

Land at Bealey Industrial Estate, off Dumers Lane, Radcliffe M26 2QG

ECOLOGICAL SURVEY AND ASSESSMENT

October 2025

Version 2

ERAP (Consultant Ecologists) Ltd Reference: 2024-200

ERAP (Consultant Ecologists) Ltd
Building N2
Chorley Business and Technology Centre
East Terrace
Euxton Lane
Euxton
Chorley
PR7 6TE

Tel: 01772 750502

mail@erap.co.uk
www.erap.co.uk



CONTENTS

Summary	3
1.0 Introduction.....	5
1.1 Background and Rationale.....	5
1.2 Scope of Works	5
2.0 Method of Survey	6
2.1 Desktop Study and Data Search	6
2.2 Vegetation and Habitats.....	6
2.3 Daytime Bat Walkover Survey	7
2.4 Other Relevant Protected Species and Animal Life	9
2.5 Survey and Reporting Limitations	12
2.6 Evaluation Methods	12
3.0 Survey Results.....	13
3.1 Desktop Study and Data Search	13
3.2 Vegetation and Habitats.....	17
3.3 Daytime Bat Walkover Survey	20
3.4 Other Protected Species and Animal Life	20
3.5 Incidental Observations.....	23
4.0 Evaluation and Assessment	23
4.1 Introduction and Description of Proposals	23
4.2 Designated Sites for Nature Conservation.....	24
4.3 Vegetation and Habitats.....	24
4.4 Protected Species and Other Wildlife.....	25
5.0 Recommendations and Ecological Enhancement	26
5.1 Introduction.....	26
5.2 Site Design and Enhancements for Biodiversity	26
5.3 Guidance on the Protection of Features Prior to / During the Construction Phase	30
5.4 Residents Responsible User's Leaflet	31
6.0 Conclusion	32
7.0 References.....	32
8.0 Appendix 1: Tables	36
8.1 Photographs	36
8.2 Plant Species Lists	41
9.0 Appendix 2: Figures.....	44

List of Tables

Table 2.1: Consideration of Suitability of Foraging and Commuting Habitat for Bats	7
Table 2.2: Suitability Categories for Roosting Habitats in Buildings.....	8
Table 2.3: Survey Equipment used / available for use during Daytime Bat Survey	9
Table 2.4: Ponds within 500 metres of the Site	10
Table 2.5: Pond Habitat Suitability Index Categories	11
Table 2.6: Important Habitat Characteristics for Reptiles.....	11
Table 3.1: SSSI IRZ within the Site	14
Table 3.2: SBI Within a 2 Kilometres Radius from the Centre of the Site	14
Table 3.3: Records of Protected Species Within a 2 Kilometres Radius from the Centre of the Site	15

Table 3.4: Bird Species Detected on 15 th July 2024 and 12 th October 2024.....	21
Table 3.5: Habitat Suitability Index Assessment for Pond 1.....	22
Table 5.1: Suitable Native Species for Tree and Shrub Planting	26
Table 5.2: Recommended Plants for Use in Gardens to Attract Bats.....	27
Table 8.1: Photographs.....	36
Table 8.2: Plant Species List for Mixed Scrub 1, 2, 4, 6 and 7 at Site Margins	41
Table 8.3: Plant Species List for Willow Scrub (Mixed Scrub 3) Through the Centre of the Site	42
Table 8.4: Plant Species List for Neutral Grassland	43

List of Figures

Figure 1: Aerial Image to Show Site and Surrounds including Sites of Biological Importance (SBI) and Ponds.....	44
Figure 2: Phase 1 Habitat Survey Map	45
Figure 3: UKHab Map: Baseline Habitats.....	46

Document Control

Survey Type:	Surveyors ¹	Survey Date(s)
Preliminary Ecological Appraisal	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	15 th July 2024 12 th October 2024
Preliminary Roost Assessments	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	15 th July 2024 12 th October 2024
Reporting	Personnel	Date
Author	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	30 th October 2024
Signature(s)		
Checked	Rachel Brown B.Sc. (Hons)	4 th November 2024
Revised and issued	Victoria Burrows	4 th November 2024
Update	Victoria Burrows Site boundary on plans updated and reference to site area updated	27 th October 2025
Report issued to	Westchurch Homes	
Version Number	2	
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 site at Bealey Industrial Estate, off Dumers Lane, Ratcliffe, Bury. The assessment was requested to inform a planning application proposing the demolition of buildings, clearance of vegetation, remediation of the site and redevelopment to housing.
- ii. This report presents the results of a desktop study and data search, a Preliminary Ecological Appraisal and licensed daytime bat walkover surveys carried out in July and October 2024. The surveys were carried out by an appropriately licensed, qualified and experienced ecologist and are in accordance with standard, recognised survey guidelines. 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.
- iii. The approximately 1.94 hectare site is located to the east of Radcliffe and comprises a mix of hardstanding yards used for the storage of coaches and other vehicles, buildings and a mosaic of unmanaged neutral grassland, Bramble scrub, Willow scrub and scattered self-seeded trees. The western, southern and eastern site boundaries meet existing built development. The northern site boundary is undefined and meets neutral grassland, rushes and scrub beyond which lies Swan Lodge Site of Biological Importance (SBI).

Results of Survey / Assessment and Recommendations

- iv. The proposals will have no adverse direct or indirect effect on statutory designated sites for nature conservation.
- v. The advised modification to the redline boundary, as described in **Section 4.1**, has ensured any direct impacts / habitat loss at Swan Lodge SBI are avoided. In the presence of the protective measures described in **Section 5.3** it is advised that damage / impacts to the SBI and associated habitats during the construction period are avoided. The additional risk of recreational impacts and adverse effects on the Swan Lodge SBI and its features of interest are discussed in **Section 4.2** and mitigation is outlined in **Section 5.4**.
- vi. None of the habitats present are representative of Priority Habitat, semi-natural habitat or are classed as irreplaceable habitat. No rare or uncommon plant species were found at the site. The ecological value of the habitats at the site is significantly limited by the extent and density of the stands of invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), particularly Japanese Knotweed. It is advised that an Invasive Plant Species Management Plan will be prepared and implemented.
- vii. In consideration of the importance of the habitats at the site in a geographical context¹ it is advised that the individual trees and areas of scrub are of 'local' value as they contribute to the mosaic of habitats in the local area and provide complementary habitat for use by some species likely to also be present in the SBI such as breeding willow warbler. The Bramble scrub and neutral grassland are assessed to be of value

¹ Using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system / Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

at the 'site' level and the areas of introduced shrub, hardstanding, buildings and Japanese Knotweed stands are not considered to hold any importance on a geographical scale.

- viii. The clearance of trees, shrubs and Bramble scrub will result in the loss of opportunities for use by nesting birds including common and widespread species typically associated with urban areas / habitats on the urban fringe including Priority Species, such as dunnoek. Mandatory measures to be applied to ensure the protection of nesting birds during and prior to the site preparation works are described at **Section 5.3** and recommendations for the enhancement of the site and the accommodation of provisions for nesting birds, including conservation priorities and target species, are detailed at **Section 5.2**.
- ix. Guidance in relation to best practice measures for the protection of other wildlife including protected and Priority Species such as otter, hedgehog and common toad during site preparation and construction operations is outlined in **Sections 5.2** and **5.3**.
- x. Appropriate and proportionate survey effort and / or assessment, in accordance with standard survey guidelines, has been applied to discount adverse effects on other relevant protected species. No further surveys for other protected species are necessary to inform a planning application.

Conclusion

- xi. This ecological survey and assessment has demonstrated that the development proposals at the site are feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework (NPPF).
- xii. The mitigation hierarchy has been applied by adjustment of the site boundary and extent of the developed area and, in the presence of the mandatory actions and best practice measures described in **Section 5.0**, significant adverse effects on designated sites for nature conservation and protected species are reasonably discounted. The site layout and wider biodiversity net gain (BNG) proposals secure compensatory planting where habitats are unavoidably impacted.
- xiii. Enhancement measures that aim to maximise the benefits for biodiversity as part of the proposals and comply with Statutory BNG, the NPPF and *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, 2016) are feasible and are secured by the site design and the off-site proposals and are outlined in **Section 5.2** and the separate *Assessment of Biodiversity Net Gain* (ERAP (Consultant Ecologists) Ltd, 2025).

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Westchurch Homes to carry out an ecological assessment of land at Bealey Industrial Estate, off Dumers Lane, Radcliffe M26 2QG (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 79785 08113. 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 to inform a planning application proposing the demolition of buildings, clearance of vegetation, remediation of the site and redevelopment to housing.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in July and October 2024 comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - A Preliminary Ecological Appraisal including an Extended Phase 1 Habitat Survey and assessment, and assessment of the habitats present at the site using the UK Habitats Classification;
 - 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 species² and other wildlife including badger (*Meles meles*), barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), bird species, reptiles and otter (*Lutra lutra*);
 - A daytime bat walkover survey for bats, which has comprised a licensed preliminary roost assessment of the buildings and a ground level tree assessment;
 - 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; and
 - The identification of any further surveys or precautionary actions that may be required to inform the progression of the site through the planning process or prior to the commencement of any construction activities.
- 1.2.2 This ecological survey and assessment has also informed the completed *Assessment of Biodiversity Net Gain* (ERAP (Consultant Ecologists) Ltd, 2024) using *The Statutory Biodiversity Metric Calculation Tool* (Natural England, 2023). The completed Microsoft Excel spreadsheet assessment is presented as a separate document, named '*ERAP Ltd 2024-200 Statutory Biodiversity Calculation Tool_30.10.24*', hereafter referred to as the 'BNG Metric'.

² 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.

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:

- a. 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;
- b. Ancient Tree Inventory (Woodland Trust, 2024): An online database of ancient and veteran trees;
- c. Greater Manchester Local Records Centre (GMLRC); and
- d. Greater Manchester Biodiversity Action Plan (BAP).

2.1.2 The ecological survey reports prepared for the approved planning application (Bury Council reference 68368) at York Street (located 141 metres to the north-west of the site) were consulted for background information. The relevant reports comprised:

- a. *Extended Phase 1 Habitat Survey. Land off York Street, Radcliffe, Bury* (Rachel Hacking Ecology, 2022); and
- b. *Otter Survey. Land off York Street, Radcliffe, Bury* (Rachel Hacking Ecology, 2022).

2.2 Vegetation and Habitats

2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Victoria Burrows B.Sc.(Hons) M.Sc. CEnv MCIEEM on the following dates:

- 15th July 2024: Dry and sunny weather conditions with a light air (Beaufort scale 1) and an air temperature of 19°C
- 12th October 2024: Dry, overcast with sunny intervals and calm (Beaufort scale 0) weather conditions with an air temperature of 11°C

2.2.2 A Phase 1 Habitat Survey map was prepared for the site and the immediate surrounding area and is appended at **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.

2.2.3 On site habitat mapping was assisted via use of GPS technology using the *Topographical Survey* (RJP Surveying Consultants Ltd, 2024) as a base plan.

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 and mapped in accordance with *The UK Habitat Classification Version 2.0* (UKHab Ltd, 2023) (refer to **Figure 3**). The UK Habitat Classification, or 'UKHab' has been designed to function at two scales of minimum mappable unit (MMU): 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 MMU 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 Daytime Bat Walkover Survey

Survey Personnel

- 2.3.1 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).

Habitat Assessment for Commuting / Foraging Bats

- 2.3.2 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 (4th edn)* (Collins, J. (ed), 2023). Reference has been made to the categories, descriptions and examples presented in **Table 2.1**.

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

Suitability	Potential Flight Paths and Foraging Habitats
None	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade / protection for flight-lines, or generate / shelter insect populations available to foraging bats).
Negligible ^a	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	Habitat that could be used by small numbers of bats as flight-paths 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 (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

Suitability	Potential Flight Paths and Foraging Habitats
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
^a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).	

