

Gateway House, Pilsworth Road, Bury BL9 8RD

ECOLOGICAL SURVEY AND ASSESSMENT

November 2023

ERAP (Consultant Ecologists) Ltd Reference: 2023-026

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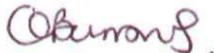
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Document Control

Survey Type:	Surveyors ¹	Survey Date(s)
Habitat Suitability Index (HSI) assessment	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	1 st June 2023
Phase 1 Habitat Survey	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	18 th September 2023
Daylight licensed bat survey	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	18 th September 2023
Reporting	Personnel	Date
Author	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	17 th November 2023
Signature(s)		
Checked	Rachel Brown B.Sc. (Hons)	20 th November 2023
Revised and issued	Victoria Burrows	20 th November 2023
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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. ERAP (Consultant Ecologists) Ltd was commissioned to carry out an ecological survey and assessment of land at Gateway House, Pilsworth Industrial Estate, Bury BL9 8RD. The assessment was requested to inform a planning application proposing the extension of the existing building and car park area.
- ii. This report presents the results of a desktop study and data search, an extended Phase 1 Habitat Survey and a licensed bat and bird survey and assessment carried out in June and September 2023. The surveys were carried out by an appropriately licensed, qualified and experienced ecologist and in accordance with standard 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.

Results of Survey and Assessment

- iii. The approximately 0.71 hectare site is located at the south-eastern margin of Pilsworth Industrial Estate on the western side of the M66 motorway. The site comprises the Gateway House building, hard-standing, neutral grassland, marshy grassland, mixed scrub, scrub with scattered trees and Bramble scrub.
- iv. The site has no statutory or non-statutory designation for nature conservation. The site lies within 35 metres of Hollins Vale Site of Biological Importance (SBI), a non-statutory designation for nature conservation. In the presence of appropriate protective measures to be implemented during site clearance and construction (to be outlined in a Construction Environment Management Plan), the avoidance of the risk of surface water direction to the SBI and implementation of reasonable avoidance measures for the protection of amphibians and other fauna, adverse effects on nearby designated sites for nature conservation and their features of interest can be reasonably scoped out.
- v. No Priority Habitat, semi-natural habitat or irreplaceable habitat is present in or immediately adjacent to the site. The areas of scrub with scattered trees are of 'local' importance as they support habitats of value to nesting birds and foraging birds and bats, and will contribute as wildlife links across the wider area. A reduction in the area of scrub habitat is an impact of the proposals and compensatory planting of native scrub with scattered trees is accommodated by the proposals.
- vi. The site contains and lies adjacent to neutral grassland of 'site' value owing to its plant species composition and likely value for use by feeding and breeding butterflies. Protection (and a mechanism for secured enhancement) of the adjacent areas of grassland is achieved by the proposals.
- vii. Indian Balsam, an invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) is abundant and Rhododendron shrubs are present within the scrub habitats. The proposals provide an opportunity to secure the local control / eradication of these invasive plant species.
- viii. The Gateway House building to be extended and the metal cabin to be removed are assessed to be of 'negligible' suitability for use by roosting bats and nesting birds. All trees likely to be affected by the works are assessed to be of 'negligible' suitability for use by roosting bats.
- ix. The suitability of the habitats in the site and in the wider area for use by foraging bats is recognised. Protection and avoidance of adverse effects (such as inappropriate use of lighting) is essential and guidance is provided in **Section 5.2**.
- x. The scattered trees and scrub vegetation to be removed to facilitate the development is suitable for use by nesting birds, including Priority Species such as dunnock and song thrush. Further guidance to ensure compliance with relevant wildlife legislation and best practice and habitat creation measures to compensate for the loss of nesting opportunities are outlined in **Sections 5.2** and **5.3**.
- xi. Although there are no ponds on site, the terrestrial habitats within the site may be used by sheltering common toad (Priority Species) that breed in the fishing lodges / ponds in the off-site land to the

south. The implementation of reasonable avoidance measures for the protection of amphibians are recommended and described in **Section 5.3**.

- xii. 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 namely badger, barn owl, great crested newt and reptile species. No further surveys for other protected species are required to inform a planning application.

Recommendations and Conclusion

- xiii. Ecological guidance has been provided to the design team, this approach has ensured that the mitigation hierarchy has been applied and the development proposals have, as much as possible, been informed by the ecological survey and assessment to achieve a sympathetic scheme which conserves habitat connectivity and seeks to mitigate / compensate for adverse effects.
- xiv. The recommendations in **Section 5.0** identify the mandatory measures and ecological protection, landscape planting, habitat creation and the application of positive habitat management in the long-term to achieve measurable gains for biodiversity and compliance with the National Planning Policy Framework (NPPF), local planning policy and best practice.
- xv. This ecological survey and assessment has demonstrated that the extension proposals at Gateway House are feasible and acceptable in accordance with ecological considerations and the NPPF. In the presence of mandatory actions and best practice measures described in **Section 5.0**, significant adverse effects on designated sites for nature conservation, Priority Habitat and protected species can be reasonably discounted.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Kersia Group to carry out an ecological assessment of land at Gateway House, Pilsworth Road, Bury BL9 8RD (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 8196 0860. 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 a “*Single storey extension of existing industrial unit (Class B2/B8) including recladding of the existing building roof; Externally will include storage tanks, extension to existing site access points, new service yard, additional cycle and car parking with electrical vehicle charging spaces with associated infrastructure and new external seating area*”.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in September 2023 comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment of the habitats present using the UK Habitats Classification, the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
 - Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife including badger (*Meles meles*), barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), bird species and reptiles;
 - A licensed daylight bat survey and assessment of the building and trees;
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance;
 - The identification of any further surveys or precautionary actions that may be required to inform the progression of the site through the planning process and / or prior to the commencement of construction activities; and
 - Collation of appropriate information including habitat condition assessments to inform a separate *Preliminary Assessment Biodiversity Net Gain* in accordance with the *Defra Biodiversity Metric Calculation Tool* (version 4.0).

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

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

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development. In this instance (for example) as there are no water courses within or adjacent to the site the need for the survey of water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) and other riparian fauna has been reasonably scoped out.

- b. Greater Manchester Local Records Centre (GMLRC); and
- c. Greater Manchester Biodiversity Action Plan (GMBAP).

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Victoria Burrows on 18th September 2023. The weather was overcast with a light air (Beaufort scale 1) and an air temperature of 16°C.
- 2.2.2 A habitat and vegetation map was prepared for the site and the immediate surrounding area (refer to **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.
- 2.2.3 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.
- 2.2.4 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.
- 2.2.5 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales 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.
- 2.2.6 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).
- 2.2.7 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figure 2**) and extended to accessible land within a radius of 50 metres from the site boundary.
- 2.3.2 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).
- 2.3.3 The following signs of badger activity were searched for:
 - a. Set entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - b. Large spoil heaps outside sett entrances;
 - c. Bedding outside sett entrances;

- d. Badger footprints;
- e. Badger paths;
- f. Latrines;
- g. Badger hairs on fences or bushes;
- h. Scratching posts; and
- i. Signs of digging for food.

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

Bat Species

Surveyor and Survey Date

2.3.5 The daylight licensed bat survey and assessment was carried out by Victoria Burrows, Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-10390-CLS-CLS, on 18th September 2023. Victoria's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).

Survey Guidelines

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

Habitat Assessment for Commuting / Foraging Bats

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

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

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

Daylight Survey: Buildings and Structures

- 2.3.8 Inspections and an assessment of the external walls, roofs and other features at the Gateway House (to be extended) were carried out to find potential bat roosting habitat or accesses into crevices 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 carried out and an endoscope was used to inspect the accessible features (either from ground level or from ladders), as needed.
- 2.3.9 The suitability of the building for use by roosting bats has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016), taking into account any presence of gaps suitable for access by bats, features suitable for use by roosting bats within the structure and the suitability of the surrounding habitats for use by foraging and commuting bats.

