

M60/M62/M66 Simister Island Interchange

TR010064

ENVIRONMENTAL STATEMENT APPENDICES

APPENDIX 8.1 UK HABITAT CLASSIFICATION REPORT

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**M60/M62/M66 Simister Island Interchange
Development Consent Order 202[]**

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Regulation Reference	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010064
Application Document Reference	TR010064/APP/6.3
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Version	Date	Status of Version
P01	April 2024	FOR DCO APPLICATION

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Appendix 8.1 UK habitat classification report

Executive summary

This report presents the results of UK Habitat Classification (UKHab) and Hedgerow surveys undertaken as part of the M60/M62/M66 Simister Island Interchange (hereafter referred to as the 'Scheme'). This report also compiles all designated site information.

No designated sites were identified within the Order Limits. In the wider study are the following were found:

- Rochdale Canal Special Area for Conservation and Site of Special Scientific Interest (SSSI), located approximately 5km east of the Order Limits
- Ashclough SSSI and Nob End SSSI located over 6km from the Order Limits
- Eight Local Nature Reserves within the study area
- Seventeen Sites of Biodiversity Interest within the study area
- Ancient Woodland Inventory sites

The habitats identified within the Order Limits comprised a mix of urban development, modified and neutral grassland, plantation woodland and arable. The wider study area included a priority habitat Wood Pasture and Parkland to the south, priority deciduous woodland and ancient woodland to the south-west, urban residential areas including Unsworth, Whitefield and Prestwich to the west and south and modified grassland associated with four golf courses scattered throughout.

Habitats identified as having County Importance included wet woodland, lowland mixed deciduous woodland, priority hedgerows and eutrophic standing water.

Invasive non-native plant species were identified during the UKHab survey, predominantly along Brightley Brook and within Whitefield Golf Club.

The majority of hedgerows recorded were species-poor. Five hedgerows (HG_21, HG_22, HG_23, HG_39 and HG_80) were classified as important under archaeological criteria in the Hedgerows Regulations. Two hedgerows (HG_08 and HG_12,) were classified as important under species protection criteria in the Hedgerows Regulations.

1 Introduction

1.1 Purpose of the report

1.1.1 This report sets out the results of desk-based study and field surveys undertaken as part of the M60/M62/M66 Simister Island Interchange (the 'Scheme'). The aim is to establish an ecological baseline for designated sites and habitats to provide supporting information for the Environmental Statement (Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1)).

1.1.2 The key objectives of this report are to:

- Identify all statutory and non-statutory designated sites of nature conservation within the study area
- Record and categorise habitat types within the survey area in accordance with the UK Habitats Classification (UKHab) System (Butcher *et al.*, 2020)
- Identify hedgerows and habitats that qualify as habitats of principal importance, i.e. priority habitats, listed in accordance with the requirements of Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and Greater Manchester Biodiversity Action Plan (BAP)
- Identify hedgerows classified as "important" under The Hedgerows Regulations 1997
- Identify hedgerows classified as species-rich as defined by the Hedgerow Survey Handbook (Defra, 2007) for northern counties in England
- Evaluate the importance of the designated sites, baseline habitats and hedgerows within the study area based on guidance from Highways England's Design Manual for Roads and Bridges (DMRB) LA 108 Biodiversity (Highways England, 2020) and supported by the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2018)
- Identify presence and distribution of invasive non-native botanical species

1.1.3 This report is supported by the following figures in Annex F:

- Figure 8.1.1: UK Habitats Classification Survey Extents
- Figure 8.1.2: Designated Sites
- Figure 8.1.3: Priority Habitats and Ancient Woodland
- Figure 8.1.4: Notable Plants and Invasive Species
- Figure 8.1.5: UK Habitat Classification Survey Results
- Figure 8.1.6: Hedgerow Survey Results
- Figure 8.1.7: Invasive Species

1.2 Legislation and regulatory context

1.2.1 Specific habitats receive legal protection in the UK under various pieces of legislation, including:

- **The Wildlife and Countryside Act 1981 (as amended)**

This Act allows for the designation of Sites of Special Scientific Interest (SSSIs) due to features of conservation interest related to flora, fauna, physiology or geology. The Act makes it an offence to kill, injure, take, possess or trade in many wild animal species and to pick, uproot, possess or trade in a number of wild plants. Measures are also outlined to outlaw the spread of invasive non-native species (INNS) that could adversely affect native wildlife. This Act also implements certain provisions of the Wild Birds Directive (2009/147/EC).

- **The Hedgerows Regulations 1997**

The Hedgerows Regulations 1997 were made under section 97 of the Environment Act 1995 and came into force on 1st June 1997. They introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. The Hedgerows Regulations prohibit the removal of some hedgerows without prior submission of a hedgerow removal notice to the Local Planning Authority (LPA). The LPA must then decide whether a hedgerow meets the criteria for an “important” hedgerow, which the LPA can then order to be retained. The removal of hedgerows for which the Hedgerows Regulations apply is also permitted in specific circumstances including “*for carrying out development for which planning permission has been granted...*” (as per Section 6 (1) (e) of the Hedgerows Regulations).

- **Natural Environment and Rural Communities (NERC) Act 2006**

Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. There are 56 habitats and 943 species of principal importance which were initially identified as requiring conservation action under the UK Biodiversity Action Plan (BAP) (Joint Nature Conservation Committee (JNCC), 1994) and which continue to be regarded as priorities under the UK Post-2010 Biodiversity Framework (JNCC and Defra, 2012). The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the Act “to have regard” to the conservation of biodiversity in England, when carrying out their normal functions.