Preliminary Roost Assessment: Buildings and Structures

- 2.3.3 There are two buildings within the site boundary. Other structures comprise a static caravan, metal contains and metal framed canopies.
- 2.3.4 The licensed bat survey and assessment of the buildings and structures 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 (4th edn)* (Collins, J. (ed), 2023).
- 2.3.5 An inspection of the external surfaces, walls and roofs of the buildings and structures was carried out to find potential bat roosting habitat or accesses into internal areas where roosts may be present. Searches for evidence of bat presence in the form of droppings, urine stains, feeding signs, grease marks and other evidence were also carried out.
- 2.3.6 The internal surveys involved an examination of the accessible internal areas (including roof voids, if present) to search for roosting bats or evidence of previous use of the buildings by bats such as droppings and prey remains.
- 2.3.7 The suitability of each of the buildings /structures for use by roosting bats has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)* (Collins, J. (ed), 2023), 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. The suitability the buildings / structures has been informed by the following categories as presented in **Table 2.2**.

Table 2.2: Suitability Categories for Roosting Habitats in Buildings

Suitability	Description
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices / suitable shelter at all ground / underground levels).
Negligible ^a	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).

Suitability	Description
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool / stable hibernation site.
^a Negligible is defined as ‘so small or unimportant as to be not worth considering, insignificant’. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute). ^b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. ^c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten <i>et al.</i> , 2016 and Jansen <i>et al.</i> , 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.	

Equipment

2.3.8 A list of equipment used is detailed in **Table 2.3**.

Table 2.3: Survey Equipment used / available for use during Daytime Bat Survey

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

2.4 Other Relevant Protected Species and Animal Life

Badger

- 2.4.1 The survey area for badger covered the site (as annotated on **Figures 1 and 2**) and extended to accessible land within a radius of 50 metres from the site boundary.
- 2.4.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: advice for making planning decisions* (Natural England, 2022).
- 2.4.3 The following signs of badger activity were searched for:
- Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a ‘D’ on its side;
 - Large spoil heaps outside sett entrances;
 - Bedding outside sett entrances;
 - Badger footprints;
 - Badger paths;
 - Latrines;

- g. Badger hairs on fences or bushes;
- h. Scratching posts; and
- i. Signs of digging for food.

2.4.4 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).

Bird Species

- 2.4.5 Bird species observed and heard during the survey were recorded.
- 2.4.6 The buildings were assessed for their suitability for use by roosting, feeding and nesting birds and all areas of the buildings were searched and assessed for their suitability for use by bird species that can typically be associated with the built environment, including bird species listed on Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended).

Great Crested Newt and Other Amphibian Species

Desktop Search for Ponds

- 2.4.7 In accordance with *Great crested newts: advice for making planning decisions* (Natural England, 2022) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested newts and other amphibian species.
- 2.4.8 The search of habitats in the wider area up to a distance of 500 metres from the site boundary revealed the presence of two possible ponds, as detailed in **Table 2.4**.

Table 2.4: Ponds within 500 metres of the Site

Pond Reference	OS Grid Reference	Distance from Site Boundary	Location (refer to Figure 1)
1	SD 79700 08373	138 metres	Within Swan Lodge SBI to the north
2	SD 79708 08448	211 metres	Large area of open water at Swan Lodge SBI to the north
Note: This table includes ponds which occur on OS maps but were found to be dry upon surveying, details of ponds are presented in Section 3.0.			

Consideration of Requirement for Further Survey

- 2.4.9 The requirement for further survey at each pond was then assessed using the following criteria:
- a. Results of an inspection and Habitats Suitability Index (HSI) assessment at the relevant ponds;
 - b. Results of the desktop study and data search;
 - c. Presence of dispersal barriers to great crested newt movements between ponds and the site, as detected during the walkover survey;
 - d. Distance of ponds from the site, and the potential influence of the proposed development of the site on any populations of amphibians; and
 - e. Presence of other ponds which may form metapopulations and / or alter the influence of the site on ponds at greater distances.

Habitat Suitability Index Assessment

- 2.4.10 Ponds 1 and 2 were located. No open water was found at Pond 1; the area is entirely covered with Soft-rush and Willow scrub (refer to **Photo 26**).
- 2.4.11 Pond 2 (Swan Lodge) was assessed using the *Habitat Suitability Index (HSI)* (Oldham, et al., 2000) by Victoria Burrows. The pond was examined with reference to the ten HSI scoring criteria, which are: SI1: Geographical location; SI2: Pond area; SI3: Pond drying; SI4: Water quality (as indicated by the diversity of aquatic plants and invertebrates); SI5: Shade; SI6: Waterfowl; SI7: Fish; SI8: Abundance of other ponds within a one kilometre radius; SI9: Quality of terrestrial habitat; and SI10: 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).
- 2.4.12 The assessment followed guidance in relation to interpreting HSI scores, following the categorical scale shown in **Table 2.5**.

Table 2.5: 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

Assessment of Terrestrial Habitat

- 2.4.13 An assessment of the terrestrial habitat within the site for use by sheltering 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).
- 2.4.14 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

- 2.4.15 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 in **Table 2.6**.

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

Otter

- 2.4.16 There are no watercourses or ditches within the site. A section of Bealey's Goit lies over 10 metres from the northern tip of the site. As Bealey's Goit has hydrological connectivity with the River Irwell which is known to support otter, the habitats nearest the site boundary were examined, search for otter holts and field signs in accordance with guidance presented in *Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No 10* (Chanin, 2003) and *Otters: advice for making planning decisions* (Natural England, 2022). The habitat was assessed for its suitability for use by otter in accordance with the habitat requirements and preferences detailed in *Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series 10* (Chanin, 2003).

Other Wildlife

- 2.4.17 Incidental records / evidence of other wildlife 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.

2.5 Survey and Reporting Limitations

- 2.5.1 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.
- 2.5.2 To ensure the survey data collated is as accurate as possible two survey visits were carried out at this site with visits in July and October 2024. The July survey was carried out at an optimum time to detect most flowering plants and observations of breeding bird activity at the site (for example). The October visit was carried out after some areas of vegetation clearance had been undertaken in late September (i.e. after the bird nesting season) to enable site investigation. To avoid under recording the value of the habitats the status and conditions at the site the baseline conditions recorded in July 2024 are reported below (and in the separate Assessment of Biodiversity Net Gain), however, the benefit of the cutting back of the vegetation enabled better access to the trees to assess their condition in accordance with BNG and to search for potential roost features for bats.
- 2.5.3 No other significant survey limitations were experienced.

2.6 Evaluation Methods

- 2.6.1 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.
- 2.6.2 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). Each habitat and individual trees have been assessed to determine whether they are 'irreplaceable habitat', defined in *National Planning Policy*

Framework (Department for Levelling Up, Housing and Communities, 2023)³ as ‘Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen’. The further detail presented in *The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024* (GOV.UK, 2023) draft document has also been referred to.

- 2.6.3 Government advice on wildlife, as set out in the NPPF 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 (Amendment) (EU Exit) Regulations 2019*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.6.4 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 has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Site Allocations

- 3.1.1 The site forms part of a wider area (HL/2441/00) allocated for housing under the *PFE 2023 - Existing supply of housing sites 2022*.

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.2 The site and adjacent land have no statutory designation for nature conservation.
- 3.1.3 The site lies across two Site of Special Scientific Interest (SSSI) Impact Risk Zones for:
 - a. Ashclough SSSI located 3.57 kilometres to the south-west of the site and is designated for its geological interest, including the Ashclough Marine Band and its associated strata;
 - b. Nob End SSSI located 4.86 kilometres to the south-west and designated for its calcicolous vegetation which has developed on a steep-sided tip of alkali waste; and
 - c. Rochdale Canal SSSI and Special Area of Conservation (SAC) located 8.37 kilometres to the east and designated for its aquatic plant diversity including the presence of Floating Water-plantain (*Luronium natans*), a nationally scarce plant and European protected species.
- 3.1.4 The SSSI Impact Risk Zones requires the Local Planning Authority to consult with Natural England on likely risks from the development categories listed in **Table 3.1** (Ordnance Survey, 2024):

³Hereafter the NPPF

Table 3.1: SSSI IRZ within the Site

Category	SSSI IRZ (covering western area of site)	SSSI IRZ (covering eastern area of site)
Infrastructure	Airports, helipads and other aviation proposals.	Airports, helipads and other aviation proposals.
Air Pollution	Livestock and poultry units with floorspace greater than 500m ² , slurry lagoons greater than 750m ² and manure stores greater than 3500 tonnes.	Livestock and poultry units with floorspace greater than 500m ² , slurry lagoons greater than 4000m ² .
Combustion	General combustion processes greater than 50 megawatt energy input. Including: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works, other incineration / combustion.	General combustion processes greater than 50 megawatt energy input. Including: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works, other incineration / combustion.

- 3.1.5 The proposals do not meet any of the development categories which would require further consultation with Natural England on likely risks from the proposed development to the statutory designated sites for nature conservation present in the wider area.

Non-statutory Designated Sites for Nature Conservation

- 3.1.6 The site has no non-statutory designation for nature conservation.
- 3.1.7 Fourteen SBI are located within a 2 kilometres radius from the centre of the site, and are summarised in **Table 3.2** (refer also to **Figures 1** and **2**).

Table 3.2: SBI Within a 2 Kilometres Radius from the Centre of the Site

SBI Name	Distance and Direction from the Site	Reasons for Designation
Swan Lodge	Within 6 metres of the northern tip of the site boundary	Open Water (Fw3); Running water (Fw4); Aquatic Invertebrates (AI1)
Manchester, Bolton & Bury Canal (East)	0.5 kilometres west	Ponds (Fw2); Canal (Fw3)
Elton Goit	0.58 kilometres north-west	Grassland (Gr2); Birds (Br4 & Br5)
Withins Reservoir	0.86 kilometres north-west	Open Water (Fw3); Grassland (Gr2)
Wetland near Radcliffe	0.89 kilometres west	Ponds & Small Lodges (Fw2)
Sailor's Brow & Springwater Park	0.95 kilometres south	Ponds & Small Lodges (Fw2); Habitat Mosaic (HM); Aquatic Invertebrates (AI1)
Elton Reservoir	1.12 kilometres north-west	Grassland (Gr2); Birds (Br6)
Lower Hinds	1.24 kilometres north	Calcareous grassland (Gr3)
Marl Pits at Black Lane	1.25 kilometres west	Ponds & Small Lodges (Fw2); Amphibians (Am1)
Spen Moor Ponds	1.25 kilometres north-west	Ponds (Fw2); Amphibians (Am1); Aquatic Invertebrates (AI1);
Daisyfield	1.5 kilometres north	Reedbed & Swamp (Fw1); Ponds & small lodges (Fw2); Grassland (Gr2); Aquatic invertebrates (AI1); Woodland (Wd1)
Hollins Vale	1.62 kilometres east	Grassland (Gr2); Ponds & Small Lodges (Fw2)
Parr Brook	1.75 kilometres south-east	Grassland (Gr2)
Reservoirs at Chapelfield	1.82 kilometres south-west	Ponds & Small Lodges (Fw2)

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

Main River Designation

3.1.9 The *Main River Map* (Environment Agency, 2018) was consulted. Neither Bealey's Goit nor Hutchinson's Goit which are located outside of the site boundary are a designated EA Main River.

Priority Habitats Inventory and Soilscape Information

3.1.10 The Priority Habitats Inventory⁴ was checked via MAGiC Maps. No Priority Habitats are identified at or adjacent to the site by the inventory.

3.1.11 In accordance with *Soilscape (England)* as presented on MAGiC Maps (National Soil Resources Institute, 2005), the site supports '*loamy and clayey floodplain soils with naturally high groundwater*', and the characteristic semi-natural habitats associated with the soils comprise '*wet flood meadows and pasture with wet carr woodlands*'.

Ancient Tree Inventory

3.1.12 No ancient or veteran trees are identified at the site by the inventory.

Protected and Notable Species

3.1.13 Greater Manchester Local Record Centre (GMLRC) hold no records of protected and notable species for the site.

3.1.14 Records of protected and notable species for a 2 kilometres radius from the centre of the site are summarised in **Table 3.3**.

