


Photo 17: Inspection of the wound / frost crack at Tree 2 (Sycamore with low suitability for use by roosting bats)



Photo 18: Deer bed in the former allotment area

8.2 Plant Species Lists

Table 8.2: Plant Species List for Acid Grassland / Neutral Grassland Mosaic (Target Note 1)

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Agrostis capillaris</i>	Common Bent	A*	20%
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	A*	30%
<i>Festuca ovina</i>	Sheep's Fescue	F	5%
<i>Galium saxatile</i>	Heath Bedstraw	VLA	1%
<i>Holcus lanatus</i>	Yorkshire-fog	A*	20%
<i>Juncus effusus</i>	Soft-rush	VLF	<1%
<i>Luzula campestris</i>	Field Wood-rush	F	1%
Moss species	-	F	5%
<i>Rumex acetosa</i>	Common Sorrel	F	5%
<i>Rumex acetosella</i>	Sheep's Sorrel	F	2%
<i>Vaccinium myrtillus</i>	Bilberry	O	<1%

¹Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 8.3: Plant Species List for Neutral Semi-improved Grassland with Scattered Trees

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer pseudoplatanus</i>	Sycamore	F	10%
<i>Ilex aquifolium</i>	Holly	VLF	<1%
<i>Prunus laurocerasus</i>	Cherry Laurel	LF	1%
<i>Sorbus aucuparia</i>	Rowan sapling	O	<1%
<i>Crataegus monogyna</i>	Hawthorn	O	<1%
<i>Rubus idaeus</i>	Raspberry	LVA	2%
Herb Species			
<i>Alliaria petiolata</i>	Garlic Mustard	R	<1%
<i>Allium ursinum</i>	Ramsons	R	<1%
<i>Alopecurus pratensis</i>	Meadow Foxtail	A*	20%
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	A*	40%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	O	<1%
<i>Dactylis glomerata</i>	Cock's-foot	VLA	1%
<i>Dryopteris dilatata</i>	Broad Buckler-fern	R	<1%
<i>Equisetum arvense</i>	Field Horsetail	R	<1%
<i>Ficaria verna</i>	Lesser Celandine	VF	<1%
<i>Geranium robertianum</i>	Herb Robert	R	<1%
<i>Geum urbanum</i>	Wood Avens	VLF	<1%
<i>Heracleum sphondylium</i>	Common Hogweed	VLF	<1%
<i>Holcus lanatus</i>	Yorkshire Fog	F / LA*	20%
<i>Hyacinthoides non-scripta</i>	Bluebell	LA	1%
<i>Iris pseudacorus</i>	Yellow Iris	VLA	<1%
<i>Juncus effusus</i>	Soft-rush	O	<1%
<i>Luzula campestris</i>	Field Wood-rush	VLF	1%
<i>Narcissus pseudonarcissus</i>	Daffodil	O	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	R	<1%
<i>Poa trivialis</i>	Rough Meadow-grass	LF	2%
<i>Polystichum setiferum</i>	Soft Shield Fern	LF	<1%
<i>Ranunculus acris</i>	Meadow Buttercup	O	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	LF	2%
<i>Rubus fruticosus</i> agg.	Bramble	LVA	5%
<i>Rumex acetosa</i>	Common Sorrel	F*	5%
<i>Rumex acetosella</i>	Sheep's Sorrel	VLA	1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Smyrnium olusatrum</i>	Alexanders	R	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	LF	<1%
<i>Trifolium repens</i>	White Clover	VLF	<1%
<i>Urtica dioica</i>	Common Nettle	VLF	2%
<i>Veronica montana</i>	Wood Speedwell	R	<1%
¹ Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

Table 8.4: Plant Species List for the Scrub and Tall-herb Mosaic in the Former Allotment Area

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer pseudoplatanus</i>	Sycamore	F	10%
<i>Buddleja davidii</i>	Butterfly-bush	R	<1%
<i>Crataegus monogyna</i>	Hawthorn	VLA	1%
<i>Cytisus scoparius</i>	Broom	R	<1%
<i>Fraxinus excelsior</i>	Ash	LF	2%
<i>Larix</i> sp.	Larch	R	1%
<i>Ligustrum ovalifolium</i>	Garden Privet	R	<1%
<i>Lonicera nitida</i>	Box Honeysuckle	LA	1%
<i>Picea</i> sp.	Spruce	R	<1%
<i>Rosa canina</i>	Dog Rose	R	<1%
<i>X Cuprocyparis leylandii</i>	Leyland Cypress	R	<1%
Herb Species			
-	Ornamental Species	LF	5%
<i>Alopecurus pratensis</i>	Meadow Foxtail	LF	1%
<i>Cardamine flexuosa</i>	Wavy Bitter-cress	VLF	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	VLA	1%
<i>Crocsmia x crocosmiiflora</i>	Montbretia	VLF	<1%
<i>Dactylis glomerata</i>	Cock's-foot	LF	2%
<i>Digitalis purpurea</i>	Foxglove	VLF	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	LF	2%
<i>Fuchsia</i> sp.	Fuchsia	R	<1%
<i>Galium aparine</i>	Cleavers	LVA	2%
<i>Geranium robertianum</i>	Herb Robert	VLF	<1%
<i>Geum urbanum</i>	Wood Avens	VLA	<1%
<i>Hedera helix</i>	Ivy	VLA	1%
<i>Heracleum sphondylium</i>	Common Hogweed	LVA	1%
<i>Holcus Lanatus</i>	Yorkshire Fog	F	5%
<i>Hydrangea macrophylla</i>	Hydrangea	R	<1%
<i>Mahonia</i> sp.	Mahonia	R	<1%
<i>Myosotis</i> sp.	Forget-me-not	VLF	<1%
<i>Ranunculus acris</i>	Meadow Buttercup	VLA	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	LF	1%
<i>Rheum palmatum x rhaponticum</i> = <i>R. x hybridum</i>	Rhubarb	R	<1%
<i>Ribes</i> sp.	Currant species	R	<1%
<i>Rubus fruticosus</i> agg.	Bramble	A* / LD*	60%
<i>Rubus idaeus</i>	Raspberry	A*	20%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Silene dioica</i>	Red Campion	L / VA	1%
<i>Taraxacum officinale</i> agg.	Dandelion	VLF / O	<1%
<i>Urtica dioica</i>	Common Nettle	A*	50%
¹ Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