Daylight Survey: Trees and Shrubs

- 2.3.10 Trees and shrubs within the site and on the site boundaries were assessed from ground level for their suitability for use by roosting bats. Each tree was searched for the presence of the following features:
- Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.*
- 2.3.11 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).
- 2.3.12 The requirement for further presence / absence surveys at each tree was then considered.

Equipment

- 2.3.13 A list of equipment used is provided below.

Table 2.2: Survey Equipment Used / Available for Use During Daylight Bat Survey

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

Bird Species

- 2.3.14 Bird species observed and heard during the survey were recorded.
- 2.3.15 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.
- 2.3.16 Gateway House was assessed to its suitability for use by barn owl (and other nesting birds). The survey was carried out in accordance with guidance provided in *The Barn Owl Conservation Handbook* (Barn Owl Trust, 2012) and *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Developing Best Practice in Survey and Reporting* (Shawyer, 2011).

Great Crested Newt and Other Amphibian Species

Desktop Search for Ponds

- 2.3.17 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. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.
- 2.3.18 The search of habitats in the wider area up to a distance of 500 metres from the building extension footprint revealed the presence of seven ponds, as detailed in **Table 2.3**.

Table 2.3: Ponds within 500 metres of the Site

Pond Reference	OS Grid Reference	Distance from Site Boundary	Location (refer to Figure 1)
1	SD 8189 0852	41 metres	Long linear angling pond to the south (on the opposite side of Aviation Road)
2	SD 8146 0844	457 metres	Rectangular lodge to the south-west and on the opposite side of Hollins Brook
3	SD 8218 0851	168 metres	Lagoon to the east and on the opposite site of the M66 motorway
4	SD 8219 0861	158 metres	Lagoon to the east and on the opposite site of the M66 motorway
5	SD 8220 0870	170 metres	Lagoon to the east and on the opposite site of the M66 motorway
6	SD 8223 0879	225 metres	Lagoon to the north-east and on the opposite site of the M66 motorway
7	SD 8236 0890	405 metres	Lagoon to the north-east and on the opposite site of the M66 motorway

Consideration of Requirement for Further Survey

- 2.3.19 The requirement for further survey at each pond was then assessed using the following criteria:
- The result of the Habitat Suitability Index (HSI) assessment at the relevant pond (see below);
 - Presence of dispersal barriers to great crested newt movements between ponds and the site, as detected during the walkover survey (see below);
 - Distance of ponds from the site, and the potential influence of the proposed development of the site on any populations of great crested newt (if present at ponds); and
 - Presence of other ponds which may form metapopulations and / or alter the influence of the site on ponds at greater distances.

Presence of Dispersal Barriers

- 2.3.20 Pond 2 is located over 450 metres from the site and on the opposite side of Hollins Brook and existing built development. These parameters, held in combination, are assessed to be significant dispersal barriers to the movement of great crested newt and other amphibians to the site.
- 2.3.21 Ponds 3 to 7 are located on the opposite side of an elevated section of the M66 motorway which is bordered by concrete and brick retaining walls and structures. These factors are assessed to be limiting factors in the likelihood of great crested newt (if present) dispersal to the site.
- 2.3.22 It is considered that Ponds 2 to 7 can be scoped out of the zone of potential influence for the building extension proposals.

Habitat Suitability Index Assessment

- 2.3.23 There are no significant dispersal barriers between Pond 1 and the site. Pond 1 was assessed using the Habitat Suitability Index (HSI) (Oldham, et al., 2000) by Victoria Burrows on 1st June 2023. 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).
- 2.3.24 The assessment followed guidance in relation to interpreting HSI scores, following the categorical scale shown at **Table 2.4**.

Table 2.4: 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

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

Reptile Species

- 2.3.27 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 2.5**.

Table 2.5: Important Habitat Characteristics for Reptiles

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

Other Wildlife

- 2.3.28 Evidence of other wildlife (including Priority Species) observed whilst on site (but for which specific surveys were not made) was recorded and has been included in this report where it is considered of relevance to the planning application. Habitats have been assessed for their suitability for Priority Species identified in the data search results where this is considered relevant to the application.

2.4 Survey and Reporting Limitations

- 2.4.1 No significant survey limitations were experienced.
- 2.4.2 All measurements within this report are approximate only, and have been estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC Maps and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.
- 2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2021) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and / or species listed by the Greater Manchester Biodiversity Action Plans has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site and adjacent land have no non-statutory designation for nature conservation.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the Rochdale Canal. Special Area of Conservation (SAC) and SSSI. The Rochdale Canal is located 6.4 kilometres to the east of the site and is designated for the presence of Floating Water-plantain (*Luronium natans*) (a European protected plant species) and for its diversity of pondweed species.
- 3.1.3 The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2023):
- Airports, helipads and other aviation proposals;
 - Livestock and poultry units with floorspace greater than 500m², slurry lagoons and digestate stores greater than 4000m²; and
 - General combustion processes greater than 50MW energy input. Including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works, other incineration / combustion.

- 3.1.4 It is considered that the proposals do not meet any of the listed development categories that would trigger the requirement to consult with Natural England in relation to likely effects of the proposals on statutory designated sites.

Non-statutory Designated Sites for Nature Conservation

- 3.1.5 The site has no non-statutory designation for nature conservation (termed Sites of Biological Importance (SBI) in Greater Manchester).
- 3.1.6 Three SBIs are located within a 1 kilometre radius from the centre of the site, and are summarised at **Table 3.1** below and annotated on **Figure 1**.

Table 3.1: SBI Within a 1 Kilometre Radius from the Centre of the Site

SBI Name	Distance and Direction from the Site	Reasons for Designation
Hollins Vale	35 metres to the south	Hollins Vale is described as “a mosaic of habitats including mill ponds with diverse aquatic and emergent aquatic flora, species-rich marsh and flush communities, acid and neutral grasslands and scrub in the valley of the Hollins Brook. Parts of the site are included in Natural England’s Grassland Inventory. The site supports a number of UK and Greater Manchester Biodiversity Action Plan Habitats”. Floating and submerged aquatic plants in the main lodge known as the Cut include Broad-leaved Pondweed (<i>Potamogeton natans</i>), Rigid Hornwort (<i>Ceratophyllum demersum</i>), Ivy-leaved Duckweed (<i>Lemna trisulca</i>) and Common Duckweed (<i>Lemna minor</i>). Marsh and flush communities are reported with a diversity of plant species including <i>Sphagnum</i> moss and Devil’s-bit Scabious (<i>Succisa pratensis</i>). Acid grassland communities are present on sloping ground with small areas of Heather (<i>Calluna vulgaris</i>). Scrub is also present. The bird life is reported to comprise breeding waterfowl at the lodges and species associated with scrub such as bullfinch. Amphibian species namely breeding common frog, smooth newt and common toad are reported, along with dragonfly and damselfly specie and water snails. The lodges are used by an angling club. The site is also a Local Nature Reserve and is managed by Hollins Conservation Group. Full SBI description is available but not presented here / in the public domain as it is marked private and confidential.
Hollins Plantation	363 metres to the south	Area of woodland to the west of the M66 motorway. Woodland lies within the Hollins Vale local nature reserve and has connectivity with Hollins Vale SBI.
Pilsworth	493 metres to the south-east	Series of linked ponds operated as a fishery.

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

Priority Habitats Inventory and Soilscape Information

- 3.1.8 The Priority Habitats Inventory² was checked via MAGiC Maps. No Priority Habitats are identified at the site by the inventory. Land within Hollins Vale SBI to the south of the site (on the opposite side of Aviation Road) is identified as Lowland Fen Priority Habitat on the Inventory; this is discussed further in **Section 4.2**.

² A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

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

Protected and Notable Species

- 3.1.10 GMLRC hold no records of protected and notable species for the site.
- 3.1.11 Records of protected and notable species for a 1 kilometre radius from the centre of the site are summarised at **Table 3.2** below.