Table 3.3: Records of Protected Species Within a 2 Kilometres Radius from the Centre of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibian	Common toad (<i>Bufo bufo</i>): PS. 57 records, dated between 2012 and 2022. The closest record is 540 metres to the west of the site, and from 2021.
	Great crested newt (<i>Triturus cristatus</i>): EPS, WCAs5, PS and GMBAP. 145 records, dated between 1988 and 2022. The closest record is 550 metres to the west of the site, and from 2021.
Birds – WCAs1	Barn owl (<i>Tyto alba</i>): WCAs1. 81 records, dated between 2013 and 2023. The closest record is 750 metres to the north-west of the site, and from 2021.
	Bittern (<i>Botaurus stellaris</i>): WCAs1 and PS. 6 records, dated between 2009 and 2017. The closest record is 595 metres to the south of the site, and from 2009.
	Black redstart (<i>Phoenicurus ochruros</i>): WCAs1 and GMBAP. 2 records, both from 2012. The closest record is 1175 metres to the north-west of the site.
	Black-tailed godwit (<i>Limosa limosa</i>): PS. 15 records, dated between 2012 and 2022. The closest record is 730 metres to the north-west of the site, and from 2016.
	Hobby (<i>Falco subbuteo</i>): WCAs1. 56 records, dated between 2004 and 2021. The closest record is 740 metres to the west of the site, and from 2014.
	Kingfisher (<i>Alcedo atthis</i>): WCAs1. 507 records, dated between 1988 and 2022. The closest record is 410 metres to the north of the site, and from 2020.
	Little ringed plover (<i>Charadrius dubius</i>): WCAs1. 543 records, dated between 1985 and 2022. The closest record is 480 metres to the south-east of the site, and from 2004.

⁴ 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
	Peregrine (<i>Falco peregrinus</i>): WCAs1. 258 records, dated between 1992 and 2022. The closest record is 740 metres to the west of the site, and from 2016. Scaup (<i>Aythya marila</i>): WCAs1. 292 records, dated between 1992 and 2021. The closest record is 1160 metres to the north-west of the site, and from 2020.
Birds – PS and GMBAP	PS Only: Common scoter (<i>Melanitta nigra</i>), black-tailed godwit (<i>Limosa limosa</i>), bullfinch (<i>Pyrrhula pyrrhula</i>), cuckoo (<i>Cuculus canorus</i>), curlew (<i>Numenius arquata</i>), dunnoek (<i>Prunella modularis</i>), grasshopper warbler (<i>Locustella naevia</i>), hawfinch (<i>Coccothraustes coccothraustes</i>), herring gull (<i>Larus argentatus</i>), house sparrow (<i>Passer domesticus</i>), lapwing (<i>Vanellus vanellus</i>), lesser redpoll (<i>Carduelis cabaret</i>), linnet (<i>Linaria cannabina</i>), marsh tit (<i>Poecile palustris</i>), reed bunting (<i>Emberiza schoeniclus</i>), ring ouzel (<i>Turdus torquatus</i>), skylark (<i>Alauda arvensis</i>), song thrush (<i>Turdus philomelos</i>), spotted flycatcher (<i>Muscicapa striata</i>), starling (<i>Sturnus vulgaris</i>), tree pipit (<i>Anthus trivialis</i>), tree sparrow (<i>Passer montanus</i>), wood warbler (<i>Phylloscopus sibilatrix</i>), yellow wagtail (<i>Motacilla flava</i>), yellowhammer (<i>Emberiza citrinella</i>) and Cetti's warbler (<i>Cettia cetti</i>).
Bony Fish	Brown trout (<i>Salmo trutta</i>): PS. 1 record from 2013, located to the north-west of the site; an accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference
Reptiles	Common lizard (<i>Zootoca vivipara</i>): WCAs5 and PS. 1 record from 2015, located 1360 metres to the south of the site.
Terrestrial invertebrates	PS Only: Buff ermine (<i>Spilosoma luteum</i>), cinnabar (<i>Tyria jacobaeae</i>), dot moth (<i>Melanchra persicariae</i>), knot grass (<i>Acrionicta rumicis</i>), latticed heath (<i>Chiasmia clathrata</i>), shaded broad-bar (<i>Scotopteryx chenopodiata</i>), small heath (<i>Coenonympha pamphilus</i>), wall (<i>Lasiommata megera</i>), white ermine (<i>Spilosoma lubricipeda</i>).
Terrestrial mammals	Brown hare (<i>Lepus europaeus</i>): PS and GMBAP. 165 records, dated between 1993 and 2023. The closest record is 260 metres to the north of the site, and from 2021. Otter (<i>Lutra lutra</i>): WCAs5 and PS. 36 records, dated between 2003 and 2023. The closest record is 370 metres to the north-east of the site, and from 2022. Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, WCAs5, PS and GMBAP. 7 records, dated between 2014 and 2020. The closest record is 335 metres to the west of the site, and from 2016. Water vole (<i>Arvicola amphibius</i>): WCAs5 and PS. 1 record from 2009, located 1000 metres to the south of the site. Badger (<i>Meles meles</i>): PBA. 38 records, dated between 2008 and 2023. The closest record is 435 metres to the north of the site, and from 2023. Bat species (Order <i>Chiroptera</i>): EPS, WCAs5 and GMBAP. 6 records, dated between 1993 and 2014. The closest record is 105 metres to the north-east of the site, and from 2008. Brown long-eared bat (<i>Plecotus auritus</i>): EPS, WCAs5, PS and GMBAP. 5 records, dated between 2017 and 2020. The closest record is to the north of the site; an accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5 and GMBAP. 214 records, dated between 1988 and 2023. The closest record is 195 metres to the south-east of the site, and from 2012. Daubenton's bat (<i>Myotis daubentonii</i>): EPS, WCAs5 and GMBAP. 16 records, dated between 2003 and 2021. The closest record is 620 metres to the south-west of the site, and from 2004. Hedgehog (<i>Erinaceus europaeus</i>): PS. 39 records, dated between 2010 and 2022. The closest record is 55 metres to the south of the site, and from 2019. Myotis species (<i>Myotis</i> sp.): EPS, WCAs5 and GMBAP. 25 records, dated between 2014 and 2021. The closest record is 735 metres to the west of the site, and from 2015.

Taxon Group	Species Name and Designations ¹ and Notes
	Nathusius's pipistrelle (<i>Pipistrellus nathusii</i>): EPS, WCAs5 and GMBAP. 3 records, dated between 2014 and 2021. The closest record is 860 metres to the north-west of the site, and from 2021.
	Noctule bat (<i>Nyctalus noctula</i>): EPS, WCAs5, PS and GMBAP. 41 records, dated between 1988 and 2021. The closest record is 540 metres to the west of the site, and from 1999.
	Pipistrelle species (<i>Pipistrellus</i> sp.): EPS, WCAs5 and GMBAP. 166 records, dated between 1988 and 2022. The closest record is 100 metres to the north of the site, and from 2008.
	Whiskered/ Brandt's bat (<i>Myotis mystacinus/brandtii</i>): EPS, WCAs5 and GMBAP. 2 records, both from 2020. The closest record is to the north of the site; an accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference
	Lesser noctule (<i>Nyctalus leisleri</i>) 1 record from 2021, located 860 metres to the north-west of the site.
	Brandt's bat (<i>Myotis brandtii</i>): EPS, WCAs5 and GMBAP. 1 record from 2018, located 150 metres to the west of the site.
¹Key to Designation Codes: EPS = European Protected Species under <i>The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i>. 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). PBA = <i>Protection of Badger Act 1992</i>. PS = Priority Species listed under Section 41 of the <i>NERC Act 2006</i>. GMBAP = Species listed on the <i>Greater Manchester Biodiversity Action Plan</i>.	

3.1.15 The presence of records 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 1.991 hectare site is located to the east of Radcliffe and comprises a mix of hardstanding yards used for the storage of coaches and other vehicles, buildings and a mosaic of unmanaged neutral grassland, Bramble scrub, Willow scrub and scattered self-seeded trees. The western, southern and eastern site boundaries meet existing built development. The northern site boundary is undefined and meets neutral grassland, rushes and scrub beyond which lies Swan Lodge Site of Biological Importance (SBI).

3.2.2 A Phase 1 Habitat Survey map is appended at **Figure 2**. A habitat map of the site in accordance with UKHab symbology is appended at **Figure 3**. Photographs are appended at **Section 8.1**.

Buildings and Hardstanding

3.2.3 The buildings are described in **Section 3.3**.

3.2.4 The buildings and associated hard-standing (refer to **Photos 1 to 4**) are typically devoid of vegetation.

3.2.5 The buildings are described by the UKHab as u1b5 buildings. The hard-standing is described by the UKHab as u1b6 other developed land.

Individual Trees/ Tree Groups

3.2.6 Individual trees at the site (i.e. trees that are too tall / large to be part of the 'mixed scrub' but do not form a woodland habitat) are annotated on **Figures 2 and 3**. Species comprise 8No. Ash (*Fraxinus excelsior*),

1No. Cherry (*Prunus* sp.), 1No. Elder (*Sambucus nigra*), 11No. Goat Willow (*Salix caprea*), 1No. Pine (*Pinus* sp.), 1No. Hawthorn (*Crataegus monogyna*), 1 Silver Birch (*Betula pendula*) and 2No. Sycamore (*Acer pseudoplatanus*).

Mixed Scrub 1, 2, 4, 6 and 7

Mixed Scrub 1

- 3.2.7 An area of mixed scrub at the south-eastern corner of the site is characterised by constant and locally abundant / frequent Goat Willow with locally abundant Cherry Laurel (*Prunus laurocerasus*) and occasional Holly (*Ilex aquifolium*) and individual trees of Silver Birch (*Betula pendula*), Sycamore and Ash. The understorey is characterised by a high cover of Japanese Knotweed with areas of constant and abundant Bramble (*Rubus fruticosus* agg.), constant and frequent Common Nettle (*Urtica dioica*) with locally abundant Hedge Bindweed (*Calystegia sepium*), very locally abundant Cleavers (*Galium aparine*) and Great Willowherb (*Epilobium hirsutum*).

Mixed Scrub 2

- 3.2.8 Mixed Scrub 2 is located at the eastern site margin and comprises an area of Willow scrub with an understorey of bare ground and Bramble.

Mixed Scrub 4

- 3.2.9 Refer to **Photo 5**. Mixed Scrub 4 is a small area (0.0013ha) of Grey Willow (*Salix cinerea*) scrub located on sloping land adjacent to a fenced off area around the communications mast.

Mixed Scrub 6

- 3.2.10 Refer to **Photo 6**. Mixed Scrub 6 is located at the northern tip of the site and comprises an area of Goat Willow with scattered young Cherry and an understorey of Japanese Knotweed and Indian Balsam with frequent Common Nettle, Bramble and occasional Male-fern (*Dryopteris filix-mas*).

Mixed Scrub 7

- 3.2.11 Refer to **Photo 7**. Mixed Scrub 7 is located at the margin between the hardstanding and areas of grassland towards the south-western area of the site. The vegetation is characterised by Goat Willow with an understorey of Indian Balsam, Bramble, Common Nettle and Great Willowherb.

- 3.2.12 A plant species list for the mixed scrub 1, 2, 4, 6 and 7 at the site margins is appended at **Table 8.2**.

- 3.2.13 The areas of mixed scrub 1, 2, 4, 6 and 7 are not indicative of a specific NVC community and they are described by the UKHab as h3h mixed scrub with the secondary codes 523 non-native, 524 invasive non-native, 200 tree and 518 neglected.

Mixed Scrub 3

- 3.2.14 Refer to **Photos 8 to 10**. Mixed Scrub 3 is a large (0.2969ha) area of scrub that has colonised the mound of sub-soil and brick and concrete rubble material in the centre of the site. Woody species are characterised by constant and locally abundant / dominant Goat Willow with locally frequent Hawthorn and rare Holly (sapling), Elder (sapling), White Poplar (*Populus alba*), Garden Privet (*Ligustrum ovalifolium*) and Cherry Laurel.