8.3 Figures

Figure 1: Aerial Image of the Site, Surrounding Habitats and Ponds within 500 metres

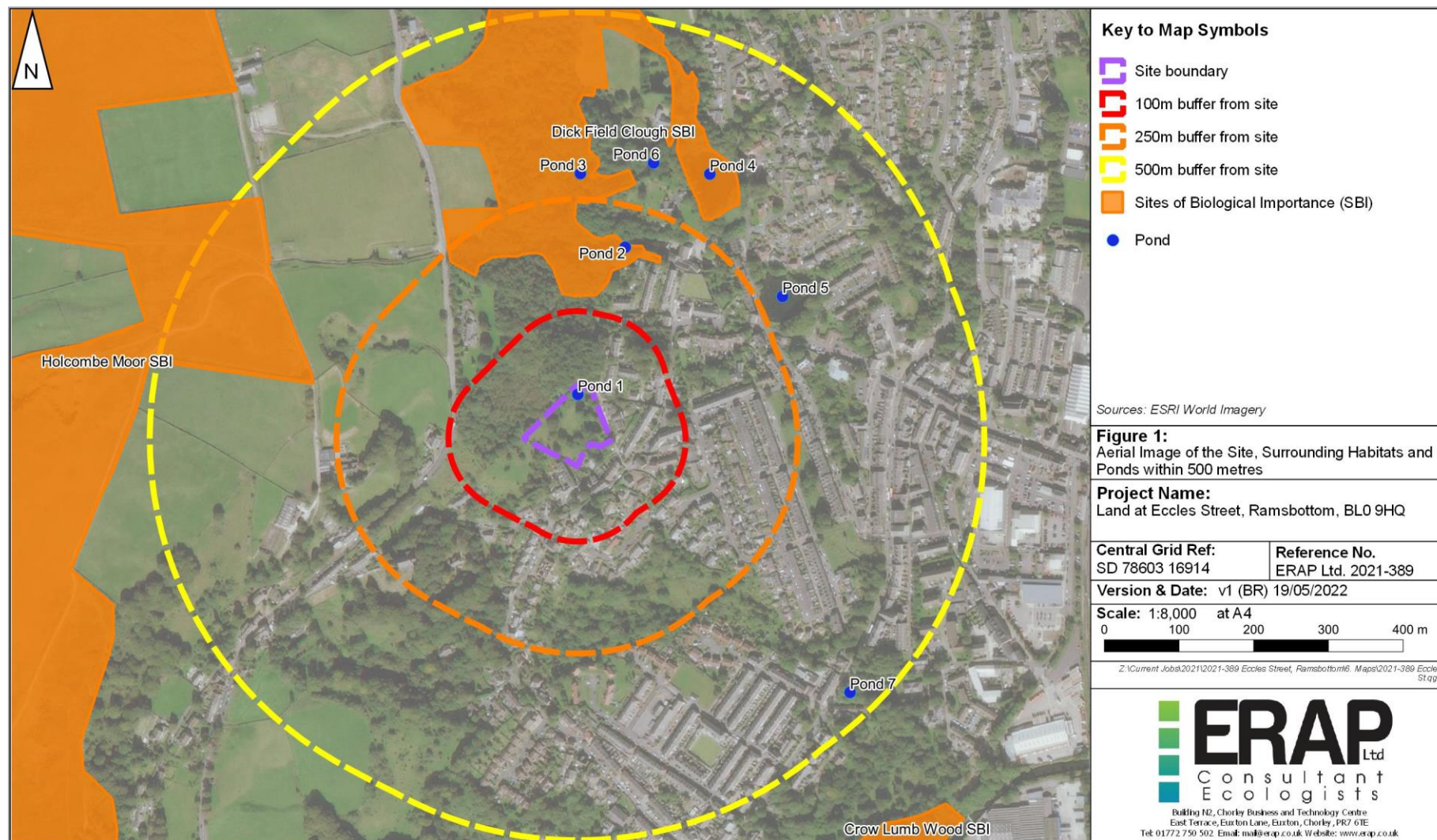
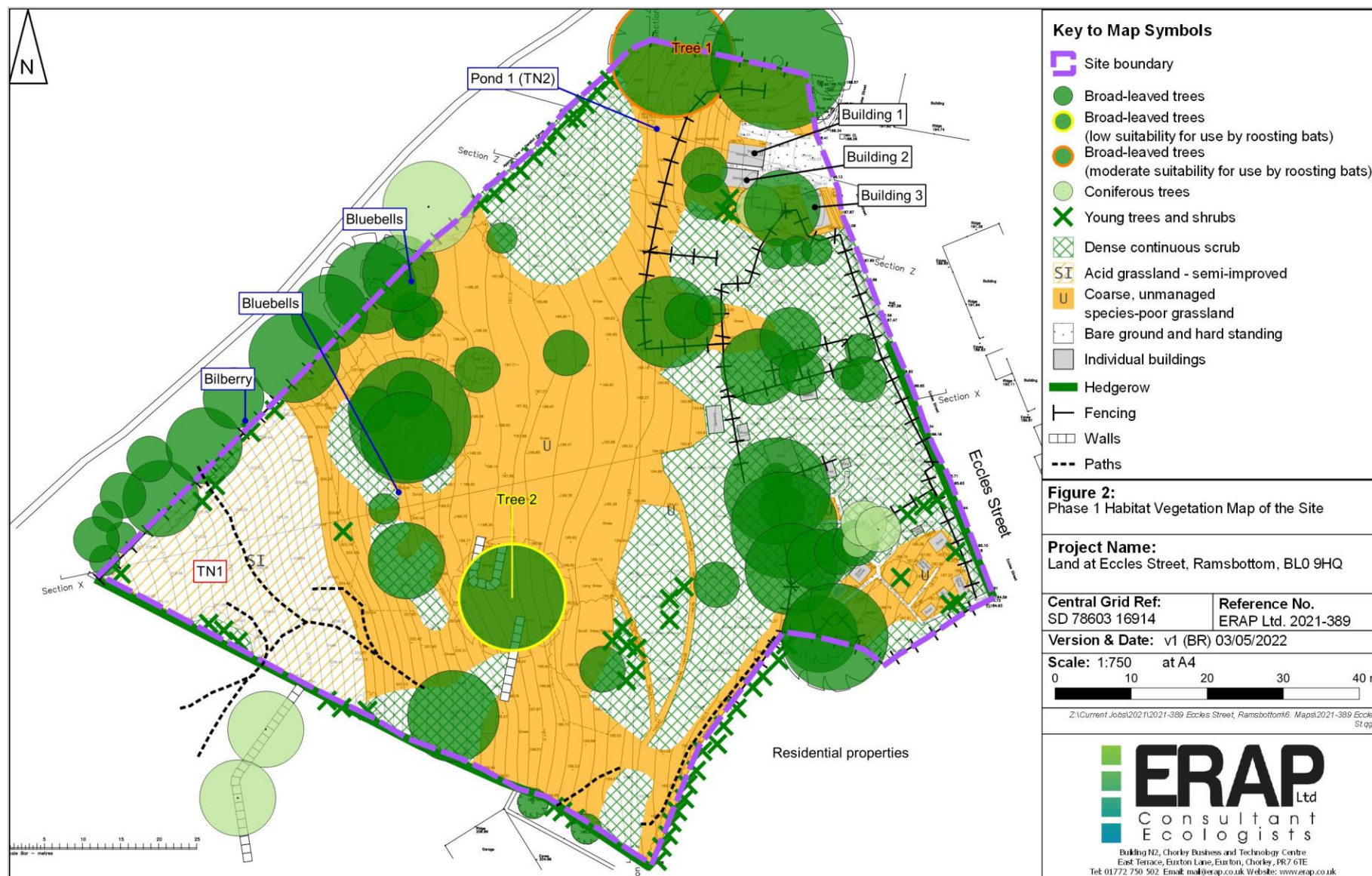