Table 3.2: Records of Protected Species Within a 1 Kilometre Radius from the Centre of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Great crested newt (<i>Triturus cristatus</i>): EPS, WCAs5, PS and GMBAP. 2 records, dated 2004 and 2005. The closest record is 915 metres to the south-east of the site, and from 2004.
Birds – WCAs1 Species	Barn owl (<i>Tyto alba</i>): WCAs1. 1 record from 2009, located 860 metres to the north of the site.
Birds – PS & GMBAP	PS Only: Bullfinch (<i>Pyrrhula pyrrhula</i>), dunnock (<i>Prunella modularis</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>), skylark (<i>Alauda arvensis</i>), song thrush (<i>Turdus philomelos</i>) and starling (<i>Sturnus vulgaris</i>)
Terrestrial Mammals	Badger (<i>Meles meles</i>): PBA. 1 record from 2021, located to the south of the site. Water vole (<i>Arvicola amphibius</i>): WCAs5 and PS. 2 records, both from 2009. The closest record is 95 metres to the south of the site. Hedgehog (<i>Erinaceus europaeus</i>): PS. 2 records, dated 2020 and 2021. The closest record is 205 metres to the south-east of the site, and from 2021. Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, WCAs5, PS and GMBAP. 10 records, dated between 2005 and 2012. The closest record is 350 metres to the north-west of the site, and from 2006. Bat species (<i>Chiroptera</i> sp.): EPS, WCAs5 and GMBAP. 2 records, dated 2012 and 2013. The closest record is 450 metres to the south of the site, and from 2013. Brown long-eared bat (<i>Plecotus auritus</i>): EPS, WCAs5, PS and GMBAP. 1 record from 2017, located 470 metres to the north of the site. Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5 and GMBAP. 66 records, dated between 2002 and 2020. The closest record is 105 metres to the west of the site, and from 2008. Myotis species (<i>Myotis</i> sp.): EPS, WCAs5 and GMBAP. 2 records, both from 2015. The closest record is 890 metres to the north-west of the site. Pipistrelle species (<i>Pipistrellus</i> sp.): EPS, WCAs5 and GMBAP. 19 records, dated between 1987 and 2020. The closest record is 455 metres to the south of the site, and from 1993. Daubenton's bat (<i>Myotis daubentonii</i>): EPS, WCAs5 and GMBAP. 14 records, dated between 2006 and 2015. The closest record is 205 metres to the west of the site, and from 2006. Noctule bat (<i>Nyctalus noctula</i>): EPS, WCAs5, PS and GMBAP. 7 records, dated between 1998 and 2013. The closest record is 105 metres to the west of the site, and from 2006.
¹ Key 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). PS = Priority Species listed under Section 41 of the NERC Act 2006. GMBAP = Species listed on the Greater Manchester Biodiversity Action Plan	

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

3.2 Vegetation and Habitats

General Description

- 3.2.1 Gateway House is located at the south-eastern margin of Pilsworth Industrial Estate on the western side of the M66 motorway. The approximately 0.71 hectare footprint of the proposed building extension is characterised by a mosaic of hard-standing, neutral grassland, marshy grassland, Bramble scrub and mixed scrub with scattered trees.
- 3.2.2 The Phase 1 habitats within the site boundary are listed in order of area covered in **Table 3.3**:

Table 3.3: List of Phase 1 Habitats at the Site

Phase 1 Habitat Code	Phase 1 Habitat Description	Area (ha)
J3.2	Building	0.79
A2.1	Dense continuous scrub	0.45
B2.2	Neutral grassland, semi-improved	0.14
B5.2	Marshy grassland	0.06
J4	Hard-standing (bare ground)	0.06
A2.1	Bramble scrub	0.03

- 3.2.3 The northern site boundary meets the southern elevation of Gateway House (to be extended). The western site boundary meets a concrete post and chainlink fence, beyond which lies a hard-standing yard associated with an off-site company. East of the site boundary is a hard-standing car park with verges of neutral grassland and mixed scrub. Land to the south, beyond the site boundary of a concrete post and chainlink fence comprises a mosaic of neutral and acid grassland with scattered trees and shrubs which extends down a steep slope to meet Aviation Road.
- 3.2.4 A Phase 1 Habitat Survey map is appended at **Figure 2**. Photographs are appended at **Table 8.1**.

Building and Hard-standing

- 3.2.5 Refer to **Photos 1** and **2**. The building (Gateway House) is described in terms of its suitability for use by roosting bats in **Section 3.3**. The building is described by the UKHab as u15b buildings.
- 3.2.6 The hard-standing such as the row of paving slabs and areas of asphalt around Gateway House are devoid of vegetation and are described by the UKHab as u1b developed land; sealed surface.

Neutral Grassland, Semi-improved

- 3.2.7 Refer to **Photos 3** and **4**. Immediately south of the hard-standing bordering Gateway House is a level area of semi-improved neutral grassland that is periodically mown / flailed. The neutral grassland is characterised by constant and abundant Red Fescue (*Festuca rubra*) with locally very abundant Common Brid's-foot-trefoil (*Lotus corniculatus*) and frequent Ribwort Plantain (*Plantago lanceolata*), Meadow Vetchling (*Lathyrus pratensis*), False Oat-grass (*Arrhenatherum elatius*), Common Bent (*Agrostis capillaris*), Rough Meadow-grass (*Poa trivialis*), Smooth Meadow-grass (*Poa pratensis*), Sweet Vernal-grass (*Anthoxanthum odoratum*), Crested Dog's-tail (*Cynosurus cristatus*) and Yorkshire-fog (*Holcus lanatus*). Hairy Sedge (*Carex hirta*) and Tufted Hair-grass (*Deschampsia cespitosa*) are locally abundant with occasional Marsh Thistle (*Cirsium palustre*) in local areas of compacted soil that is poorly drained.
- 3.2.8 The herb flora throughout the grassland is characterised by very locally abundant Creeping Buttercup (*Ranunculus repens*), Ribbed Melilot (*Melilotus officinalis*), Perforate St. John's-wort (*Hypericum perforatum*), Creeping Cinquefoil (*Potentilla reptans*) and Common Sorrel (*Rumex acetosa*). No orchid species were noted in this area, although the conditions and habitat is suitable for Marsh-orchid species. A plant species list is appended at **Table 8.2**.

- 3.2.9 The semi-improved neutral grassland is characteristic of an MG6 *Lolium perenne* – *Cynosurus cristatus* grassland community in transition to an MG1 *Arrhenatherum elatius* grassland community of the NVC. It is considered that infrequent strimming / flailing management and possibly grazing by rabbit and deer is acting to control the cover of self-seeded tree and shrub species and encroachment by Bramble (*Rubus fruticosus* agg.) scrub and cover of more competitive broad-leaved grass species such as False Oat-grass and Cock's-foot (*Dactylis glomerata*). The habitat is described by the UKHab as g3c other neutral grassland with the secondary code 64 mown.

Dense Continuous Scrub: Mixed Self-seeded Scrub on the Level Ground

- 3.2.10 Refer to **Photo 5**. Land south of the semi-improved neutral grassland extending over level ground and then over the very steeply sloping land that leads toward towards Aviation Road is colonised by unmanaged scrub with scattered trees.
- 3.2.11 The northern portion of dense scrub is dominated by self-seeded and even aged Goat Willow (*Salix caprea*) and Grey Willow (*Salix cinerea*) with locally frequent Hawthorn (*Crataegus monogyna*) and Silver Birch (*Betula pendula*). The understorey is bare soil (owing to the dense shading by the Willow shrubs) although Bramble is constant and frequent with Great Willowherb (*Epilobium hirsutum*) and frequent Common Bent. Marsh Thistle is very locally abundant with locally frequent Smooth Meadow-grass and occasional Soft-rush (*Juncus effusus*) and Compact Rush (*Juncus conglomeratus*) and rare Male-fern (*Dryopteris filix-mas*). A stand of four Marsh-orchid (*Dactylorhiza* sp.) spikes were noted (Target Note 1 on **Figure 2**). A plant species list is appended at **Table 8.3**.