- 3.2.15 The understorey has a high percentage cover of bare ground owing to the shading by the Willow shrubs and the shallow soils / artificial substrate present. There is a high cover of Japanese Knotweed and Indian Balsam and very locally frequent plants of Montbretia. Woodland herbs and fern species such as constant and frequent Male-fern, very locally frequent Lady Fern (*Dryopteris filix-femina*), occasional Hart's Tongue-fern (*Asplenium scolopendrium*), occasional Herb-Robert (*Geranium robertianum*) and Wood Avens (*Geum urbanum*).
- 3.2.16 A plant species list for the mixed scrub at the site margins is appended at **Table 8.3**.
- 3.2.17 Mixed Scrub 3 is not indicative of a specific NVC community and that habitat is described by the UKHab as h3h mixed scrub with the secondary codes 523 non-native, 524 invasive non-native and 518 neglected.

Bramble Scrub

- 3.2.18 As illustrated on **Figures 2 and 3** areas of the site are colonised by dense Bramble scrub to form the W24 *Rubus fruticosus*-*Holcus lanatus* community of the NVC (Rodwell, 1991) and habitat h3d Bramble scrub of the UKHab with the secondary code 521 unmanaged.

Introduced Scrub

- 3.2.19 At the western margin of the site is an area of introduced shrub characterised by Snowberry (*Symphoricarpos* sp.). This habitat is not indicative of an NVC community and is described by the UKHab as h3h mixed scrub with the secondary code 847 introduced shrub.

Neutral Grassland

- 3.2.20 Refer to **Photos 11 and 12**. Scattered between the areas of mixed scrub, stands of Japanese Knotweed and Bramble scrub are areas of unmanaged neutral grassland characterised by broad-leaved competitive grass species such as constant and abundant False Oat-grass (*Arrhenatherum elatius*) and Cock's-foot (*Dactylis glomerata*) with frequent Common Bent (*Agrostis capillaris*), Red Fescue (*Festuca rubra*) and frequent / locally abundant Yorkshire-fog (*Holcus lanatus*) and Rough Meadow-grass (*Poa trivialis*). Locally abundant / locally dominant stands of Reed Canary-grass (*Phalaris arundinacea*) with very locally frequent Silverweed (*Potentilla anserina*) are present. The herb species composition comprises frequent Cow Parsley (*Anthriscus sylvestris*) with locally abundant Field Horsetail (*Equisetum arvense*), with stands of very locally abundant Rosebay Willowherb (*Chamerion angustifolium*), very locally frequent Common Nettle and occasional Spear Thistle (*Cirsium vulgare*) and Creeping Thistle (*Cirsium arvense*). A plant species list for the neutral grassland is appended at **Table 8.4**.
- 3.2.21 The grassland is indicative of the MG1 *Arrhenatherum elatius* community of the NVC (Rodwell, 1992) and is described by the UKHab as g3c5 *Arrhenatherum* neutral grassland with the secondary code 521 unmanaged.

Invasive Plant Species

- 3.2.22 Refer to **Photos 13 and 14**. Stands of Japanese Knotweed are prolific at the site and are estimated to cover at least 0.1631ha (8.19% of the total site area) (not including the scattered plants that are growing amongst other habitats).
- 3.2.23 As illustrated on **Figure 2**, areas of Indian Balsam were detected throughout the site. Montbretia (*Crocsmia crocosmiiflora*), Variegated Yellow-archangel (*Lamium galeobdolon* subsp. *argentatum*) (**Photo 15**) and Virginia Creeper (*Parthenocissus quinquefolia*) (**Photo 16**) were located in local areas.

- 3.2.24 All the above species are listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread or cause their spread in the wild. This is considered further at **Section 4.3** below.

3.3 Daytime Bat Walkover Survey

Habitat Assessment for Commuting / Foraging Bats

- 3.3.1 The grassland and areas of scrub within the site are suitable for use by foraging bats and provide habitat connectivity across the site. These habitats are assessed to be of 'moderate' suitability for use by foraging and commuting bats. The site habitats complement the more extensive areas of grassland, scrub, open water, wetland and trees within the land to the north (including Swan Lodge SBI) which are assessed to be of 'high' suitability for the attraction of commuting and foraging bats (refer to **Figure 1**).

Preliminary Roost Assessment: Buildings

Building B1: Take Away Unit

- 3.3.2 Refer to **Photos 17 to 20**. Building 1 is a single storey brick building with a flat felt-covered roof. Examination of the external elevations confirmed that the walls are well-pointed and the timber fascia at the eaves are sealed. No gaps or opportunities suitable for use by / access by roosting bats were found. No bats or bat droppings were found around the external elevations of the building on the survey dates in July and October 2024. There is no roof void at the building.
- 3.3.3 Building 1 is assessed to have a suitability for use by roosting bats of 'none'.

Building B2: Commercial Unit

- 3.3.4 Refer to **Photo 21**. Building 2 is a single storey brick building with a flat roof. Examination of the external elevations confirmed that the walls are well-pointed and the timber fascia at the eaves are sealed. No gaps or opportunities suitable for use by / access by roosting bats were found. No bats or bat droppings were found around the external elevations of the building on the survey dates in July and October 2024. There is no roof void at the building.
- 3.3.5 Building 2 is assessed to have a suitability for use by roosting bats of 'none'.

Metal Containers, Static Caravan and Canopies at the Car Wash

- 3.3.6 Refer to **Photos 22 to 25**. Other built structures at the site comprising metal containers, a static caravan and a metal-framed canopies at a hand car wash facility were examined; none of these structures support potential roost features and all are assessed to have a suitability for use by roosting bats of 'none'.

Ground Level Tree Assessment

- 3.3.7 None of the trees and shrubs support features suitable for use by roosting bats; all are assessed to have a suitability of 'none'.

3.4 Other Protected Species and Animal Life

Badger

- 3.4.1 No setts or signs of badger were detected in the site and surveyed area during the survey.

- 3.4.2 The presence of ground suitable for badger activity and neutral grassland and Bramble scrub suitable for use by foraging badger in the site is recognised. The reported presence of badger activity within the habitats north of the site and the absence of any physical barrier to badger movement between the land to the north and the application site is recognised and the best practice actions are recommended in **Section 5.3** are appropriate.

Bird Species

- 3.4.3 Birds detected in the site on 15th July 2024 and 12th October 2024 are listed in **Table 3.4**.

Table 3.4: Bird Species Detected on 15th July 2024 and 12th October 2024

Scientific Name	Common Name	BOCC Status ¹	Habitat / Notes
<i>Corvus corone</i>	Carrion crow	Green	In neutral grassland
<i>Chroicocephalus ridibundus</i>	Black-headed gull	Amber	Over the neutral grassland
<i>Columba palumbus</i>	Wood pigeon	Amber	In off-site trees
<i>Erithacus rubecula</i>	Robin	Green	In scrub at site margins
<i>Fringilla coelebs</i>	Chaffinch	Green	In scrub at site margins
<i>Parus caeruleus</i>	Blue tit	Green	In scrub at site margins
<i>Parus major</i>	Great tit	Green	In scrub at site margins
<i>Passer domesticus</i>	House sparrow	Red	At off-site houses / gardens
<i>Phylloscopus trochilus</i>	Willow warbler	Amber	In willow scrub in centre of the site
<i>Pica pica</i>	Magpie	Green	Associated with the hardstanding yard
<i>Prunella modularis</i>	Dunnock	Amber	In scrub in centre of the site
<i>Sturnus vulgaris</i>	Starling	Red	At off-site houses
<i>Troglodytes troglodytes</i>	Wren	Amber	In Bramble scrub at site margins
<i>Turdus merula</i>	Blackbird	Green	In scrub in centre of the site
¹ BOCC: Birds of Conservation Concern (Stanbury, et al., 2021). Priority Species are presented in bold .			

- 3.4.4 The Willow scrub in the centre of the site with margins of Bramble scrub is suitable for use by breeding willow warbler. The trees, shrubs and Bramble scrub at the southern site margin are suitable for use by nesting birds, including Priority Species such as song thrush (*Turdus philomelos*) and dunnock (*Prunella modularis*). This is considered further at **Section 4.4**, below.
- 3.4.5 No field signs to indicate the current or previous use of the buildings at the site by barn owl or other nesting birds was found. None of the buildings or other structures are assessed to be suitable or accessible for use by barn owl or other bird species.
- 3.4.6 The grassland habitats are considered to be too enclosed with too high a cover of nearby scrub to be suitable for use by ground nesting farmland birds such as lapwing and skylark. The dense grassland and wet grassland / rushes in the off-site land to the north is considered to be suitable for species such as sheltered snipe (*Gallinago gallinago*) during the winter months.

Great Crested Newt and other Amphibians

- 3.4.7 There are no physical dispersal barriers to the movement amphibians between Ponds 1 and 2 and the site.
- 3.4.8 The data search did not report any known records of great crested newt at Ponds 1 and 2.
- 3.4.9 Refer to **Photo 26**. Owing to the absence of open water Pond 1 is reasonably discounted as a possible great crested newt breeding pond.

3.4.10 The HSI result for Pond 2 (refer to **Photo 27**) is presented below.

Table 3.5: Habitat Suitability Index Assessment for Pond 1

Criteria	Description	Pond 1	Score1
SI1	Location	Optimal	1
SI2	Pond Area	>2000	N/A
SI3	Permanence	Never dries	0.9
SI4	Water Quality	Moderate	0.67
SI5	Shade	5%	1
SI6	Waterfowl	Major	0.01
SI7	Fish	Major	0.01
SI8	Pond count ²	0.32	0.38
SI9	Terrestrial habitat	Good	1
SI10	Macrophyte cover	20%	0.5
Assessment Result:		Poor	0.28
¹ Calculated by (SI1 x SI3 x SI4 x SI5 x SI6 x SI7 x SI8 x SI9 x SI10) ^{1/9}			
² Ponds within an unobstructed 1 kilometre radius			

3.4.11 The HSI score of ‘poor’ and suitability of Pond 2 for breeding great crested newt is based on its large size (1.7 hectares) and the presence of waterfowl and fish. Pond 2 is reasonably discounted as a great crested newt breeding pond.

3.4.12 Pond 2 is assessed to be suitable for use by common toad (a Priority Species). The terrestrial habitats at the site are suitable for use by sheltering common toad, however, based on the distance between Pond 2 and the site (211 metres) and the suitability of the habitats surrounding Pond 2 for use by sheltering common toad the site is not likely to be the main area used by sheltering common toad from Pond 2; this is taken into consideration in the recommendations at **Section 5.0**.

Reptiles

3.4.13 Although the scrub, neutral grassland and Bramble scrub habitats at the site are suitable for reptiles such as slow-worm, there are no reported records of reptile species in this area of Greater Manchester (refer to **Table 3.3**). The presence of reptiles within the site is reasonably discounted.

Otter

3.4.14 The presence of otter activity at the River Irwell (located within 400 metres of the site boundary) is known. The River Irwell has hydrological / habitat connectivity to Bealey’s Goit located just over 10 metres from the northern site boundary and Hutchinson’s Goit located 39 metres from the western site boundary.

3.4.15 None of habitats within the site are considered to be suitable for use by breeding otter and no field signs to indicate use by otter were found.

3.4.16 Refer to **Photo 28**. On both survey dates the section of Bealey’s Goit closest to the site was dry. The channel is colonised by Reed Sweet-grass and Bramble scrub and may provide lying up habitat for use by otter. The presence of otter activity in the wider area is a consideration of this report and this is discussed further in **Sections 4.4** and **5.3**.