Figure 2: Phase 1 Habitat and Vegetation Map



9.0 APPENDIX 2: ASSESSMENT OF BIODIVERSITY NET GAIN

9.1 Background

- 9.1.1 ERAP (Consultant Ecologists) Ltd carried out an ecological survey and assessment of the land at Eccles Street, Ramsbottom BL0 9HQ in Spring 2022. The Ordnance Survey (OS) grid reference at the centre of the site is SD 78603 16914.
- 9.1.2 Ecological information and guidance has informed the preparation of the site proposals and associated *Landscape Masterplan* (Rural Solutions, 2023) for the construction of one residential property.
- 9.1.3 To complement the ecological survey and assessment and to demonstrate compliance with the *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, 2016) this report presents the results of a preliminary assessment of the proposals in accordance with the Defra Biodiversity Metric Calculation tool (version 3.1).
- 9.1.4 As the whole site / area to be enhanced lies within the same ownership the site area comprises the redline and the blueline boundaries.

9.2 Methods

UK Habitat Classification

- 9.2.1 The UK Habitat Classification (or 'UKHab') has been designed to function at two scales: fine scale (25m² or 5 metres length) and large scale (400m² or 20m length). It is considered for the purposes of this survey (where the UKHab has been used to inform the BNG calculation of a relatively small area) that a finer scale of 5m² is appropriate for the classification of habitats.

Evaluation, Measurements and Condition Assessments

- 9.2.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*.
- 9.2.3 The BNG Assessment tool used is *The Biodiversity Metric 3.1 (JP039)* (Natural England, 2021). Condition Assessments for each of the habitats present within the site have been taken from *The Biodiversity Metric 3.1: Auditing and accounting for biodiversity: technical supplement* (Panks, et al., April 2022).
- 9.2.4 QGIS has been used to calculate the total area of each baseline habitat present within the site. The total site area has been measured on QGIS.
- 9.2.5 The proposed habitats within the developed site (in accordance with the Landscape Masterplan) have been measured by ERAP (Consultant Ecologists) Ltd. ERAP (Consultant Ecologists) Ltd has determined how the proposed habitats conform to the habitat definitions presented within the BNG Metric.

9.3 Baseline Survey Results

Site Description and Assessment of Habitats: Baseline

- 9.3.1 The condition assessments for each habitat are presented at **Tables 9.6 to 9.8** at **Section 9.6**, below. Figures are appended at **Section 9.7**.
- 9.3.2 The total site area **0.67 hectares** (redline and blueline).

9.3.3 **Table 9.1** below provides a summary of the habitats present, their condition assessment result and their area / length within the site. Refer also to **Figure 2**.

Table 9.1: Summary of Baseline Area-based Habitats within the Site

Habitat, Photo and Plant Species List Ref.	UK Habitat Classification Type	BNG Habitat Equivalent	Phase 1 Habitat Equivalent	Condition Assessment Result	Area (ha) to 2 decimal places
Habitat 1: Acid grassland	g1d other lowland acid grassland with the following secondary codes: 13 scattered dwarf shrubs and 80 unmanaged	Grassland – other lowland acid grassland	B1.2 acid grassland	Moderate	0.07
Habitat 2: Neutral grassland	g3c other neutral grassland with the following secondary codes: 10 scattered scrub, 11 scattered trees and 80 unmanaged	Grassland – other neutral grassland	B2.1 semi-improved grassland	Moderate	0.33
Habitat 3: Bramble scrub	h3d Bramble scrub with the following secondary codes: 11 scattered trees and 80 unmanaged.	Heathland and shrub – Bramble scrub	A2.1 dense continuous scrub	N/A	0.25
Habitat 4: Hard-standing	u1b6 other developed land	Urban – developed land; sealed surface	J4 Hard-standing	N/A	0.01
Habitat 5: Buildings	u1b6 other developed land	Urban – developed land; sealed surface	J3.6 Buildings	N/A	0.01
Total					0.67ha

9.3.4 Note: Pond 1 is not included in Table 9.1 as the area is too small to be mapped under the UKHab

Table 9.2: Summary of Baseline Linear-based Habitats within the Site

Habitat, Photo and Plant Species List Ref.	UK Habitat Classification Type	BNG Habitat Equivalent	Phase 1 Habitat Equivalent	Condition Assessment Result	Length (km) to 2 decimal places
Habitat 1: Tree-line 1	w1g6 Line of trees - no secondary codes were noted	Line of trees	A11 Broadleaved woodland	Moderate	0.06
Habitat 2: Tree-line 2	w1g6 Line of trees - no secondary codes were noted	Line of trees	A11 Broadleaved woodland	Moderate	0.02
Habitat 3: Tree-line 3	w1g6 Line of trees - no secondary codes were noted	Line of trees	A11 Broadleaved woodland	Moderate	0.02