Continuous Scrub: Mixed Scrub with Scattered Trees on Sloping Ground at the Southern Margin of the Site

- 3.2.12 Refer to **Photos 6 and 7**. At the southern margin of the site is an area of steeply sloping ground that is colonised by mixed scrub with scattered trees. The shrub layer is characterised by frequent / locally abundant Goat Willow with frequent Hawthorn with rare Elder (*Sambucus nigra*) and Rhododendron (*Rhododendron ponticum*) and Rowan (*Sorbus aucuparia*).
- 3.2.13 Scattered semi-mature and mature trees within the scrub (particularly towards the southern boundary) comprise Goat Willow, Silver Birch (*Betula pendula*), Cherry (*Prunus* sp.), Sycamore (*Acer pseudoplatanus*) and Pedunculate Oak (*Quercus robur*).
- 3.2.14 The herb layer is typically shaded with a high cover of bare earth and locally very abundant Indian Balsam. Other herbs comprise constant locally abundant / frequent Common Nettle (*Urtica dioica*) and constant and abundant Bramble with locally very abundant Creeping Soft-grass (*Holcus mollis*) and Wood Avens (*Geum urbanum*). Fern species comprise occasional / locally abundant Broad Buckler-fern (*Dryopteris dilatata*) and occasional Male-fern and Hart's Tongue-fern (*Asplenium scolopendrium*). Tufted Hair-grass and Hemp Agrimony (*Eupatorium cannabinum*) are rare with occasional Creeping Thistle (*Cirsium arvense*) and Soft Rush. A plant species list is appended at **Table 8.4**.
- 3.2.15 The areas of scrub are not indicative of an NVC community and are described by UKHab as h3h mixed scrub with the secondary codes 48 non-native (due to the high cover of Indian Balsam), 11 scattered trees and 77 neglected (unmanaged for 3 to 10 years).

Dense Continuous Scrub: Bramble Scrub

- 3.2.16 Refer to **Photo 8**. At the transition between the semi-improved neutral grassland and the mixed scrub (particularly at the western end of the site) is an area of dense Bramble scrub. The habitat is characteristic of the W24 *Rubus fruticosus* – *Holcus lanatus* community of the NVC and is described by the UKHab as h3d Bramble scrub with the secondary code 77 neglected (unmanaged for 3 to 10 years).

Marshy Grassland

- 3.2.17 Refer to **Photo 9**. An area of higher ground at the western margin of the site is colonised by marshy grassland comprising neutral grassland with a high cover of rush and sedge species. The marshy grassland is characterised by abundant and constant Hairy Sedge and Soft Rush with abundant Compact Rush, frequent Creeping Thistle and locally abundant Tufted Hair-grass. Bramble is frequently, particularly at the margin with the scrub. Other species comprise frequent Crested Dog's-tail and other species typically associated with damp soil conditions such as frequent / locally very abundant Perforate St. John's-wort and Square-stalked St. John's-wort (*Hypericum tetraspermum*), locally abundant Reed Canary-grass (*Phalaris arundinacea*), very locally abundant Yellow Iris (*Iris pseudacorus*) and rare Common Figwort (*Scrophularia nodosa*).
- 3.2.18 The grassland is not managed as is indicative of a mosaic of the MG10 *Holcus lanatus*-*Juncus effusus* grassland with the S28 *Phalaris arundinacea* community of the NVC. The vegetation is described by the UKHab as g3c7 Deschampsia neutral grassland and the g3c8 *Holcus*-*Juncus* neutral grassland with the secondary code 77 neglected and 16 tall-herb. A plant species list is appended at **Table 8.5**.
- 3.2.19 Further to the east and outside the site boundary the marshy grassland supports a patch of Common Sedge (*Carex nigra*) as annotated at Target Note 2 on **Figure 2**.

Invasive Plant Species

- 3.2.20 No Japanese Knotweed is present at the site.
- 3.2.21 As illustrated on **Figure 2** and **Photos 10** and **11**, stands of Indian Balsam are frequent throughout the scrub area of the site and a Rhododendron shrub was found within the scrub. These 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 Animal Life

Badger

- 3.3.1 The scrub and grassland habitats at the site, particularly the areas of undisturbed steeply sloping land at the southern end of the site are suitable for use by badger. No signs of badger such as setts, snuffle holes, tracks, hairs or burrows were detected at the site and survey area. The inhabitation of the site and survey area badger is reasonably discounted.
- 3.3.2 Badger activity is present in the wider area and best practice guidance in relation to the proposed works is outlined in **Section 5.3**.

Bat Species

Habitat Assessment for Commuting / Foraging Bats

- 3.3.3 The established scrub areas with sheltered and vegetated margins of neutral grassland, marshy grassland and Bramble scrub that are away from the existing artificial lighting are suitable for the attraction of foraging bats typically associated with the local area as reported by the data search (refer to **Table 3.2**) such as pipistrelle (*Pipistrellus* sp.) species and *Myotis* species. The unlit scrub and grassland habitats, with connectivity to other favourable habitats such as those associated with Hollins Vale SBI to the south, are assessed to be of 'high' suitability for use by foraging bats and are likely to provide valuable foraging habitat for use by bats as part of a wider network of habitats in the local area.
- 3.3.4 The remainder of the habitats at the site (namely hard-standing and building) are assessed to be of 'negligible' suitability for the attraction of foraging bats.

Daylight Survey: Building

- 3.3.5 Refer to **Photos 12 to 17**. The building to be extended and modified by recladding is a steel framed warehouse with lower brick wall sections and corrugated sheet covered walls and cladding. The more western areas have a shallow pitch and the eastern area has a flat roof. The building is sealed and no gaps, opportunities for bat access or features suitable for use by roosting bats were found at any elevations of the building. The building is assessed to be of 'negligible' suitability for use by roosting bats.
- 3.3.6 The metal container at the western end of the site (refer to **Photo 18**) is a sealed unit and of 'negligible' suitability for use by roosting bats.

Daylight Survey: Trees and Shrubs

- 3.3.7 None of the trees and shrubs within the site boundary and on the site margins support features with suitability for use by roosting bats; all are assessed to be of 'negligible' suitability for use by roosting bats.

Bird Species

- 3.3.8 Bird species recorded at the site on the survey date comprised wood pigeon (*Columba palumbus*), magpie (*Pica pica*) and blackbird (*Turdus merula*).
- 3.3.9 The building has no features or opportunities suitable for use / access by roosting or nesting birds, including barn owl.
- 3.3.10 It is recognised that the shallow pitched and flat roofs of large buildings such as Gateway House may be used by nesting gull species and any evidence of this would not be present when the survey was carried out in September 2023. Guidance in relation to nesting birds and compliance with wildlife legislation is provided at **Section 5.3**.
- 3.3.11 The areas of scrub are suitable for use by nesting birds including Priority Species such as dunnoek (*Prunella modularis*) and possibly song thrush (*Turdus philomelos*).
- 3.3.12 A nesting mute swan (*Cygnus olor*) was observed at the northern margin of Pond 1 on 1st June 2023; the nest lies within 35 metres of the site; this is discussed further in **Section 4.4**.

Great Crested Newt and other Amphibians

- 3.3.13 A Habitat Suitability Index (HSI) assessment of Pond 1 (the "Cut") which lies 41 metres to the south of the site on the opposite side of Aviation Road is given at **Table 3.4**.

Table 3.4: Habitat Suitability Index Assessment for Pond 1

Criteria	Description	Pond 1	Score ¹
SI ₁	Location	Optimal	1.0
SI ₂	Pond area	>2000m ²	N/A
SI ₃	Permanence	Never dries	0.9
SI ₄	Water quality	Moderate	0.67
SI ₅	Shade	50%	1.0
SI ₆	Waterfowl	Major impact	0.01
SI ₇	Fish	Major impact	0.01
SI ₈	Pond count ²	2	0.5
SI ₉	Terrestrial habitat	Good	1.0
SI ₁₀	Macrophyte cover	50%	0.8
Assessment Result:		Poor	0.31

¹Calculated by (SI₁ x SI₃ x SI₄ x SI₅ x SI₆ x SI₇ x SI₈ x SI₉ x SI₁₀)^{1/9}

²Ponds within an unobstructed 1 kilometre radius

- 3.3.14 The assessment of Pond 1 (refer to **Photos 19 and 20**) is 'poor'. The score for the pond is most affected by the presence of fish and waterfowl.