3.5 Incidental Observations

- 3.5.1 A cluster of the shaggy ink-cap (*Coprinus comatus*) were found on the western margin of Mixed Scrub 3 on 12th October 2024; this is common and widespread species.
- 3.5.2 Deer paths were noted in the site and two roe deer (*Capreolus capreolus*) were flushed from the scrub at the northern end of the site on 12th October 2024; the deer headed north towards Swan Lodge SBI. Roe deer has no statutory protection under wildlife legislation in relation nature conservation.
- 3.5.3 Single passes of meadow brown (*Maniola jurtina*) and speckled wood (*Pararge aegeria*) butterflies were observed at the site; both are common and widespread species in the UK.
- 3.5.4 Habitats at the site are suitable for use by feeding and sheltering hedgehog (*Erinaceus europaeus*), a Priority Species; this is considered in **Sections 4.4** and **5.0**.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 The proposals comprise the demolition of the buildings, removal of structures, vegetation clearance and remediation over the entire site and redevelopment of the site to residential development. Access will be via the existing road network off Dumers Lane.
- 4.1.2 In accordance with the mitigation hierarchy, ecological guidance has been provided to the design team throughout the preparation of the proposals, the guidance has resulted in the following:
 - Modification of the redline boundary to avoid the southern tip of the Swan Lodge SBI and Bealey's Goit and to accommodate a buffer of 10 metres between the site boundary and a watercourse; and
 - Realignment of the boundary at the north-eastern margin to maximise the buffer between the proposed built environment and Hutchinson's Goit / Swan Lodge SBI.
- 4.1.3 The ecological guidance has assisted with demonstration of the implementation of the mitigation hierarchy and the demonstration of net gain in accordance with the statutory BNG requirements (refer to *Assessment of Biodiversity Net Gain* (ERAP (Consultant Ecologists) Ltd, 2025)).
- 4.1.4 This report also advises on how compliance with Chapter 15, paragraph 186(d) of the *National Planning Policy Framework* (NPPF) (Department for Levelling Up, Housing and Communities, 2023) can be achieved, which 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*' and aims to demonstrate compliance with *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, 2016).
- 4.1.5 **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 protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

- 4.2.1 Based on the distance from the site and the statutory designated sites for nature conservation in the wider area it is considered that the proposals can be achieved with no risk of a direct or indirect effect on any statutory designated sites for nature conservation.
- 4.2.2 The modification to the redline boundary described in **Section 4.1** have ensured any direct impacts / habitat loss at the Swan Lodge SBI and associated watercourses are avoided. In the presence of the protective measures described in **Sections 5.3** and **5.4** it is advised that damage / impacts to the SBI and associated habitats during the construction period are avoided.
- 4.2.3 In consideration of the operational phase of the site as a residential development it is confirmed that it is not the intention of the proposals to direct surface water (or foul water) towards the north and / or Bealey's Goit, Hutchinson's Goit or Swan Lodge. All surface and foul water will be directed towards the existing adopted infrastructure in Dumers Lane. Based on the understanding of the water regime in the local area, the development of the site and the redirection of surface water from the site to Dumers Lane is not likely to cut off a core source of surface water of these off-site habitats nor have an adverse effect on the hydrological regime at Swan Lodge SBI.
- 4.2.4 It is advised that the risk of an increase in adverse effects on the SBI as a result of recreational pressures are not likely to intensify as the residential development is enclosed at all boundaries; it is not intended to install any public footpath links between the site and Swan Lodge SBI to the north. However, in accordance with best practice the distribution of a 'Responsible User's Leaflet' to all new residents is recommended (refer to **Section 5.4**).
- 4.2.5 It is considered that the remediation of the site and the eradication of a source of extant invasive plant species (particularly Japanese Knotweed) may provide a positive impact on the SBI (albeit minor)

4.3 Vegetation and Habitats

- 4.3.1 None of the habitats present are representative of Priority Habitat, semi-natural habitat or are classed as irreplaceable habitat. No rare or uncommon plant species were found at the site.
- 4.3.2 The ecological value of the habitats at the site is significantly limited by the extent and density of the stands of invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), particularly Japanese Knotweed.
- 4.3.3 In consideration of the importance of the habitats at the site in a geographical context⁵ it is advised that the individual trees and areas of scrub are of 'local' value as they contribute to the mosaic of habitats in the local area and provide complementary habitat for use by some species likely to also be present in the SBI such as breeding willow warbler.
- 4.3.4 The Bramble scrub and neutral grassland are assessed to be of value at the 'site' level and the areas of introduced shrub, hardstanding, buildings and Japanese Knotweed stands are not considered to hold any importance on a geographical scale.

⁵ Using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system / Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

- 4.3.5 The remediation of the site, including the effective treatment of the invasive plant species, will result in the unavoidable removal of the Willow scrub and scattered trees and all other habitats. Accommodation of tree and hedgerow planting within the landscape planting proposals will seek to provide habitat structural diversity, however, it is not feasible to replicate the Willow scrub habitat within the residential area. In accordance with the mitigation hierarchy and the options available and as outlined in **Section 5.2**, to compensate for the habitat losses and to work towards securing statutory BNG, the losses of the relevant habitats will be compensated for off-site and secured by the Biodiversity Net Gain (BNG) assessment and an appropriate Habitat Management Plan.

4.4 Protected Species and Other Wildlife

Bat Species

- 4.4.1 No features with suitability or use by roosting bats have been found at the site. No further surveys for roosting bats are required to comply with relevant survey guidance and to inform the planning application.
- 4.4.2 **Section 5.2** recommends the installation of opportunities for use by roosting bats at the new dwellings this is considered to provide net gains for biodiversity and additionality in accordance with *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, 2016).
- 4.4.3 Inappropriate use of artificial lighting around the exterior of the new dwellings may have an adverse effect on use of the local area by foraging bats and other wildlife. Guidance to avoid a significant impact on foraging bats and to enhance habitats for use by roosting bats is provided at **Section 5.2**.

Bird Species

- 4.4.4 The clearance of trees, shrubs and Bramble scrub will result in the loss of opportunities for use by nesting birds including common and widespread species typically associated with urban areas / habitats on the urban fringe including Priority Species, such as dunnoek. Mandatory measures to be applied to ensure the protection of nesting birds during and prior to the site preparation works are described at **Section 5.3** and recommendations for the enhancement of the site and the accommodation of provisions for nesting birds, including conservation priorities and local target species, are detailed at **Section 5.2**.

Amphibian Species

- 4.4.5 The presence of great crested newt is reasonably discounted. Swan Lodge (located 211 metres to the north of the site may be used by common toad (a Priority Species)) and the habitats within the site provide opportunities for sheltering toad. The application of reasonable avoidance measures is appropriate and proportionate in this instance and guidance is provided in **Section 5.3**.

Otter

- 4.4.6 The presence of otter activity in the local area is a consideration of this ecological assessment. It is advised that the proposals are not likely to affect otter breeding habitat (or habitat suitable for use by breeding otter) nor are the proposals likely to obstruct or impede the movement of otter along or between watercourses in the wider area such as the River Irwell, Hutchinson's Goit and Bealey's Goit. However, the presence of otter and expansion of otter activity in the local area is a consideration and the best practice guidance as outlined in **Section 5.3** is appropriate.

Other Animal Life

- 4.4.7 Appropriate and proportionate survey effort and / or assessment, in accordance with standard survey guidelines, has been applied to discount adverse effects on other relevant protected species. No further surveys for other protected species are necessary to inform a planning application.
- 4.4.8 Guidance in relation to best practice measures for the protection of other wildlife including Priority Species such as hedgehog during site preparation, construction operations and in the long-term presence of a residential development at the site is outlined in **Sections 5.2** and **5.3**.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

- 5.1.1 The recommendations described below are appropriate and proportionate to the scale of the development proposals and aim to ensure that the proposals are implemented in accordance with the mitigation hierarchy, statutory BNG requirements, relevant wildlife legislation, Natural England guidance, the principles of the *National Planning Policy Framework* (NPPF) (Department for Levelling Up, Housing and Communities, 2023), local planning policy and best practice.
- 5.1.2 The recommendations aim to ensure compliance with Chapter 15, paragraph 186(d) of the NPPF which 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’.*
- 5.1.3 These recommendations aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the NPPF, local planning policy and best practice.

5.2 Site Design and Enhancements for Biodiversity

Landscape Strategy

- 5.2.1 To contribute to compensating for the loss of trees and shrubs at the site it is recommended that the number of trees to be accommodated on site as part of the landscape strategy is maximised.
- 5.2.2 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented in **Table 5.1**.

Table 5.1: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acer campestre</i>	Field Maple	<i>Prunus spinosa</i>	Blackthorn
<i>Corylus avellana</i>	Hazel	<i>Rosa arvensis</i>	Field Rose
<i>Crataegus monogyna</i>	Hawthorn	<i>Rosa canina</i>	Dog-rose
<i>Ilex aquifolium</i>	Holly	<i>Sambucus nigra</i>	Elder
<i>Malus sylvestris</i>	Crab Apple	<i>Sorbus aucuparia</i>	Rowan
<i>Prunus avium</i>	Wild Cherry	<i>Ulmus glabra</i>	Wych Elm
<i>Prunus padus</i>	Bird Cherry	<i>Viburnum opulus</i>	Guelder Rose

- 5.2.3 It is recommended that the landscape planting within the residential site is composed from native species and species known to be of value for the attraction of wildlife.
- 5.2.4 Any landscape planting scheme to be prepared for the gardens of the new properties should make use of native species but where necessary non-native species known to be attractive to invertebrates should be used.
- 5.2.5 Planting schemes that include flowering species such as *Viburnum*, *Ceanothus*, *Hebe*, *Lavandula*, *Lonicera*, *Potentilla*, *Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds. Other appropriate plants to include within the landscaping scheme include night-scented flowers which will attract moth species and bats; a list of suggested species is presented at **Table 5.2**.

Table 5.2: Recommended Plants for Use in Gardens to Attract Bats⁶

Flowers for Borders	
Aubretia species (<i>Aubretia</i> sp.)	Michaelmas Daisy (<i>Aster</i> sp.)
Candytuft (<i>Iberis sempervirens</i>)	Night-scented Stock (<i>Matthiola longipetala</i>)
Cherry pie (<i>Heliotropium arborescens</i>)	Oxeye Daisy (<i>Leucanthemum vulgare</i>)
Corncockle (<i>Agrostemma githago</i>)	Fiddleneck (<i>Phacelia tanacetifolia</i>)
Cornflower (<i>Centaurea cyanus</i>)	Poached Egg Plant (<i>Limnanthes douglasii</i>)
Corn Marigold (<i>Glebionis segetum</i>)	Primrose sp. (<i>Primula</i> sp.)
Corn Poppy (<i>Papaver rhoeas</i>)	Red Campion (<i>Silene dioica</i>)
Coneflower species (<i>Echinacea</i> sp.)	Common Valerian (<i>Valeriana officinalis</i>)
Bluebell (<i>Hyacinthoides non-scripta</i>)	Scabious species (<i>Scabiosa</i> sp.)
Evening primrose (<i>Oenothera biennis</i>)	St John's Wort species (<i>Hypericum</i> sp.)
Honesty (<i>Lunaria annua</i>)	Sweet William (<i>Dianthus barbatus</i>)
Ice plant 'Pink lady' (<i>Delosperma cooperi</i>)	Tobacco Plant species (<i>Nicotiana</i> sp.)
Knapweed species (<i>Centaurea</i> sp.)	Vervain species (<i>Verbena</i> sp.)
Mallow species (<i>Malva</i> sp.)	Wallflower species (<i>Erysimum</i> sp.)
Mexican aster (<i>Cosmos bipinnatus</i>)	
Herbs	
Wild Angelica (<i>Angelica sylvestris</i>)	Hyssop (<i>Hyssopus officinalis</i>)
Bergamot (<i>Monarda didyma</i>)	Lavender species (<i>Lavandula</i> sp.)
Borage (<i>Borago officinalis</i>)	Lemon Balm (<i>Melissa officinalis</i>)
Coriander (<i>Coriandrum sativum</i>)	Marjoram (<i>Origanum majorana</i>)
English Marigold (<i>Calendula officinalis</i>)	Rosemary (<i>Rosmarinus officinalis</i>)
Fennel (<i>Foeniculum vulgare</i>)	Sweet Cicely (<i>Myrrhis odorata</i>)
Feverfew (<i>Tanacetum parthenium</i>)	Thyme species (<i>Thymus</i> sp.)