Habitat, Photo and Plant Species List Ref.	UK Habitat Classification Type	BNG Habitat Equivalent	Phase 1 Habitat Equivalent	Condition Assessment Result	Length (km) to 2 decimal places
Habitat 4: Tree-line 4	w1g6 Line of trees - no secondary codes were noted	Line of trees	A11 Broadleaved woodland	Moderate	0.03
Habitat 5: Tree-line 5	w1g6 Line of trees - no secondary codes were noted	Line of trees	A11 Broadleaved woodland	Moderate	0.03
Habitat 6: Tree-line 6	w1g6 Line of trees - no secondary codes were noted	Line of trees	A11 Broadleaved woodland	Poor	0.05
Total					0.21km

9.3.5 The on-site baseline score for the site in biodiversity units is provided at **Section 9.5**, below.

9.4 On-site Post-intervention

9.4.1 As presented on the *Landscape Masterplan*, the development will accommodate one residential property and garden. The land beyond the curtilage of the building will be enhanced and managed in accordance with conservation objectives.

9.4.2 Refer to **Figure 3** for a UKHab Classification Map of the proposed habitats.

9.4.3 The areas and lengths of habitats retained, enhanced and proposed at the site are presented at **Tables 9.3** and **9.4** below:

Table 9.3: Summary of Habitat Areas Retained, Enhanced and Proposed and Target Conditions

Habitat Type	BNG Equivalent Habitat	Target Condition	Hectare to 2 decimal places
Retained and Enhanced Habitats			
<i>Habitat 1: Acid grassland</i>	Grassland – other lowland acid grassland	Good (increase from moderate)	0.07
<i>Habitat 2: Neutral grassland</i>	Grassland – other neutral grassland	Good (increase from moderate)	0.21
<i>Habitat 3: Bramble scrub</i>	Heathland and shrub – Bramble scrub	Moderate (enhanced from N/A by planting to mixed scrub)	0.04
Created Habitats			
Within the Redline			
Buildings	Urban – Developed land; sealed surface	N/A	0.01
Green roof	Urban – Other Green roof	N/A	0.03

Habitat Type	BNG Equivalent Habitat	Target Condition	Hectare to 2 decimal places
Hard-standing	Urban – Developed land; sealed surface	N/A	0.04
Vegetated garden	Urban – Vegetated Garden	N/A	0.08
Within Remainder of Site			
Scrub planting	Heathland and shrub – Bramble scrub	Moderate	0.12
Wildflower grassland	Grassland – Other neutral grassland	Good	0.07
Wildlife pond	Ponds (non-Priority Habitat)	Moderate	0.01
Total			0.67ha
Urban trees	45 small native trees	Moderate	0.18

Table 9.4: Summary of Linear Habitats Retained and Proposed and Target Conditions

Habitat Reference	BNG Habitat Classification	Target Condition	Length Created (km)
Retained			
Habitat 1: Tree-line 1	w1g6 Line of trees - no secondary codes were noted	Moderate	0.06
Habitat 2: Tree-line 2	w1g6 Line of trees - no secondary codes were noted	Moderate	0.02
Habitat 5: Tree-line 5	w1g6 Line of trees - no secondary codes were noted	Moderate	0.01
Habitat 6: Tree-line 6	w1g6 Line of trees - no secondary codes were noted	Moderate	0.05
Created			
Native Hedgerow A	Native hedgerow	Moderate	0.001
Native Hedgerow B	Native hedgerow	Moderate	0.11
Total			0.26km

9.4.4 Criteria for target conditions to be achieved by the created habitats area are presented at **Tables 9.9 to 9.11.**

9.4.5 Criteria for target conditions to be achieved by created linear habitats are presented at **Table 9.12.**

9.5 Headline Results

9.5.1 The headline results of the BNG calculation (as appended in the separate document *Appendix 3: ERAP 2021-389 Biodiversity Metric 3.1 calculation tool V2 01.06.2023*) are presented below.

Table 9.5: Results of BNG Calculation (from Headline Results Tab of BNG Calculator)

On-site Baseline	Habitat units	4.30
	Hedgerow units	0.74
	River units	0.00
On-site Post Intervention	Habitat units	5.57
	Hedgerow units	0.96
	River units	0.00
Total Net Unit Change	Habitat units	1.27
	Hedgerow units	0.22
	River units	0.00
Total Net % Change	Habitat units	+29.62%
	Hedgerow units	+29.13%
	River units	0.00%
Trading rules satisfied?		Yes

9.5.2 It is confirmed that based on the proposals as presented on **Figure 3** that biodiversity net gain can be achieved at the site in accordance with the metric in both the habitat units and the hedgerow units and at the site overall. This is in addition to the measures outlined in **Sections 5.2** and **5.4** of the ecological survey and assessment report.

9.6 Condition Assessment Tables

Baseline Habitats

Table 9.6: Condition Assessments for Grasslands

Condition Assessment Criteria	Acid Grassland	Neutral Grassland
1. The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. <i>NB – this criterion is essential for achieving moderate condition for non-acid grassland types only.</i>	Yes	Yes
2. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	No
3. Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	No	No
4. Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Yes	Yes
5. There is an absence of invasive non-native species listed on Schedule 9 of <i>Wildlife and Countryside Act 1981</i> (as amended). Combined cover of undesirable species ¹ and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Yes	Yes
6. <i>Additional Group – non-acid grassland types only</i> There are greater than 9 species per metre squared. <i>NB – this criterion is essential for achieving good condition (non-acid grassland types only)</i>	N/A	No
Acid Grassland Types		
Good: passes 5 of 5 criteria	-	-
Moderate: passes 3 or 4 of 5 criteria	Yes	-
Poor: passes 0, 1 or 2 of 5 criteria	-	-
Non-acid Grassland Types		
Good: passes 5 of 6 criteria, including essential criteria 1 and 6	-	-
Moderate: passes 3 or 4 of 5 criteria passes 3 of 6 criteria, including essential criterion 1	-	Yes
Poor: passes 0, 1 or 2 of 5 criteria OR passes 3 or 4 criteria excluding criterion 1 and 6	-	-
Additional Information: ¹ Footnote 1: Species considered undesirable for this habitat type include: Creeping Thistle (<i>Cirsium arvense</i>), Spear Thistle (<i>Cirsium vulgare</i>), Curled Dock (<i>Rumex crispus</i>), Broad-leaved Dock (<i>Rumex obtusifolius</i>), Common Nettle (<i>Urtica dioica</i>), Creeping Buttercup (<i>Ranunculus repens</i>), Greater Plantain (<i>Plantago major</i>), White Clover (<i>Trifolium repens</i>), Cow Parsley (<i>Anthriscus sylvestris</i>).		