- 3.3.15 Due to the presence of fish³ at Pond 1 (the “Cut”) it is considered that the pond is not suitable for great crested newt and presence is reasonably discounted. Pond 1 (and other lodges in the wider area) are suitable for use by other species of amphibian, including common toad (a Priority Species) and this is discussed at **Section 4.4** and guidance is provided in **Section 5.3**.

Reptiles

- 3.3.16 The site is not adjacent to or linked to any areas of favourable habitat for reptile species; there are no reported records of reptile species at the site and local area by the data search (refer to **Table 3.2**). The presence of reptiles within the site is reasonably discounted.

Other Wildlife

- 3.3.17 The habitats at the site may be visited by roe deer (*Capreolus capreolus*) that are likely to use the fields and scrub wider area. Based on the habitats at the site, deer are not likely to be reliant on the site as a source of food or shelter.
- 3.3.18 Visiting fox (*Vulpes vulpes*) was noted at the site (no dens were found within the site) and rabbit (*Oryctolagus cuniculus*) burrows were noted in the steeply sloping bank at the southern end of the site.
- 3.3.19 Although fox, deer and rabbit have no statutory protection in accordance with wildlife legislation / planning guidance, best practice measures in accordance with animal welfare are recommended and described in **Section 5.3**.
- 3.3.20 The presence of hedgehog (*Erinaceus europaeus*) (a Priority Species) at the habitats, particularly within the scrub habitats at the site is likely and the guidance and actions described at **Section 5.3** is of relevance.
- 3.3.21 A survey in September during overcast conditions is not optimal for the detection of butterfly species, however a large white (*Pieris brassicae*) butterfly was noted. The grassland habitats, particularly the area of semi-improved grassland to the south of the building supports larvae food plant species suitable for use by a number of widespread butterfly species such as common blue (*Polyommatus incarnus*) and meadow brown (*Maniola jurtina*) and the area of marshy grassland is habitat typically used by breeding butterflies such as green veined white (*Pieris napi*).

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 It is proposed to extend the existing Gateway House building to the south.
- 4.1.2 To accommodate the proposals, which include the construction of building extension of a size that meets the operational needs of the occupier and to achieve the relevant site levels, the need to remove all the grassland, scrub, scattered trees and Bramble scrub within the site boundary is unavoidable. The opportunity for the creation of a buffer and margin suitable for landscape planting / compensatory planting has been achieved by the installation of a retaining wall at the southern margin. The extent of tree removal and tree protection is shown on the *Tree Protection and Retention Plan* (TPM Landscape, 2023).
- 4.1.3 Ecological guidance has been provided to the design team to inform the preparation of the *Landscape Layout* (TPM Landscape, 2023) and the *Planting Plan* (TPM Landscape, 2023). In accordance with the mitigation hierarchy, as removal of vegetation is unavoidable, the landscape proposals aim to maintain habitat connectivity around the margins of the site and to compensate for the loss of scrub habitats by the planting of native scrub with scattered trees. Compensation

³ Fish predate on great crested newt eggs and larvae. The larvae of great crested newt are more vulnerable to predation by fish as they spend a longer period of time after hatching in the centre of the pond before the toxins in their skin develop.

for the loss of the grassland habitats can be secured by the enhancement of off-site grasslands (within the same ownership) and this is outlined in the separate *Assessment of Biodiversity Net Gain*.

- 4.1.4 **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

Statutory Designated Sites for Nature Conservation

- 4.2.1 In consideration of the distance between the site and statutory designated sites for nature conservation, and in the absence of any habitat and hydrological connectivity between the site and any statutory designated sites, it is advised that the proposed extension will have no direct or indirect effect on any statutory designated sites for nature conservation.

Non-statutory Designated Sites for Nature Conservation

- 4.2.2 The proximity of the site to Hollins Vale SBI is recognised. The proposals can be achieved with no direct adverse effects on the habitats / land within the SBI.
- 4.2.3 In the presence of appropriate protective measures to be implemented during site clearance and construction, to be outlined in a Construction Environment Management Plan (CEMP), it is considered that indirect impacts on the SBI during the construction period can be avoided (refer to **Section 5.3**).
- 4.2.4 The SBI lies at a lower level than the site and in consideration of the risk of surface water / sediment / pollutants entering the SBI habitats, the *Drainage Strategy* (Brian Clancy Higby Partnership, 2023) in the long-term has been examined. The Drainage Strategy confirms that surface water collected from the new building roof and areas of hard-standing will enter relevant petrol interceptors and will be directed, via attenuation tanks and hydrobrakes to conserve greenfield QBar rates, to existing surface water drains. No surface water from the site will be directed to Hollins Brook nor to the SBI and its associated fen and open water habitats.
- 4.2.5 In addition the new tanks at the western edge of the extension will be bordered by a bund and the tank area will not be connected to the surface water drainage system which minimises the risk of cumulative impacts in the event of a pollution incident.
- 4.2.6 Based on this Drainage Strategy it is considered that there is negligible risk of an adverse effect on the SBI and its features of interest as a result of surface water drainage both during construction and in the long-term.
- 4.2.7 The implementation of reasonable avoidance measures for the protection of amphibians and other fauna likely to use both the site and SBI, as described in **Section 5.3** are considered to be appropriate and proportionate to the proposals.

4.3 Vegetation and Habitats

- 4.3.1 None of the habitats present are representative of semi-natural habitat or are classed as irreplaceable habitat⁴. The NVC communities present are typical of the geographical area and conditions present.
- 4.3.2 Despite the cover of Goat and Grey Willow species it is considered that the scrub within the site is not characteristic of a Wet Woodland Priority Habitat. The scrub has colonised the disturbed ground and landform created during the modification of the area during the construction of the

⁴ As defined by <https://defra.landuse.blog.gov.uk/2023/10/05/irreplaceable-habitats-and-bng-what-you-need-to-know/>

Pilsworth Industrial Estate. The compacted ground with clayey soils has created suitable conditions for colonisation by Willow species but the scrub is not associated with a floodplain nor does the field layer support species listed as typical of a wet woodland⁵ such as Water Mint (*Mentha aquatica*), Meadowsweet (*Filipendula ulmaria*), Marsh Marigold (*Caltha palustris*) and Greater Tussock-sedge (*Carex paniculata*). (The scrub would be described by the recently published *UK Habitats Classification Version 2.0* (UKHab Ltd, 2023) as h3j Willow scrub). The ecological condition of the scrub habitat has been adversely affected by the significant cover of Indian Balsam, an invasive plant species.

4.3.3 No other habitats at the site are Priority Habitat.

4.3.4 In terms of each habitat's importance in a geographical context⁶, areas of scrub with scattered trees are of 'local' importance as they support habitats of value to nesting birds and foraging birds and bats, and will contribute as wildlife links across the wider area. The areas of marshy grassland and neutral grassland are of 'site' importance as this habitat is extensive over other areas of the site outside the red-line boundary.

4.3.5 The presence of Indian Balsam and Rhododendron, invasive species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), is a consideration. The proposals present an opportunity for the local eradication / control of these species as part of the proposed development. Further guidance is presented at **Section 5.3** of this report.

4.4 Protected Species and Other Wildlife

Bat Species

4.4.1 No evidence of use of the building, metal cabin and trees in the site boundary by roosting bats was detected during the daylight survey and assessment carried out in September 2023. The building, metal cabin and all trees are assessed to be of 'negligible' suitability for use by roosting bats and no further survey is required to comply with the survey guidelines and inform a planning application.

4.4.2 Habitats within and adjacent to the site are suitable for foraging and commuting bats. The removal of these habitats at the site is an impact of the proposals and landscape planting recommendations with the objective of the maintenance of habitat connectivity and re-creation of features suitable for use by foraging and commuting bats have been accommodated by the Landscape Layout and Planting Plan.