Habitat Management: On-site and Off-site Habitats

- 5.2.6 In accordance with the Assessment of BNG (ERAP (Consultant Ecologists) Ltd, 2025), a long-term habitat management plan with an appropriate monitoring regime is required to secure the condition of the new habitats both on and off-site in the long-term.

⁶ Extracted from the BCT publication 'Encouraging bats, A guide for bat-friendly gardening and living' (Bat Conservation Trust, 2016).

Provisions for Wildlife

Enhancing Habitats for Roosting Bats

- 5.2.7 It is recommended that the development incorporates the installation of bat access panels at the new buildings.
- 5.2.8 The bat access panels should be sited at least 4 metres above ground level, ideally facing or close to areas of retained habitats / landscape planting. The access panels should not be positioned over windows or doorways where bat droppings may become a nuisance. An ecologist should advise on appropriate positions for the bat access panels. Suitable bat access panels are available from NHBS Ecology (www.nhbs.com), Wild Care (www.wildcare.co.uk) and / or Greenwood's Ecohabitats (www.greenwoodsecohabitats.co.uk) and are presented at **Insert 1**.



Insert 1: Examples of integrated bat access panels and an externally mounted box⁷

Accommodation of Opportunities for Nesting Birds: House Sparrow

- 5.2.9 To enhance the opportunities for use by nesting birds at the site the installation of house sparrow terraces⁸ at the new buildings is recommended. Boxes should not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. Examples of suitable house sparrow nest boxes are presented at **Insert 2**:



Insert 2: Schwegler 1SP House Sparrow Nesting Terrace (left) and Vivara Pro WoodStone House Sparrow Box (right). Both are available from www.NHBS.com

⁷ Left to right: IBstock Enclosed Bat Box 'c' (left); Habibat Bat Access Panels (centre left and centre right) and Greenwood's Ecohabitats' two crevice bat box (right). Products with a brick face are illustrated, however the Habibat bat access panels can be supplied unfaced to enable the addition of matching material.

⁸ House sparrow is a Priority Species associated with suburban areas. Monitoring suggests a severe decline in the UK house sparrow population, estimated as dropping by 71 per cent between 1977 and 2008 with large falls in both rural and urban populations (RSPB, 2024).

Swift

- 5.2.10 The swift (*Apus apus*) has been added to *The Birds of Conservation Concern Red List* (Stanbury, et al., 2021) owing to the recorded recent declines and its identified status as a high conservation priority.
- 5.2.11 The construction of the residential properties provides an opportunity for the installation of additional nesting opportunities for swift to assist their conservation and is in compliance with the targets of Bolton and Bury Swifts⁹. Suitable swift nest boxes are illustrated at **Insert 3**.



Insert 3: Examples of swift nest boxes¹⁰

Maintenance of Habitat Connectivity Throughout the Developed Site

- 5.2.12 To ensure habitat connectivity is maintained as part of the development proposals, gaps within the proposed fencing / gates to allow access by other wildlife (including hedgehog) should be incorporated across the site; example accesses (0.15m by 0.15m) are presented at **Insert 4** as reproduced from *Hedgehogs and Development* (British Hedgehog Preservation Society / PTES, 2019).



Insert 4: Showing wildlife access gap within fencing

Appropriate Use of Lighting

- 5.2.13 Paragraph 191(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”

- 5.2.14 It is advised that any external lighting to be installed at the site should involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the adjacent

⁹ A local species action group

¹⁰ From left to right No. 17A Schwegler Swift Nest Box (Triple Cavity) as installation (centre), Manthorpe Swift Nesting Box (right) and Ibstock Eco-habitat for Swift (right), all available from www.NHBS.com and / or Wild Care (www.wildcare.co.uk).

habitats and areas of landscape planting / habitat creation as lighting overspill may deter use by wildlife such as foraging bats.

5.2.15 The lighting scheme should be designed with reference to current guidance, namely:

- a. *Guidance Note 08/23: Bats and Artificial Lighting at Night* (Institution of Lighting Professionals & Bat Conservation Trust, 2023); and
- b. Bats and lighting: Overview of current evidence and mitigation guidance (Stone, 2014).

5.3 Guidance on the Protection of Features Prior to / During the Construction Phase

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:

Demarcation of the Working Area and Protection of Off-site Habitats

5.3.2 During the construction phase, temporary protective demarcation fencing will be installed to demarcate the construction zone and to protect the off-site habitats to be retained. The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012), as needed.

Pre-commencement Updated Surveys for Relevant Protected Species

5.3.3 If site clearance works have not commenced prior to Summer 2025 it is advised that an updated pre-commencement surveys for relevant protected species namely otter and badger are carried out by an ecologist and the appropriate guidance is issued.

Nesting Birds

5.3.4 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.

Dust Suppression, Incidents and Accidents

5.3.5 The risk of adverse effects on vegetation, habitats and wildlife as a result of dust, spills and leaks will be controlled by the application of best practice measures and appropriate environmental controls such as dust suppression, appropriate storage of chemicals and fuel, presence of spill kits and appropriate training of on-site personnel.

Protection of Water Quality

5.3.6 The guidance presented at *Pollution Prevention for Businesses* (Defra and the Environment Agency, 2023) will be adhered to at any works, particularly at the northern end of the site in proximity to Hutchinson's Goit and Bealey's Goit.

Lighting

- 5.3.7 Paragraph 191c 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.'

- 5.3.8 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 off-site habitats as lighting overspill may deter use by wildlife such as foraging bats.

Invasive Plant Species

- 5.3.9 An Invasive Plant Species Management Plan will be prepared to outline the works to treat the Japanese Knotweed, Indian Balsam, Montbretia, Variegated Yellow-archangel and Virginia Creeper (all invasive species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended)).

Biosecurity

- 5.3.10 To ensure no invasive or undesirable plant species are introduced to the site and local area it is essential that plant and machinery to be brought to the site is clean and clear of plant material and excessive mud and other materials. Contractors must not accept any hired plant or machinery onto the site that contains plant material or excessive mud / earth cover.

Reasonable Avoidance Measures for the Protection of Other Fauna

- 5.3.11 In accordance with best practice, during the site preparation and construction operations it is essential that the following best practice and Reasonable Avoidance Measures are applied:
- Dense vegetation must only be cleared following an inspection by an ecologist. This is of relevance during the bird nesting season and to ensure checks are carried out for nesting and hibernating hedgehog;
 - 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 animals do not become trapped;
 - Any pipes must be stored with caps on (to prevent animal entry);
 - No fires must be lit at the site; and
 - Any chemicals or harmful materials must be stored so that they cannot be accessed by inquisitive animals.

5.4 Residents Responsible User's Leaflet

- 5.4.1 In accordance with best practice and to minimise the potential risk of increased recreational pressure on Swan Lodge SBI and its features of interest, it is recommended that an advisory leaflet is distributed in the sale pack of the new properties. The leaflet will provide the following guidance:
- Advise that the properties and site are within proximity to the Site(s) of Biological Importance and clearly set out the value, importance and sensitivity of the area, identify potentially damaging

operations / activities and outline a 'responsible use code' such as advising the need to keep dogs on leads and keeping to the footpaths (for example);

- b. Identify other areas for recreation / dog walking, away from the sensitive areas and the public footpaths, with maps and walking distances, as needed; and
- c. Advise on the avoidance of the use of excessive artificial illumination at the rear gardens of the properties and / or ensuring that outdoor lights are PIR or on a timer to avoid the risk of disturbance of the habitats in the wider area by lighting (of particular relevance to properties that back on to the SBI).

6.0 CONCLUSION

- 6.1 This ecological survey and assessment has demonstrated that the development proposals at the site are feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework (NPPF).
- 6.2 The mitigation hierarchy has been applied by adjustment of the site boundaries and extent of the developed area and, in the presence of the mandatory actions and best practice measures described in **Section 5.0**, significant adverse effects on designated sites for nature conservation and protected species are reasonably discounted. The site layout and wider biodiversity net gain (BNG) proposals secure compensatory planting where habitats are unavoidably impacted.
- 6.3 Enhancement measures that aim to maximise the benefits for biodiversity as part of the proposals and comply with Statutory BNG, the NPPF and *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, 2016) are feasible and are secured by the site design and the off-site proposals and are outlined in **Section 5.2** and the separate *Assessment of Biodiversity Net Gain* (ERAP (Consultant Ecologists) Ltd, 2025).

7.0 REFERENCES

- ARG UK, 2010. *ARG Advice Note 5: Great Crested Newt Habitat Suitability Index*. [Online]
Available at: <http://www.arguk.org/advice-and-guidance/view-category>
- Bat Conservation Trust, 2016. *Encouraging bats, A guide for bat-friendly gardening and living*, London: Bat Conservation Trust.
- British Hedgehog Preservation Society / PTES, 2019. *Hedgehogs and Development*, Ludlow: British Hedgehog Preservation Society / PTES.
- BSI, 2012. *Trees in relation to design, demolition and construction. Recommendations*. London: BSI Standards Limited.
- Chanin, P., 2003. *Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series 10*. Peterborough: English Nature.
- Chanin, P., 2003. *Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No 10*, Peterborough: English Nature.
- CIEEM, 2013. *Technical Guidance Series Competencies for Species: Bats*. Winchester: Chartered Institute of Ecology and Environmental Management.
- CIEEM, 2016. *Biodiversity Net Gain: Good Practice Principles for Development*, Winchester: CIEEM.
- CIEEM, 2018. *Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1*, Winchester: Chartered Institute of Ecology and Environmental Management.

- CIEEM, 2020. *Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition.*, Winchester: Chartered Institute of Ecology and Environmental Management.
- Collins, J. (ed), 2023. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. London: The Bat Conservation Trust.
- Dean, M., 2021. *Water Vole Field Signs and Habitat Assessment: A Practical Guide to Water Vole Surveys*. London: Pelagic Publishing.
- Defra and the Environment Agency, 2023. *Pollution prevention for businesses*. [Online]
Available at: <https://www.gov.uk/guidance/pollution-prevention-for-businesses>
[Accessed 03 January 2024].
- Department for Levelling Up, Housing and Communities, 2023. *National Planning Policy Framework*. London: H.M.S.O.
- Edgar, P., Foster, P & Baker, J., 2010. *Reptile Habitat Management Handbook*. Bournemouth: Amphibian and Reptile Conservation.
- Edwards, J., Knight, M. & Crosher, I. E., 2020. *National Habitat Network Maps V2*, Peterborough: Natural England.
- English Nature , 2001. *Great Crested Newt Mitigation Guidelines*. Peterborough: English Nature / Natural England.
- Environment Agency, 2018. *Main River Map*. [Online]
Available at: <https://www.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386>
[Accessed 15 July 20124].
- ERAP (Consultant Ecologists) Ltd, 2024. *ERAP Ltd 2024-200b Land at Bealey Industrial Estate, off Dumers Lane, Radcliffe M26 2QG*, Chorley: ERAP (Consultant Ecologists) Ltd.
- ERAP (Consultant Ecologists) Ltd, 2025. *Land at Bealey Industrial Estate, off Dumers Lane, Radcliffe M26 2QG. Assessment of Biodiversity Net Gain. Version 2 ERAP ref: 2024-200b*, Chorley: ERAP (Consultant Ecologists) Ltd.
- GOV.UK, 2023. *The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024*. [Online]
Available at: <https://www.gov.uk/government/publications/the-biodiversity-gain-requirements-irreplaceable-habitat-regulations-2024>
[Accessed 08 January 2024].
- Institution of Lighting Professionals & Bat Conservation Trust, 2023. *Guidance Note 08/23: Bats and Artificial Lighting at Night*. [Online]
Available at: <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>
[Accessed 07 March 2024].
- JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit*. Peterborough: NCC.
- Langton, T. E., Beckett, C. L. & Foster, J. P., 2001. *Great Crested Newt Conservation Handbook*. Halesworth: Froglife.
- Legislation.gov.uk, 1981. *Wildlife and Countryside Act*. [Online]
Available at: <https://www.legislation.gov.uk/ukpga/1981/69>
[Accessed 2024].
- Legislation.gov.uk, 2006. *Natural Environment and Rural Communities Act*. [Online]
Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents>
[Accessed 2024].
- Legislation.gov.uk, 2019. *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations*. [Online]
Available at: <https://www.legislation.gov.uk/ukdsi/2019/9780111176573>
[Accessed 2024].
- Maddock, A (ed), 2008. *UK Biodiversity Action Plan: Priority Habitat Descriptions*. [Online]
Available at: <http://jncc.defra.gov.uk/page-5718>
- Maddock, A., 2008. *UK Biodiversity Action Plan; Priority Habitat Descriptions (Updated Dec 2011)*. [Online]
Available at: <http://jncc.defra.gov.uk/page-5706>