Table 9.7: Condition Assessments for Lines of Trees 1 to 3

Condition Assessment Criteria	Tree Line 1	Tree Line 2	Tree Line 3
1. More than 70% of trees are native species.	Yes	Yes	Yes
2. Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes	Yes	Yes
3. Includes one or more mature ¹ or veteran ² tree.	No	Yes	No
4. There is an undisturbed naturally vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other anthropogenic operations.	No	No	No
5. At least 95% of the trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes	No	Yes
Good: passes 5 of five criteria	-	-	-
Moderate: passes 3 or 4 of 5 criteria	Yes	Yes	Yes
Poor: passes 0, 1 or 2 of 5 criteria	-	-	-
Additional information / definitions: ¹ A mature tree in this context is one that is at least 2/3 expected fully mature height for the species. ² All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features: 1. Rot sites associated with wounds which are decaying >400 cm ² ; 2. Holes and water pockets in the trunk and mature crown >5 cm diameter; 3. Dead branches or stems >15 cm diameter; 4. Any hollowing in the trunk or major limbs; 5. Fruit bodies of fungi known to cause wood decay			

Table 9.8: Condition Assessments for Lines of Trees 4 to 6

Condition Assessment Criteria	Tree Line 4	Tree Line 5	Tree Line 6
1. More than 70% of trees are native species.	Yes	Yes	No*
2. Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes	Yes	
3. Includes one or more mature ¹ or veteran ² tree.	No	No	No
4. There is an undisturbed naturally vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other anthropogenic operations.	No	No	No
5. At least 95% of the trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes	Yes	Yes
Good: passes 5 of five criteria	-	-	-
Moderate: passes 3 or 4 of 5 criteria	Yes	Yes	-
Poor: passes 0, 1 or 2 of 5 criteria	-	-	Yes
Additional information / definitions: ¹ A mature tree in this context is one that is at least 2/3 expected fully mature height for the species. ² All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features: 1. Rot sites associated with wounds which are decaying >400 cm ² ; 2. Holes and water pockets in the trunk and mature crown >5 cm diameter; 3. Dead branches or stems >15 cm diameter; 4. Any hollowing in the trunk or major limbs; 5. Fruit bodies of fungi known to cause wood decay			

*Sycamore is not classed as native

Post-intervention New Habitats / Target Conditions

Table 9.9: Target Condition Assessments for Grassland Habitats

Condition Assessment Criteria	Modified Grassland
1. There must be 6-8 species per m2. Note - if a grassland has 9 or more species per m2 it should be classified as a moderate distinctiveness grassland habitat type. NB - this criterion is non-negotiable for achieving good condition.	Yes
2. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No
3. Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes
4. Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	Yes
5. Cover of bare ground between 1% and 10%, including localised areas, for example, rabbit warrens.	No
6. Cover of bracken less than 20%.	Yes
7. There is an absence of invasive non-native species listed on Schedule 9 of <i>Wildlife and Countryside Act 1981</i> (as amended).	Yes
Good: Passes 6 or 7 of 7 including essential criterion 1	-
Moderate: Passes 4 or 5 of 7 criteria; OR passes 4 of 5 criteria including essential criterion 1	Yes
Poor: Passes 0, 1, 2 or 3 of 7 criteria OR passes 4, 5 or 6 but failing criterion 1	-

Table 9.10: Target Condition Assessments for Scrub

Condition Assessment Criteria	New Mixed Scrub
1. Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	Yes
2. There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.	No
3. There is an absence of invasive non-native species listed on Schedule 9 of <i>Wildlife and Countryside Act 1981</i> (as amended) and undesirable species ¹ make up less than 5% of ground cover.	Yes
4. The scrub has a well-developed edge with scattered scrub and tall grassland and / or herbs present between the scrub and adjacent habitat(s).	Yes
5. There are clearings, glades or rides present within the scrub, providing sheltered edges.	Yes
Good: passes 5 of 5 criteria	-
Moderate: passes 3 or 4 of 5 criteria	Yes
Poor: passes 0, 1 or 2 of 5 criteria	-
Additional Information:	
¹ Species considered undesirable for this habitat type include: Creeping Thistle (<i>Cirsium arvense</i>), Common Nettle (<i>Urtica dioica</i>), Cherry Laurel (<i>Prunus laurocerasus</i>), Snowberry (<i>Symphoricarpos</i> spp.), Buddleia (<i>Buddleia</i> spp.), Cotoneaster (<i>Cotoneaster</i> spp.), and Spanish Bluebell (<i>Hyacinthoides hispanica</i>) (or hybrids).	