4.4.3 Subject to the avoidance lighting and / or implementation of an appropriate lighting strategy as recommended at **Section 5.2**, there is minimal risk of an increase in disturbance to roosting / foraging bats associated with human activity at the site.

Bird Species

4.4.4 Habitats at the site provide opportunities for use by nesting birds, including Priority Species (i.e. dunnoek (*Prunells modularis*)). A reduction in the area of scrub habitat is an impact of the proposals and recommendations and actions to be applied to ensure the protection of nesting birds during the site preparation and construction period and to provide compensatory and enhanced habitats for use by nesting birds, including Priority Species, are described at **Sections 5.2** and **5.3**.

4.4.5 The use of the margins of Pond 1 by nesting mute swan is recognised, due to the topography of the site and the retention of scrub between the site and Aviation Road the risk of disturbance of the

⁵ As detailed in *UK Biodiversity Action Plan; Priority Habitat Descriptions* (Maddock, 2008) and the *UK Habitat Classification – Habitat Definitions V1.1* (Butcher, et al., 2020).

⁶ 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.

swan and nest is the works are commenced / continued through the nesting period are assessed as 'negligible'.

Hedgehog and Common Toad

- 4.4.6 Owing to the likely use of the habitats within the site by hedgehog and common toad (both Priority Species), in the absence of mitigation the proposals may have an adverse effect on hedgehog, toad and their habitats both during the construction period and in the long-term. Best practice measures for the protection of hedgehog and common toad during the construction period are recommended (refer to **Section 5.3**).

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.

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 proposals and aim to ensure that the proposals are implemented in accordance with the mitigation hierarchy, relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2021) local planning policy and best practice.
- 5.1.2 The recommendations aim to ensure compliance with Chapter 15, paragraph 180(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'.

5.2 Site Design and Habitat Creation

Buffer and Landscape Planting

- 5.2.1 As outlined in **Section 4.1** to accommodate the proposals, which include the construction of building extension of a size that meets the operational needs of the occupier, the need to remove all the grassland, scrub, scattered trees and Bramble scrub within the site boundary is unavoidable. By use of a retaining wall the proposals accommodate a buffer for landscape planting / compensatory planting.
- 5.2.2 In accordance with ecological guidance, and as accommodated by the Landscape Layout and Planting Plan, the buffer will be planted with native shrubs of Hawthorn, Hazel, Blackthorn, Elder and Guelder Rose with scattered trees of Silver Birch, Cherry, Rowan and Alder. This habitat will ensure that habitat connectivity is conserved around the site margins. The scrub with scattered trees habitat is complementary to the scrub habitats in the wider area and, once established, will provide opportunities for nesting and feeding passerine birds. A margin of a flowering meadow mix (WF2 supplied by Germinal Amenity) is also specified and can be managed to provide opportunities for breeding invertebrates.
- 5.2.3 Other areas will be planted with areas of introduced shrubs that includes species known to be of value for use by wildlife including feeding birds and invertebrates such as *Skimmia*, *Hebe* and *Cornus*.

- 5.2.4 It is advised that the planting of native scrub, trees and introduced shrubs will contribute to the separate Assessment of Biodiversity Net Gain.

Appropriate Use of Lighting

- 5.2.5 Paragraph 185(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”

- 5.2.6 It is advised that any external lighting to be installed at the site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the retained habitats and areas of planting / habitat creation, as lighting overspill may deter use by wildlife such as foraging bats.
- 5.2.7 The lighting scheme will 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).

Provision of Compensatory Opportunities for use by Nesting Birds

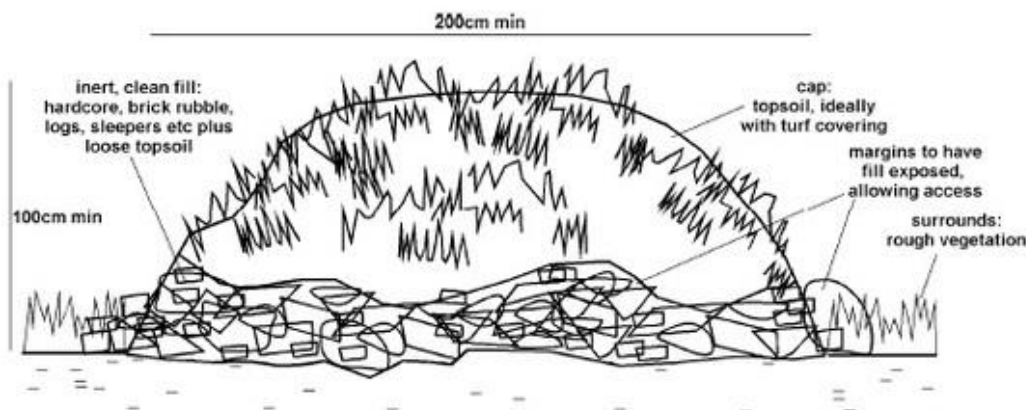
- 5.2.8 To provide compensatory opportunities for use by nesting birds, both while the new scrub habitats establish and in the long-term it is recommended that bird boxes are installed on the retained trees within the wider land ownership.
- 5.2.9 An ecologist can advise on the specification and siting of the woodland bird boxes. The boxes should be at least 4 metres from ground level and 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. Five of each of the boxes presented at **Insert 1** below, is recommended.



Insert 1: Schwegler 1B and Schwegler 2M bird boxes, suitable for a variety of passerine birds.

Creation of Hibernacula

- 5.2.10 The construction of the extension and the retaining wall will exclude access to the re-planted native scrub for use by sheltering amphibians and common toad from the SBI. To provide some compensatory habitats it is advised that three log piles / hibernacula are constructed at the southern margin (base of the retaining wall) as this area will remain accessible to amphibians. The hibernacula should be created to the specification detailed at **Insert 2**.



Insert 2: Example of a GCN hibernaculum
(extracted from the *Great Crested Newt Mitigation Guidelines* (English Nature, 2001))

5.3 Protection of Existing Features During Construction and Construction Environment Management Plan (CEMP) for Biodiversity

Introduction

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

Protection of Existing Vegetation

- 5.3.2 During the construction phase, temporary protective demarcation fencing will be used to protect the trees and habitats beyond the site boundary to be retained. The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

Dust Suppression, Incidents and Accidents

- 5.3.3 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.

Lighting

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

Invasive Plant Species and Biosecurity

- 5.3.5 An Invasive Plant Species Management Plan will be prepared to outline the works to avoid / manage / eradicate the identified invasive plant species (namely *Rhododendron* and *Indian Balsam*).
- 5.3.6 To minimise the risk of introduction of invasive species to the site *and* the spread of invasive species around the site and into the adjacent habitats, all machinery / plant to be brought to the site must be clean. Wheels / tracks of machinery / plant must have been pressure washed before use at the site.

- 5.3.7 No excessive remnant soil or plant material from other sites must be present on the machinery / plant or in the tyre treads as this may increase the risk of spread of non-native and invasive plant species e.g. Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

Badger

- 5.3.8 As badger activity is present in the wider area and as the habitats at the site are suitable for use by badger for the construction of setts, if works have not commenced by Autumn 2024 it is advised that an updated pre-works survey for badger activity is carried out.

Nesting Birds

- 5.3.9 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 and the re-cladding of the Gateway House roof 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.