- Ministry of Housing, Communities & Local Government, 2005. *Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within The Planning System*, London: Office of the Deputy Prime Minister.
- Mitchell-Jones, A., 2004. *Bat Mitigation Guidelines*. Peterborough: English Nature.
- Mitchell-Jones, A. J. & Mcleish, A. P., 2004. *Bat Workers' Manual, 3rd Edition*. Peterborough: Joint Nature Conservation Committee.
- National Soil Resources Institute, 2005. *Soilscape (England)*, Cranfield: National Soil Resources Institute.
- Natural England, 2007. *Badgers and Development*, Peterborough: Natural England.
- Natural England, 2011. *The Reptile Mitigation Guidelines*. Peterborough: Natural England.
- Natural England, 2022. *Badgers: advice for making planning decisions*. [Online]
Available at: <https://www.gov.uk/guidance/badgers-advice-for-making-planning-decisions>
[Accessed 3 October 2024].
- Natural England, 2022. *Great crested newts: advice for making planning decisions*. [Online]
Available at: <https://www.gov.uk/guidance/great-crested-newts-advice-for-making-planning-decisions>
[Accessed 11 October 2024].
- Natural England, 2022. *Otters: advice for making planning decisions*. [Online]
Available at: <https://www.gov.uk/guidance/otters-advice-for-making-planning-decisions>
[Accessed 11 March 2024].
- Natural England, 2023. *The Statutory Biodiversity Metric Calculation Tool*. [Online]
Available at: <http://publications.naturalengland.org.uk/publication/6049804846366720>
[Accessed 07 August 2024].
- Oldham, R. S., Keeble, J., Swan, M. J. S. & Jeffcote, M., 2000. Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal*, Volume 10(4), pp. 143-155.
- Ordnance Survey, 2024. *Site Check Report Centroid Grid Ref: SD79810810*. [Online]
Available at: <http://magic.defra.gov.uk/magicmap.aspx>
[Accessed 15 October 2024].
- Rachel Hacking Ecology, 2022. *Extended Phase 1 Habitat Survey. Land off York Street, Radcliffe, Bury*, Stockport: Rachel Hacking Ecology.
- Rachel Hacking Ecology, 2022. *Otter Survey. Land off Yorks Street, Radcliffe, Bury*, Stockport: Rachel Hacking Ecology.
- Ratcliffe, D. A., 1977. *A Nature Conservation Review*. Cambridge: Cambridge University Press.
- RJP Surveying Consultants Ltd, 2024. *Proposed Development at Dumers Lane, Radcliffe. Topographical Survey. WH062/T00*, Upholland: RJP Surveying Consultants Ltd.
- Rodwell, J. S., 1991. *British Plant Communities: Volume 1, Woodlands and Scrub*. Cambridge: Cambridge University Press.
- Rodwell, J. S., 1992. *British Plant Communities: Volume 3, Grasslands and Montane Communities*. Cambridge: Cambridge University Press.
- Roper, T., 2010. *Badger (Collins New Naturalist Library, Book 114)*. Glasgow: Harper Collins.
- RSPB, 2024. *House Sparrow*. [Online]
Available at: <https://www.rspb.org.uk/birds-and-wildlife/house-sparrow>
[Accessed 02 November 2024].
- Stace, C. A., 2010. *New Flora of the British Isles 3rd Edition*. Cambridge: Cambridge University Press.
- Stanbury, A. et al., 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, Issue 108, pp. 723-747.

Stone, E. L., 2014. *Bats and Lighting: Overview of current evidence and mitigation guidance*. Bristol: University of Bristol.

UKHab Ltd, 2023. *The UK Habitat Classification Version 2.0* (at <https://www.ukhab.org>), Stockport: UKHab Ltd.

Woodland Trust, 2024. *Ancient Tree Inventory*. [Online]

Available at: <https://ati.woodlandtrust.org.uk/>

[Accessed 02 November 2024].

8.0 APPENDIX 1: TABLES

8.1 Photographs

Table 8.1: Photographs



Photo 1: Hardstanding yard (near Dumers Lane) devoid of vegetation



Photo 2: Hardstanding yard (coach depot) devoid of vegetation

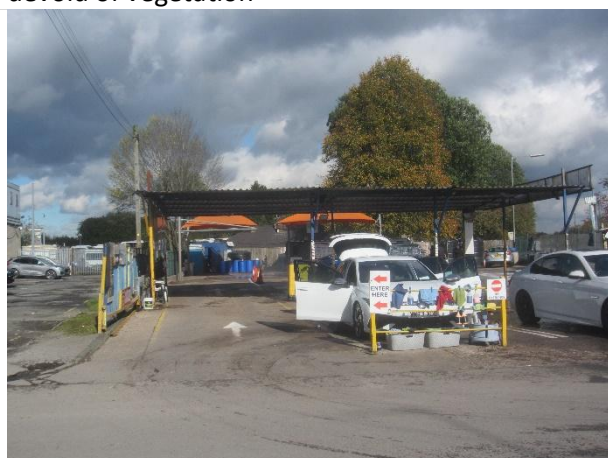


Photo 3: Hardstanding yard (at hand car wash facility) devoid of vegetation



Photo 4: Hardstanding yard at merchant at the site which is devoid of vegetation



Photo 5: Mixed Scrub 4



Photo 6: Mixed Scrub 6



Photo 7: Mixed Scrub 7



Photo 8: Mixed Scrub 3 that has colonised the mound of brick and concrete rubble

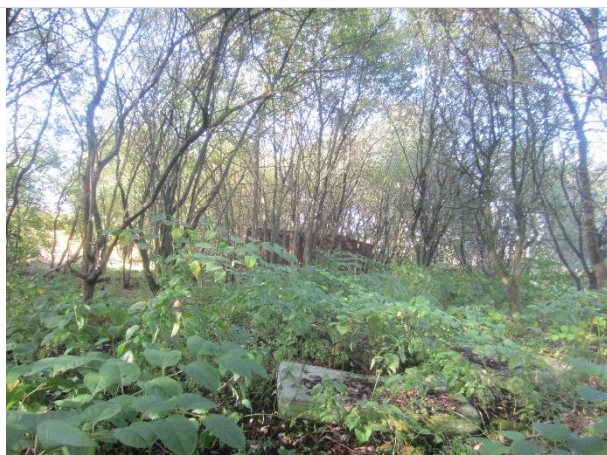


Photo 9: Mixed Scrub 3 that has colonised the mound of brick and concrete rubble



Photo 10: Mixed Scrub 3 that has colonised the mound of brick and concrete rubble



Photo 11: Neutral grassland



Photo 12: Neutral grassland



Photo 13: Dense stands of Japanese Knotweed

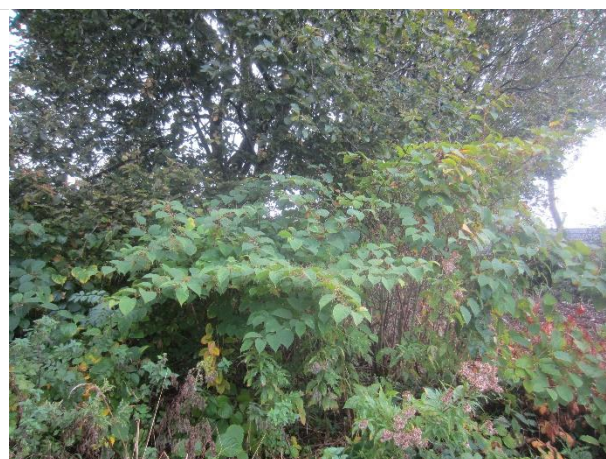


Photo 14: Dense stands of Japanese Knotweed



Photo 15: Variegated Yellow-archangel



Photo 16: Virginia Creeper



Photo 17: Southern elevation of building B1



Photo 18: Western elevation of building B1



Photo 19: Northern and eastern elevations of building B1



Photo 20: Example of brick elevation walls and fascia at building B1

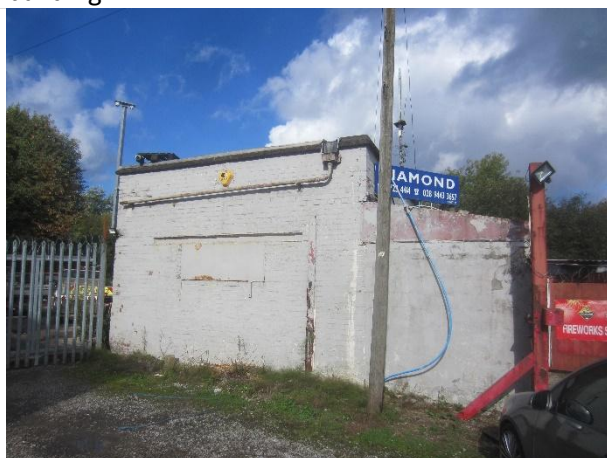


Photo 21: Building B2



Photo 22: Static caravan



Photo 23: Metal container in coach depot



Photo 24: Metal containers near building B2



Photo 25: Metal framed canopies associated with the hand car wash facility



Photo 26: Wetland in the location of Pond 1 (off-site)



Photo 27: Pond 2 (Swan Lodge) located off-site



Photo 28: Reed Sweet-grass at section of Bealey's Goit nearest the site (off-site)

8.2 Plant Species Lists

Table 8.2: Plant Species List for Mixed Scrub 1, 2, 4, 6 and 7 at Site Margins

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer pseudoplatanus</i>	Sycamore	O	5%
<i>Betula pendula</i>	Silver Birch	O	5%
<i>Fraxinus excelsior</i>	Ash	O	1%
<i>Ilex aquifolium</i>	Holly	O	<1%
<i>Ligustrum ovalifolium</i>	Garden Privet	R	<1%
<i>Prunus laurocerasus</i>	Cherry Laurel	LA	1%
<i>Prunus</i> sp.	Cherry species	LF	2%
<i>Quercus</i> sp.	Oak species	O	<1%
<i>Rhus</i> sp.	Sumac	R	<1%
<i>Rosa canina</i>	Dog-rose	VLF	<1%
<i>Salix caprea</i>	Goat Willow	F/LA*	50%
<i>Salix cinerea</i>	Grey Willow	LF	1%
Herb Species			
<i>Calystegia sepium</i>	Hedge Bindweed	LA	1%
<i>Dryopteris filix-mas</i>	Male-fern	O	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	VLA	2%
<i>Fallopia japonica</i>	Japanese Knotweed	A/LD*	25%
<i>Galium aparine</i>	Cleavers	VLA	2%
<i>Geum urbanum</i>	Wood Avens	O	<1%
<i>Hedera helix</i>	Ivy	LA	2%
<i>Heracleum sphondylium</i>	Common Hogweed	VLF	<1%
<i>Impatiens glandulifera</i>	Indian Balsam	LVA	5%
<i>Rubus fruticosus</i> agg.	Bramble	A*	20%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Urtica dioica</i>	Common Nettle	F*	10%
¹ Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species			

Table 8.3: Plant Species List for Willow Scrub (Mixed Scrub 3) Through the Centre of the Site