Table 9.11: Target Condition Assessments for Pond

Condition Assessment Criteria	New Pond
1. The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Yes
2. There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	No
3. Less than 10% of the pond is covered with duckweed or filamentous algae.	Yes
4. The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	Yes
5. Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	Yes
6. There is an absence of non-native plant and animal species ² .	Yes
7. The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Yes
Additional criteria, applicable to non-woodland ponds only	
8. In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) ³ , should cover at least 50% of the pond area that is less than 3 m deep.	Yes
9. The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	Yes
If 7 Criteria Assessed:	
Good - passes 7 of 7 criteria	
Moderate - passes 5 or 6 of 7 criteria	
Poor - passes 0, 1, 2, 3 or 4 of 7 criteria	
If 9 Criteria Assessed:	
Good - passes 9 of 9 criteria	-
Moderate - passes 6, 7 or 8 of 9 criteria	Yes
Poor - passes 0, 1, 2, 3, 4 or 5 of 9 criteria	-
Additional Information:	
Footnote 1 - A woodland pond will be surrounded on all sides by woodland habitat.	
Footnote 2 - Any species included on the Water Framework Directive UKTAG GB High Impact Species List should be absent.	
Frequently occurring non-native plant species include Water Fern (<i>Azolla</i> spp.), Australian Swamp Stonecrop (<i>Crassula helmsii</i>), Parrot's Feather (<i>Myriophyllum aquaticum</i>), Floating Pennywort (<i>Hydrocotyle ranunculoides</i>) and Japanese Knotweed (<i>Fallopia japonica</i>), Giant Hogweed (<i>Heracleum mantegazzianum</i>) (on the bank).	
Frequently occurring non-native animals include signal crayfish (<i>Pacifastacus leniusculus</i>), zebra mussels (<i>Dreissena polymorpha</i>), killer shrimp (<i>Dikerogammarus villosus</i>), demon shrimp (<i>Dikerogammarus haemobaphes</i>), carp (<i>Cyprinus carpio</i>).	
Footnote 3 - If the pond is seasonal (i.e. dries out in most summers) then emergent species alone are likely to be found.	

Table 9.12: Target Condition Assessments for Urban Trees

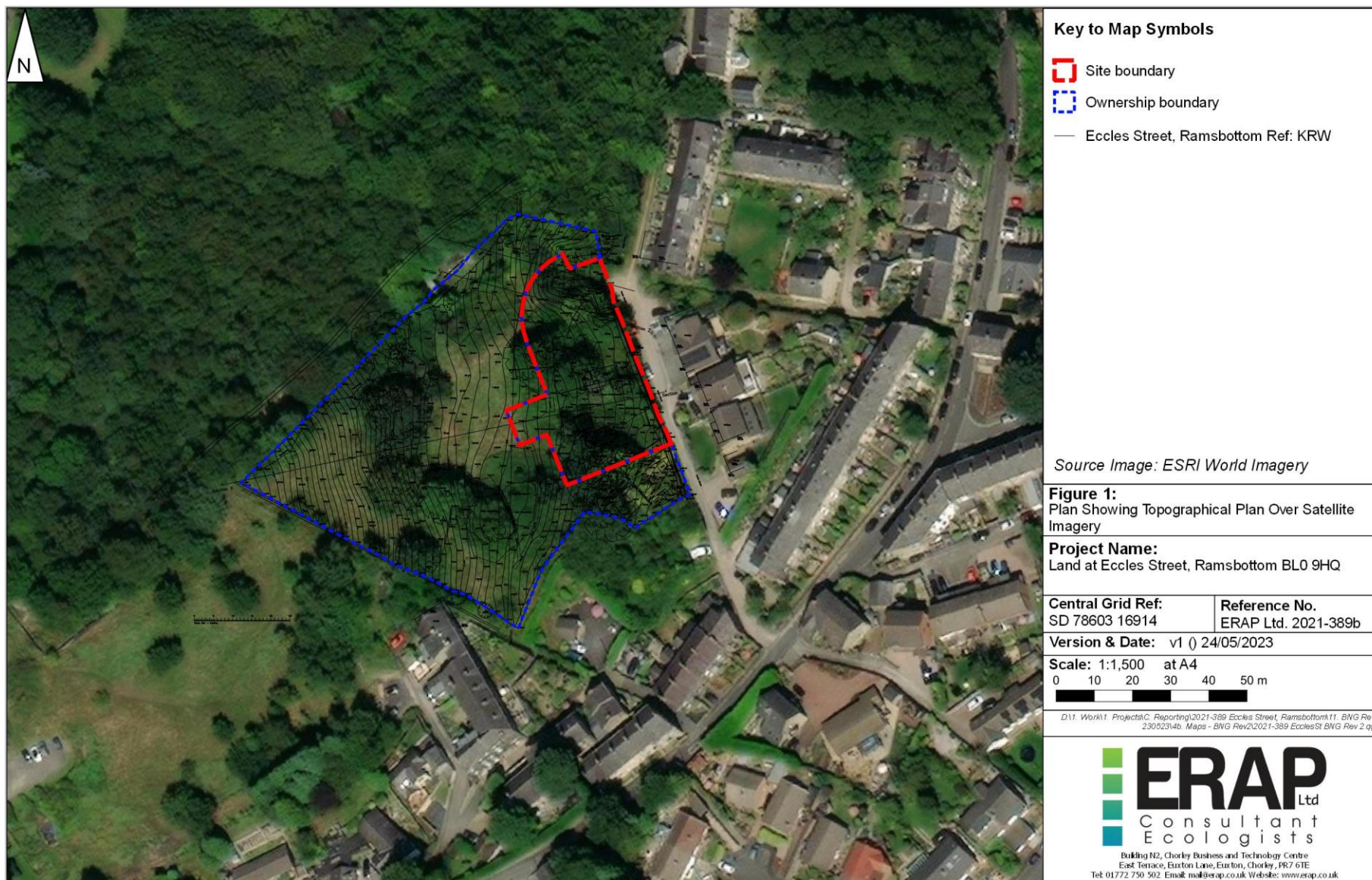
Condition Assessment Criteria	Urban Trees
1. The tree is a native species (or more than 70% within the block are native species)	Yes
2. Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes
3. More than 50% of trees are mature ² or veteran ³ .	No
4. There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	Yes
5. Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	No
6. More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes
Good: Passes 5 or 6 of 6 criteria	-
Moderate: Passes 3 or 4 of 6 criteria	Yes
Poor: Passes 0, 1 or 2 of 6 criteria	-
Additional information / definitions: Footnote 1 - This covers all trees in artificial urban habitats such as private gardens, private land, institutional land and land used for transport functions; roads, streets, canals, rail, footpaths etc. Trees in urban areas can under the right conditions provide a large range of habitat opportunities, supporting lichens, invertebrates and birds. Tree planting in urban areas has for over two hundred years also introduced non-native species into towns and cities. In the context of biodiversity native species are the preferred option. However, non-native tree species can contribute positively to biodiversity richness particularly in relation to providing a seasonal food source for nectar feeders and other invertebrates as well as supporting vertebrates that feed on species that are hosted by non-native trees. Examples are early and late flowering species of Prunus and aphids on varieties of Acer providing food for species higher up the food chain. The species of trees (native or non-native) together with the intensity and type of management they are subject to will determine the biodiversity value of the trees in question. Trees in urban areas provide opportunistic sites for biodiversity to colonise and re-colonise, increasing connectivity and contributing to biodiversity critical mass between already established patches or sites. This is especially so where transport corridors are populated with mixed native species Footnote 2 - A mature tree in this context is one that is at least 2/3 expected fully mature height for the species. Footnote 3 - All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features: 1. Rot sites associated with wounds which are decaying >400cm ² ; 2. Holes and water pockets in the trunk and mature crown >5 cm diameter; 3. Dead branches or stems >15 cm diameter; 4. Any hollowing in the trunk or major limbs; 5. Fruit bodies of fungi known to cause wood decay.	