Protection of Wildlife / Reasonable Avoidance Measures (RAMs) Method Statements

- 5.3.10 During the site preparation works and construction operations it is essential that the following best practice and Reasonable Avoidance Measures (RAMs) Method Statement are applied for the protection of wildlife:
- a. All site personnel must be made aware of this RAMs Method Statement and best practice guidance;
 - b. Cleared woody vegetation must be removed from site or chipped immediately to avoid the accumulation of brash that may be colonised by sheltering hedgehog, amphibians and other fauna;
 - c. During any vegetation clearance works all arising materials must be either removed from the area or placed in a skip to avoid the accumulation of materials that may create suitable habitat and shelter for wildlife;
 - d. Where practical, any pipes must be stored with caps on (to prevent entry by wildlife);
 - e. No fires must be lit at the site;
 - f. Deep trenches / excavations must not be left open overnight. Trenches or holes must be 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;
 - g. During construction, bricks etc must be stored on pallets or raised from the ground in another suitable manner in order that no suitable habitat for sheltering animals is created;
 - h. The use of chemicals (such as fertiliser and herbicides) harmful to wildlife should be avoided wherever possible;
 - i. If a hedgehog, common toad or other wildlife (subject to species) is detected on site, it must be carefully picked up, placed in a clean bucket and moved to an area of suitable habitat beyond the construction site boundary; and
 - j. Any queries in relation to wildlife on site should be directed to the appointed ecologist.

5.4 Landscape and Ecological Management Plan

- 5.4.1 To secure the long-term conservation of the new habitats and any off-site habitats in accordance with conservation targets a *Landscape and Ecological Management Plan* should be prepared and implemented.

6.0 CONCLUSION

- 6.1 This ecological survey and assessment has demonstrated that the extension proposals at Gateway House are feasible and acceptable in accordance with ecological considerations and the NPPF. In the presence of mandatory actions and best practice measures described in **Section 5.0**, significant adverse effects on designated sites for nature conservation, Priority Habitat and protected species can be reasonably discounted.
- 6.2 The recommendations in **Section 5.0** identify the mandatory measures and ecological protection, landscape planting, habitat creation and the application of positive habitat management in the long-term to achieve measurable gains for biodiversity and compliance with the National Planning Policy Framework (NPPF), local planning policy and best practice.

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8.0 APPENDIX 1: TABLES

8.1 Photographs

Table 8.1: Photographs



Photo 1: Southern and eastern elevations of Gateway House and associated hard-standing with semi-improved grassland to the south



Photo 2: Gateway House and hard-standing car park to the east (off-site)



Photo 3: Semi-improved neutral grassland to the south of Gateway House



Photo 4: Semi-improved neutral grassland to the south of Gateway House



Photo 5: Dense self-seeded Willow scrub



Photo 6: Continuous scrub on sloping ground at the southern margin of the site



Photo 7: Continuous scrub on sloping ground at the southern margin of the site



Photo 8: Bramble scrub between neutral grassland and scrub



Photo 9: Marshy grassland



Photo 10: Rhododendron in scrub



Photo 11: Dense areas of Indian Balsam



Photo 12: Southern elevation of Gateway House



Photo 13: Southern elevation of Gateway House



Photo 14: Southern elevation of Gateway House



Photo 15: Southern elevation of Gateway House



Photo 16: Southern elevation of Gateway House showing sealed fabrication



Photo 17: Western elevation of Gateway House



Photo 18: Metal cabin



Photo 19: Pond 1 (and nesting mute swan)



Photo 20: Pond 1

8.2 Plant Species Lists

Table 8.2: Plant Species List for Neutral Grassland, Semi-improved

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Alnus cordata</i>	Italian Alder (sapling)	VLA	1%
<i>Betula pendula</i>	Silver Birch (sapling)	R	<1%
<i>Buddleia davidii</i>	Butterfly-bush	R	<1%
<i>Quercus</i> sp.	Oak (sapling)	O	<1%
<i>Salix alba</i>	White Willow (sapling)	R	<1%
<i>Salix caprea</i>	Goat Willow (sapling)	O	<1%
<i>Salix cinerea</i>	Grey Willow (sapling)	O	<1%
Herb Species			
<i>Agrostis capillaris</i>	Common Bent	F	5%
<i>Agrostis stolonifera</i>	Creeping Bent	VLA	1%
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	F	10%
<i>Arrhenatherum elatius</i>	False Oat-grass	F	5%
<i>Carex hirta</i>	Hairy Sedge	F/LA	5%
<i>Carex leporina</i>	Oval Sedge	VLA	<1%
<i>Cirsium arvense</i>	Creeping Thistle	VLF	1%
<i>Cirsium palustre</i>	Marsh Thistle	O	<1%
<i>Cynosurus cristatus</i>	Crested Dog's-tail	F	10%
<i>Dactylis glomerata</i>	Cock's-foot	LF	1%
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	LA	2%
<i>Epilobium cillatum</i>	American Willowherb	O	<1%
<i>Equisetum arvense</i>	Field Horsetail	R	<1%
<i>Erigeron canadensis</i>	Canadian Fleabane	VLA	<1%
<i>Festuca rubra</i>	Red Fescue	A*	25%
<i>Heracleum sphondylium</i>	Common Hogweed	O	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	F	5%
<i>Hypericum perforatum</i>	Perforate St. John's-wort	VLA	<1%
<i>Impatiens glandulifera</i>	Indian Balsam	VLA	1%
<i>Juncus conglomeratus</i>	Compact Rush	O	<1%
<i>Juncus inflexus</i>	Hard-rush	R	<1%
<i>Lathyrus pratensis</i>	Meadow Vetchling	F	5%
<i>Leontodon autumnalis</i>	Autumn Hawkbit	O	<1%
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	F	5%
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	LVA	5%
<i>Lotus pedunculatus</i>	Greater Bird's-foot-trefoil	VLA	1%
<i>Melilotus officinalis</i>	Ribbed Melilot	VLA	<1%
<i>Pilosella aurantiaca</i>	Orange Hawkweed	VLA	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	F	5%
<i>Plantago major</i>	Greater Plantain	VLF	<1%
<i>Poa pratensis</i>	Smooth Meadow-grass	F	5%
<i>Poa trivialis</i>	Rough Meadow-grass	F	5%
<i>Potentilla reptans</i>	Creeping Cinquefoil	VLA	<1%
<i>Prunella vulgaris</i>	Self-heal	VLF	<1%
<i>Ranunculus acris</i>	Meadow Buttercup	O	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	VLA	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LF	5%
<i>Rumex acetosa</i>	Common Sorrel	VLA	<1%
<i>Rumex crispus</i>	Curled Dock	O	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	<1%
<i>Trifolium repens</i>	White Clover	VLF	<1%
<i>Vicia cracca</i>	Tufted Vetch	LF	1%
<i>Vicia sativa</i>	Common Vetch	O	<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 8.3: Plant Species List for Northern Area of Self-seeded Dense Continuous Mixed Scrub

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Betula pendula</i>	Silver Birch	LF	5%
<i>Crataegus monogyna</i>	Hawthorn	LF	5%
<i>Salix caprea</i>	Goat Willow	D*	20%
<i>Salix cinerea</i>	Grey Willow	D*	60%
Herb Species			
<i>Agrostis capillaris</i>	Common Bent	F	5%
<i>Cirsium palustre</i>	Marsh Thistle	VLA	<1%
<i>Dactylorhiza</i> sp.	Marsh-orchid	R	<1%
<i>Dryopteris filix-mas</i>	Male-fern	R	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	F*	2%
<i>Juncus conglomeratus</i>	Compact Rush	O	<1%
<i>Juncus effusus</i>	Soft Rush	O	<1%
<i>Poa pratensis</i>	Smooth Meadow-grass	LF	2%
<i>Rubus fruticosus</i> agg.	Bramble	F*	20%

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 Dense Continuous Scrub with Scattered Trees on Sloping Ground at the Southern Margin of the Site