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Crataegus monogyna</i>	Hawthorn	LF	1%
<i>Fraxinus excelsior</i>	Ash (sapling)	R	<1%
<i>Ilex aquifolium</i>	Holly (sapling)	R	<1%
<i>Ligustrum ovalifolium</i>	Garden Privet	R	<1%
<i>Populus</i> sp.	White Poplar	R	1%
<i>Prunus laurocerasus</i>	Cherry Laurel	R	<1%
<i>Salix caprea</i>	Goat Willow	D/A*	95%
<i>Sambucus nigra</i>	Elder (sapling)	R	<1%
Herb Species			
<i>Artemisia vulgaris</i>	Common Mugwort	R	<1%
<i>Asplenium scolopendrium</i>	Hart's-tongue Fern	O	<1%
<i>Athyrium filix-femina</i>	Lady Fern	VLF	<1%
<i>Carex pendula</i>	Pendulous Sedge	VLA	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	R	<1%
<i>Crocsmia crocosmiiflora</i>	Montbretia	VLF	<1%
<i>Dryopteris filix-mas</i>	Male-fern	F*	1%
<i>Epilobium hirsutum</i>	Great Willowherb	VLA	1%
<i>Erigeron canadensis</i>	Canadian Fleabane	R	<1%
<i>Eupatorium cannabinum</i>	Hemp Agrimony	VLF	<1%
<i>Fallopia japonica</i>	Japanese Knotweed	LA	5%
<i>Fragaria</i> sp.	Strawberry species	VLF	<1%
<i>Galium aparine</i>	Cleavers	VLA	<1%
<i>Geranium robertianum</i>	Herb-Robert	O	<1%
<i>Geum urbanum</i>	Wood Avens	O/VLF	<1%
<i>Heracleum sphondylium</i>	Common Hogweed	VLF	<1%
<i>Hypericum androsaemum</i>	Tutsan	R	<1%
<i>Impatiens glandulifera</i>	Indian Balsam	LVA	5%
<i>Ranunculus repens</i>	Creeping Buttercup	VLF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LF	2%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Senecio jacobaea</i>	Common Ragwort	R	<1%
<i>Stachys sylvatica</i>	Hedge Woundwort	VLF	<1%
<i>Tussilago farfara</i>	Colt's-foot	VLF	<1%
<i>Urtica dioica</i>	Common Nettle	F*	10%
<i>Verbascum</i> sp.	Mullein species	VLF	<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 Neutral Grassland

Scientific Name	Common Name	DAFOR ¹	Cover
<i>Agrostis capillaris</i>	Common Bent	F	5%
<i>Anthriscus sylvestris</i>	Cow Parsley	F	2%
<i>Arrhenatherum elatius</i>	False Oat-grass	A*	20%
<i>Cardamine flexuosa</i>	Wavy Bittercress	VLF	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	VLA	1%
<i>Cirsium arvense</i>	Creeping Thistle	O	1%
<i>Cirsium vulgare</i>	Spear Thistle	O	<1%
<i>Dactylis glomerata</i>	Cock's-foot	A*	10%
<i>Digitalis purpurea</i>	Foxglove	R	1%
<i>Dipsacus fullonum</i>	Teasel	O	<1%
<i>Equisetum arvense</i>	Field Horsetail	LA	1%
<i>Eupatorium cannabinum</i>	Hemp Agrimony	VLF	<1%
<i>Festuca rubra</i>	Red Fescue	F	5%
<i>Geranium lucidum</i>	Shining Crane's-bill	R	<1%
<i>Geum urbanum</i>	Wood Avens	VLF	<1%
<i>Heracleum sphondylium</i>	Common Hogweed	O	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	F/LA	15%
<i>Juncus effusus</i>	Soft-rush	VLF	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	LA/LD	2%
<i>Plantago lanceolata</i>	Ribwort Plantain	R	<1%
<i>Poa trivialis</i>	Rough Meadow-grass	F/LA	15%
<i>Potentilla anserina</i>	Silverweed	VLF	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	F/LA	10%
<i>Rubus fruticosus</i> agg.	Bramble	LA	5%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Sagina procumbens</i>	Procumbent Pearlwort	VLF	<1%
<i>Senecio vulgare</i>	Groundsel	R	<1%
<i>Sisymbrium officinale</i>	Hedge Mustard	R	<1%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	R	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	<1%
<i>Trifolium repens</i>	White Clover	VLF	1%
<i>Urtica dioica</i>	Common Nettle	VLF	<1%

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

9.0 APPENDIX 2: FIGURES

Figure 1: Aerial Image to Show Site and Surrounds including Sites of Biological Importance (SBI) and Ponds

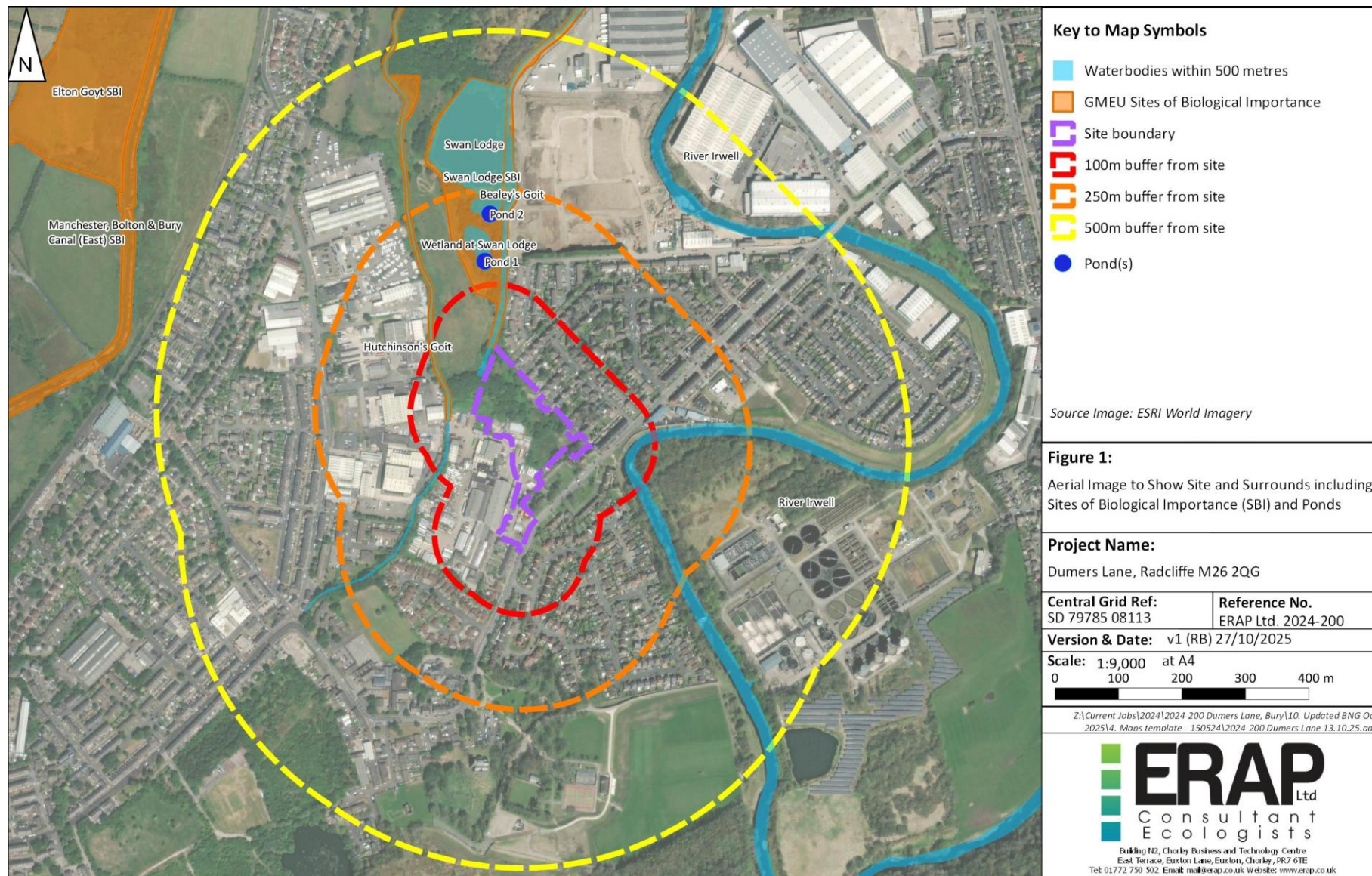


Figure 2: Phase 1 Habitat Survey Map

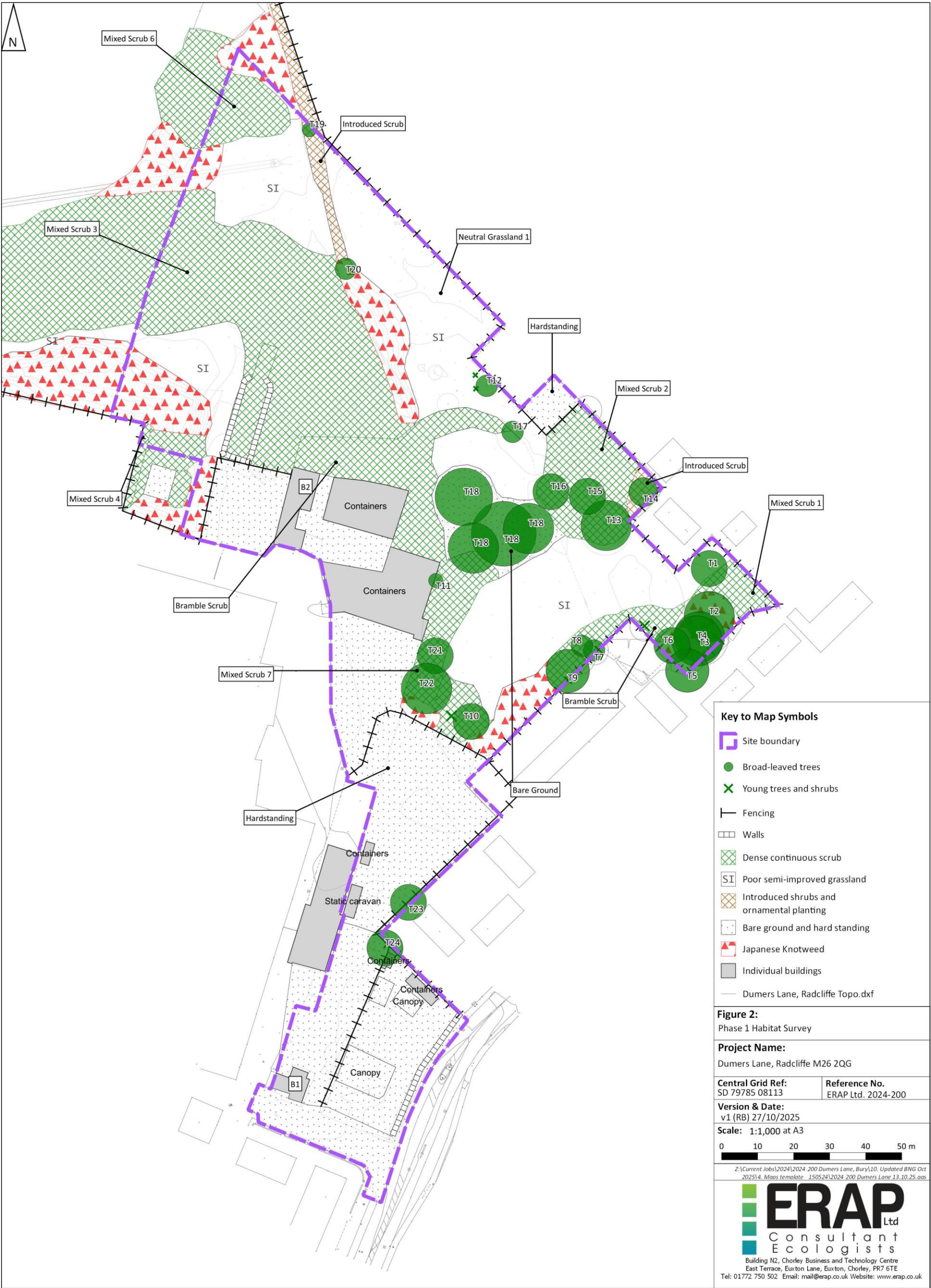


Figure 3: UKHab Map: Baseline Habitats