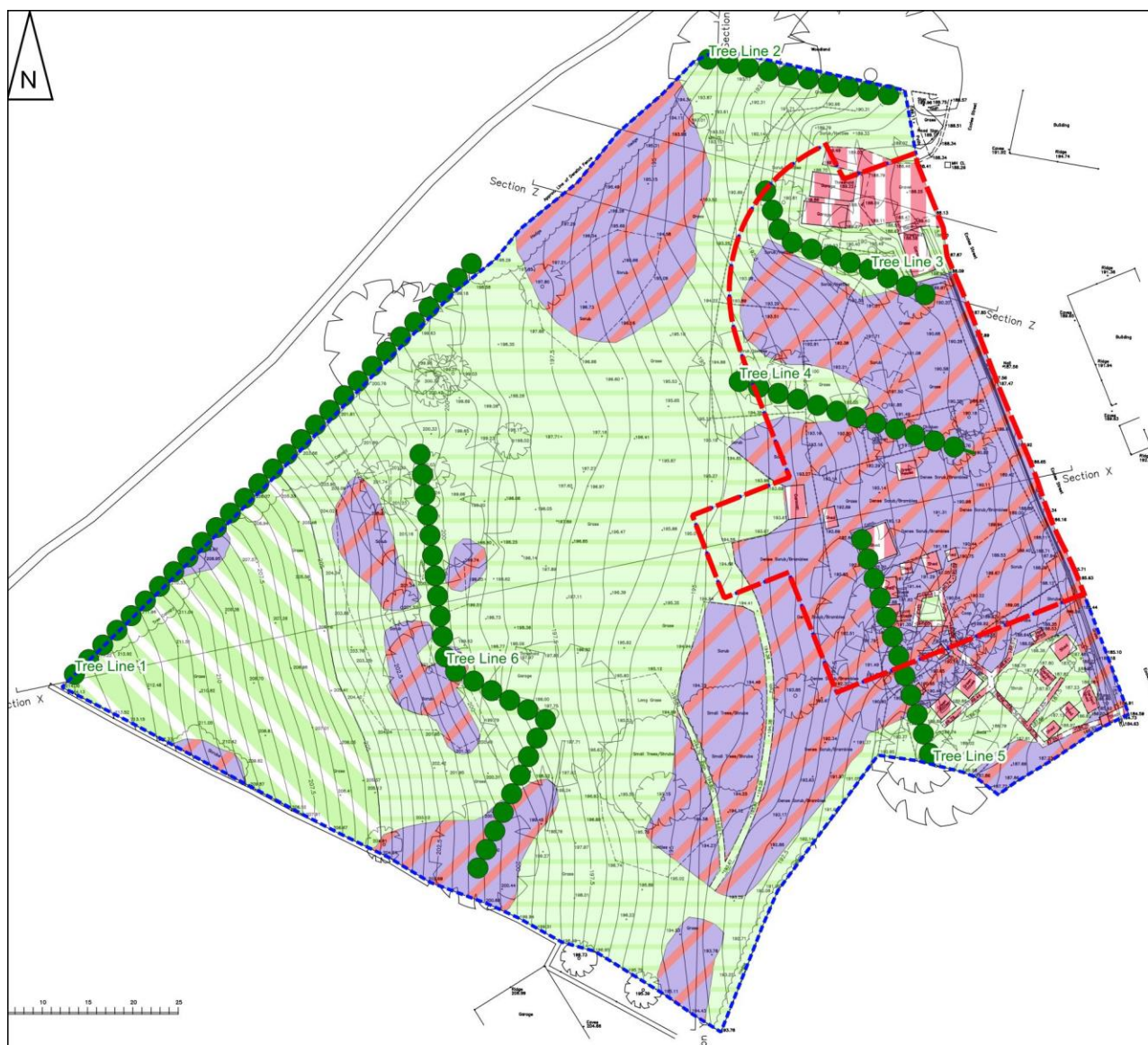
Table 9.13: Target Condition Assessments for Hedgerows

Condition Assessment Criteria	A	B
A1. Height: >1.5m average along length <i>The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.</i> <i>Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</i> <i>A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height).</i>	Yes	Yes
A2. Width: >1.5m average along length. <i>The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.</i> <i>Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height.</i> <i>Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of 4 years (if undertaken according to good practice⁴)</i>	Yes	Yes
B1. Gap - hedge base. Gap between ground and base of canopy <0.5, for >90% of length (unless line of trees). <i>This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (e.g. a Hazel dominated hedgerow or where the hedgerow is affected by shading from other vegetation such as woodland, see page 65 of the Hedgerow Survey Handbook (Defra, 2007)).</i>	No	No
B2. Gap - hedgerow canopy continuity. Gaps make up less than 10% of total length and no canopy gaps are greater than 5m. Gates and access points are not subject to the >5m criterion. <i>This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).</i>	Yes	Yes

Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).		
C1. Undisturbed ground and perennial vegetation. >1m width ground with perennial herbaceous vegetation for >90% of length. Measured from outer edge of the hedgerow. May be present on only 1 side of the hedgerow. This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. This criterion recognises the value of the hedge base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Yes	Yes
C2. Lack of undesirable perennial vegetation. Plant species indicative of nutrient enrichment of soils do not dominate more than 20% cover of the ground area of undisturbed ground. The indicator species used are nettles (<i>Urtica</i> spp.), cleavers (<i>Galium aparine</i>) and docks (<i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	No	No
D1. Invasive and neophyte species. >90% of the hedgerow and undisturbed ground is free of invasive and neophyte species. Neophytes are plants which have naturalised since AD 1500.	Yes	Yes
D2. Current damage. >90% of the hedgerow or undisturbed ground is free of damaged caused by human activities. This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).	Yes	Yes
E1. Tree Age (if trees are present) At least one mature tree per 30m stretch of hedgerow. A mature tree is one that is at least 2/3 expected fully mature height for the species. This criterion addresses if there are sufficient mature trees (within the scope of planning timescales) which are of higher value to biodiversity.	No	No
E1. Tree health (if trees are present) At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity. This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	Yes	Yes
Hedgerows Without Trees		
Good:		
"No more than 2 failures in total; and no more than 1 in any functional group.		
Moderate:		
No more than 4 failures in total; and does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).		
Poor:		
Fails a total of more than 4 attributes; or fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).		

9.7 Figures





Key to Map Symbols

- ▬ Site boundary
- ▬ Ownership boundary
- Grassland - Lowland Dry Acid Grassland
- Grassland - Other Neutral Grassland
- Urban - Developed Land; Sealed Surface
- Heathland And Shrub - Bramble Scrub
- Line of trees
- Eccles Street, Ramsbottom Ref: KRW

Figure 2:
UKHab Plan of Baseline Habitats Inputted to the
BNG Calculator

Project Name:
Land at Eccles Street, Ramsbottom BL0 9HQ

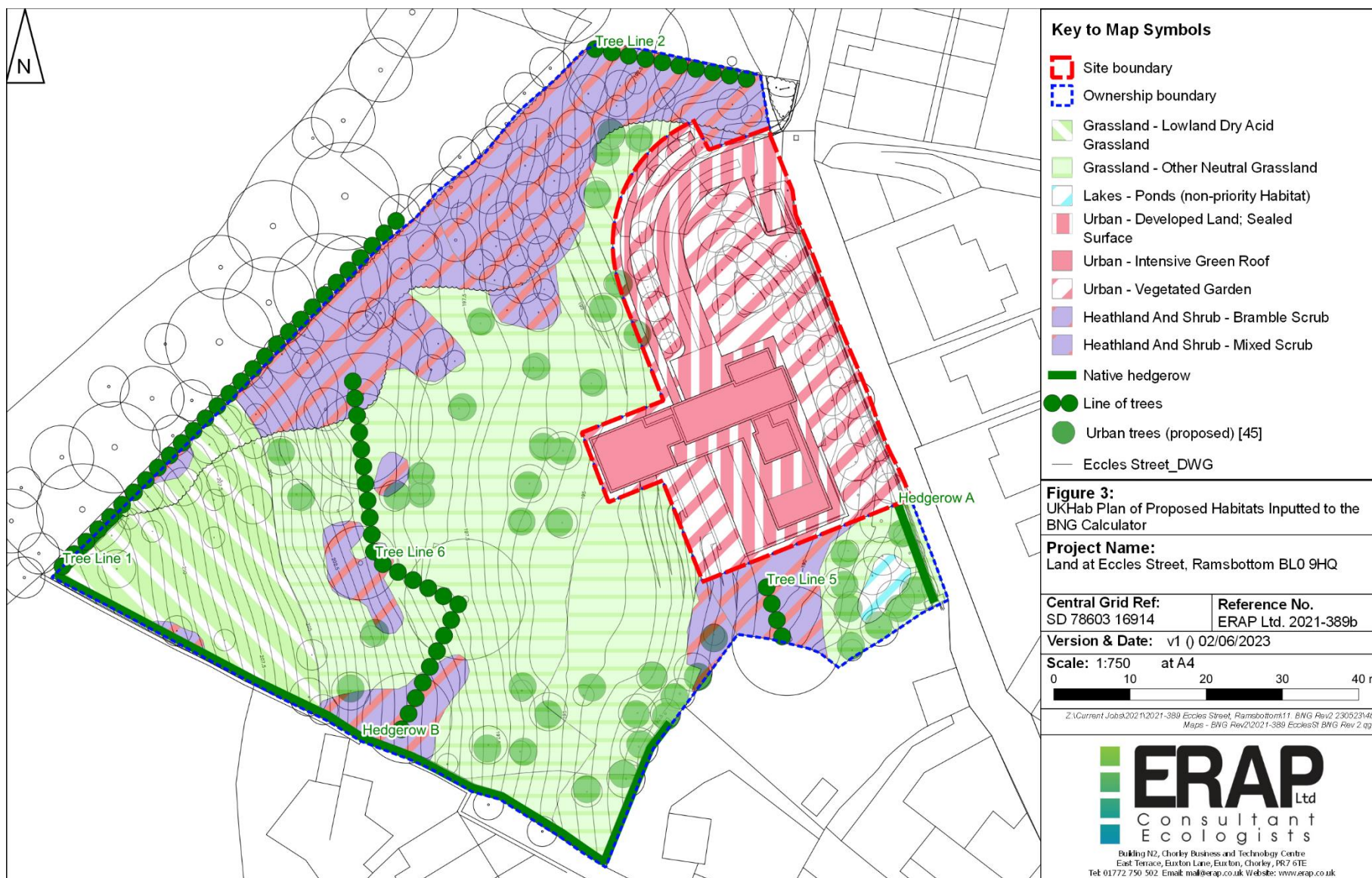
Central Grid Ref:
SD 78603 16914

Reference No.
ERAP Ltd. 2021-389b

Version & Date: v1 () 24/05/2023

Scale: 1:750 at A4
0 10 20 30 40 m

D:\11. Work\1. Projects\1. Reporting\2021-389 Eccles Street, Ramsbottom\11. BNG Rev2
230523\4b. Maps - BNG Rev2\2021-389 EcclesSt BNG Rev 2.qgs



10.0 APPENDIX 3: 2021-389 BIODIVERSITY METRIC 3.1 CALCULATION TOOL_V2 01.06.2023

Presented as a separate Microsoft Excel worksheet