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer pseudoplatanus</i>	Sycamore	F	10%
<i>Betula pendula</i>	Silver Birch	F	20%
<i>Crataegus monogyna</i>	Hawthorn	F	15%
<i>Prunus</i> sp.	Cherry species	R	<1%
<i>Quercus</i> sp.	Oak (sapling)	O	<1%
<i>Rhododendron ponticum</i>	Rhododendron	R	<1%
<i>Salix caprea</i>	Goat Willow	F/LA*	50%
<i>Salix cinerea</i>	Grey Willow	LF	1%
<i>Sambucus nigra</i>	Elder	R	<1%
<i>Sorbus aucuparia</i>	Rowan	R	<1%
Herb Species			
<i>Asplenium scolopendrium</i>	Hart's Tongue-fern	O	<1%
<i>Cirsium arvense</i>	Creeping Thistle	O	<1%
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	R	<1%
<i>Dryopteris dilatata</i>	Broad Buckler-fern	O/LA	5%
<i>Dryopteris filix-mas</i>	Male-fern	O	<1%
<i>Epilobium montanum</i>	Broad-leaved Willowherb	O	<1%
<i>Eupatorium cannabinum</i>	Hemp Agrimony	R	<1%
<i>Geum urbanum</i>	Wood Avens	LVA	1%
<i>Heracleum sphondylium</i>	Common Hogweed	O	<1%
<i>Holcus mollis</i>	Creeping Soft-grass	LVA	5%
<i>Impatiens glandulifera</i>	Indian Balsam	F/LVA*	10%
<i>Juncus effusus</i>	Soft Rush	O	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	VLF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	A*	30%
<i>Urtica dioica</i>	Common Nettle	LA/F*	1-%
<i>Vicia sativa</i>	Common Vetch	R	<1%

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

Table 8.5: Plant Species List for Neutral Marshy Grassland

Scientific Name	Common Name	DAFOR ¹	Cover
Woody Species			
<i>Acer pseudoplatanus</i>	Sycamore (sapling)	O	<1%
<i>Alnus cordata</i>	Italian Alder (sapling)	O	<1%
<i>Betula pendula</i>	Silver Birch (sapling)	O	<1%
<i>Salix cinerea</i>	Grey Willow (sapling)	O	<1%
Herb Species			
<i>Agrostis stolonifera</i>	Creeping Bent	LF	1%
<i>Carex hirta</i>	Hairy Sedge	A*	20%
<i>Carex nigra</i>	Common Sedge	R	<1%
<i>Carex pendula</i>	Pendulous Sedge	R	<1%
<i>Cirsium arvense</i>	Creeping Thistle	F	5%
<i>Cirsium palustre</i>	Marsh Thistle	LF	1%
<i>Cirsium vulgare</i>	Spear Thistle	O	<1%
<i>Cynosurus cristatus</i>	Crested Dog's-tail	F	5%
<i>Dactylorhiza</i> sp.	Marsh-orchid species	R	<1%
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	LA	2%
<i>Epilobium hirsutum</i>	Great Willowherb	F	2%
<i>Eupatorium cannabinum</i>	Hamp Agrimony	O	<1%
<i>Geranium molle</i>	Dove's-foot Crane's-bill	VLF	<1%
<i>Heracleum sphondylium</i>	Common Hogweed	R	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	F	5%
<i>Hypericum perforatum</i>	Perforate St. John's-wort	F/LVA	5%
<i>Hypericum tetraspermum</i>	Square-stalked St. John's-wort	F	5%
<i>Impatiens glandulifera</i>	Indian Balsam	VLA	<1%
<i>Juncus conglomeratus</i>	Compact Rush	A	10%
<i>Juncus effusus</i>	Soft Rush	A*	60%
<i>Juncus inflexus</i>	Hard-rush	LF	1%
<i>Lathyrus pratensis</i>	Meadow Vetchling	LF	1%
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	VLA	<1%
<i>Lotus pedunculatus</i>	Greater Bird's-foot-trefoil	F	2%
<i>Luzula sylvatica</i>	Field Wood-rush	R	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	LA	1%
<i>Plantago major</i>	Greater Plantain	O	<1%
<i>Poa trivialis</i>	Rough Meadow-grass	F	1%
<i>Potentilla reptans</i>	Creeping Cinquefoil	VLA	<1%
<i>Rubus fruticosus</i> agg.	Bramble	F	5%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Scrophularia nodosa</i>	Common Figwort	R	<1%
<i>Senecio jacobaea</i>	Common Ragwort	O	<1%
<i>Tussilago farfara</i>	Colt's-foot	VLA	<1%
<i>Urtica dioica</i>	Common Nettle	R	<1%
<i>Vicia cracca</i>	Tufted Vetch	VLA	<1%
¹ Key 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 of the Site, its Surroundings, Ponds and Sites of Biological Importance

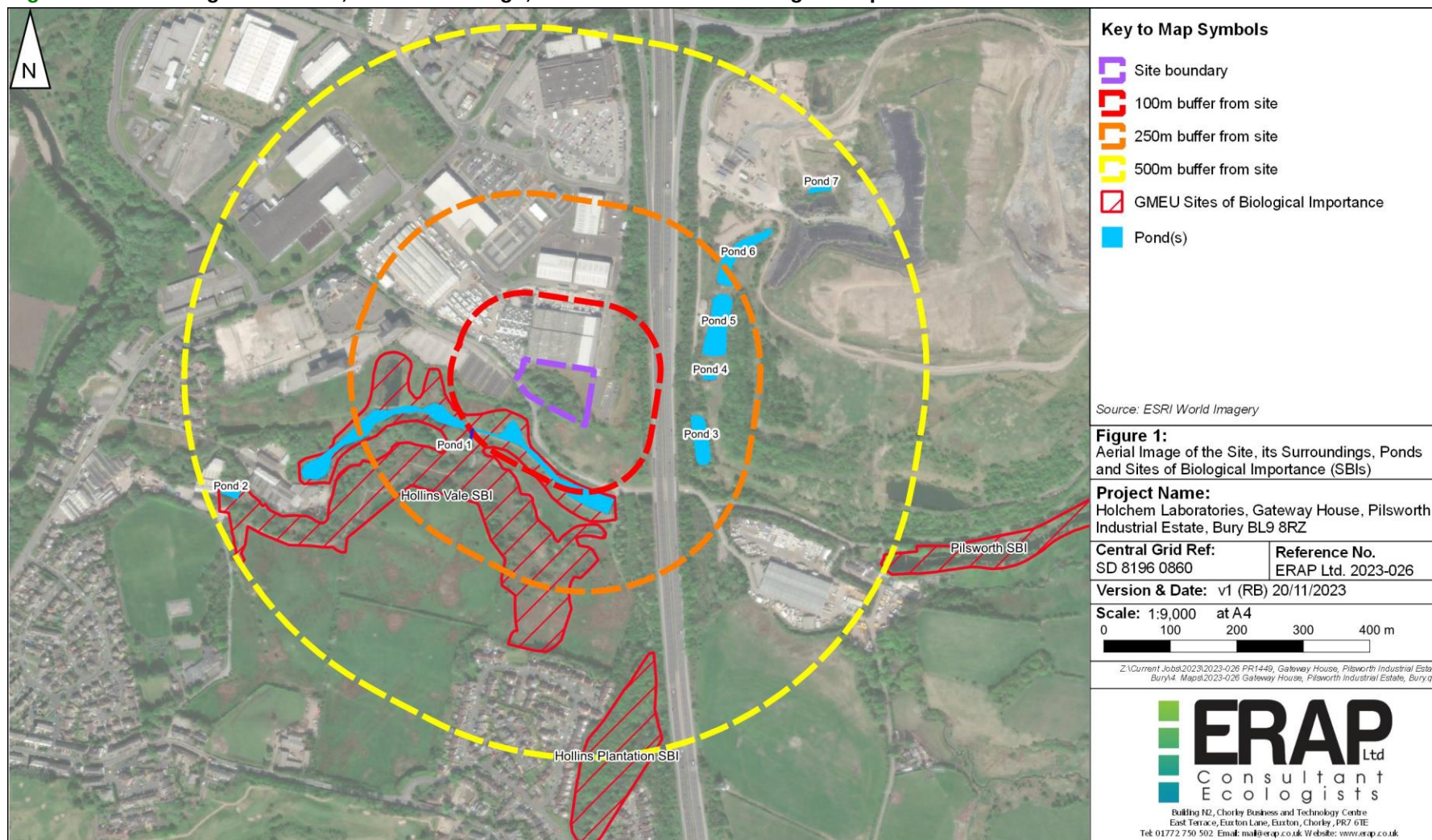


Figure 2: Phase 1 Habitat Survey