- **The Conservation of Habitats and Species Regulations 2017 (as amended)**

These regulations implement the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

and Council Directive 2009/147/EC of 30 November 2009 on the conservation of wild birds. They provide for the designation and protection of European designated sites and species, and the adaptation of planning and other controls for the protection of European designated sites. Although these regulations originate from the Council Directive, these are now stand-alone since our departure from the EU.

- **The Invasive Alien Species (Enforcement and Permitting) Order 2019**

This Order introduces permitting and licensing provisions needed to comply with the requirements of EU Regulation No 1143/2014 on the prevention and management of the introduction and spread of invasive alien species. Article 3 contains offences around the importing, keeping, breeding, purchasing, and releasing or allowing to escape into the wild of species of special concern. The Order amends Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to omit those species from Schedule 9 which are also species of special concern, preventing duplication.

- **Environment Act 2021**

This legislation strengthens measures to improve air and water quality, tackle waste, increase recycling, halt the decline of species, and improve the natural environment. The act introduces a 10% biodiversity net gain requirement for all new developments and will become mandatory for Nationally Significant Infrastructure Projects (NSIPs) in November 2025. On sites where these biodiversity gains are secured, they would have to be managed for at least 30 years. Net gain is reported upon within Appendix 8.12: Biodiversity Net Gain Report of the Environmental Statement Appendices (TR010064/APP/6.3).

National planning policy

- 1.2.2 The National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities, 2023) identified that developments in England should deliver a net gain for biodiversity. The NPPF, published in July 2021, states (paragraph 174) that: 'Planning Policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more *resilient to current and future pressures.*' Paragraph 180(d) also states that '*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.*' The NPPF is a material planning consideration.

Local planning policy

- 1.2.3 The Scheme is located within the administrative boundary of Bury Metropolitan Borough Council (BMBC) which is part of Greater Manchester. Saved policies from Bury Unitary Development Plan (BUDP) (Adopted August 1997) that are relevant include:

- **Policy EN6: Conservation of the Natural Environment**

The Council will retain, protect, and enhance the natural environment of the Borough, particularly in relation to areas of ecological, wildlife and geological importance.

- **Policy EN6/3: Features of Ecological Value**

The effect of land use changes on existing features of ecological or wildlife value will be taken into account when assessing development proposals. Any proposal should seek to retain such features and incorporate them into the development.

- **Policy EN6/4: Wildlife Links and Corridors**

The Council will seek to consolidate and, where appropriate, strengthen wildlife links and corridors, and will not permit development which would adversely affect identified areas. In particular, the Council will seek to ensure that new development within or adjacent to identified links or corridors contributes to their effectiveness through the design, landscaping and siting of development proposals and mitigation works, where appropriate.

1.2.4 The Scheme is located within the administrative boundary of Greater Manchester Combined Authority (GMCA). The five-year plan as set out in the Greater Manchester Strategy (2021 – 2031) provides the following relevant policy:

- **Natural Environment Priority 3: Achieving a net gain in biodiversity for new development**

New developments will need to deliver a net gain in biodiversity. The combined and local authorities also seek a wider strategy for nature recovery, including habitat restoration and creation, and transforming wide landscape areas into interconnected ecological networks.

1.3 Biodiversity Framework

1.3.1 The UK Post-2010 Biodiversity Framework (JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012) succeeded the UK BAP (JNCC, 1994) in July 2012. The post-2010 framework is underpinned by the biodiversity and environment strategies of the four countries of the UK and sets out their common purpose and shared priorities. The UK BAP list of priority species, however, remains as a reference source and has been used to help draw up statutory lists of priorities.

1.3.2 Biodiversity 2020: A strategy for England's wildlife and ecosystem services (Defra, 2011) published in 2011, is the most recent biodiversity strategy for England, and has as its mission to halt overall biodiversity loss, support healthy well-functioning ecosystems, and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.

- 1.3.3 The Greater Manchester BAP (GMBAP) (Greater Manchester Biodiversity Project, 2009) identifies those species and habitats that are most at risk in Greater Manchester and actions required for their conservation. Habitats and botanical species listed comprise grasslands (unimproved neutral, acid, marshy, and grassland of high ecological value on previously developed land), hedgerows, lowland mosslands, reedbeds, ponds and lodges, canals, native woodland, uplands, urban managed greenspace and native black poplar *Populus nigra*.

2 Methodology

2.1 Study area

- 2.1.1 The study area takes account of all areas where significant effects to habitats could occur throughout the lifetime of the Scheme including any ancillary works, compounds and haul roads (i.e., all development related land within the Order Limits). All land within the Order Limits is referred to as ‘the Scheme’ unless otherwise stated.
- 2.1.2 The spatial scope considers the potential Zone of Influence (Zoi) of the Scheme. The Zoi is the area over which habitat features may be subject to likely significant effects as a result of the Scheme and associated activities.
- 2.1.3 The spatial scope was informed by professional judgment in line with good practice guidance including DMRB LA 108 Biodiversity (Highways England, 2020); Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017); and Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018).
- 2.1.4 Detailed explanation of the desk study area and field survey areas are given below.

2.2 Desk study

- 2.2.1 The study area for designated sites, protected and notable habitats and species records comprised the following:
- **Special Areas of Conservation (SAC), Special Protection Area (SPA) and Ramsar sites:**
 - Within 2km of the Order Limits or where there is land that may be important ecologically in supporting the populations for which the site has been designated or classified (also known as “functionally linked land”) or
 - SAC within 30km of the Order Limits, where bats are noted as one of the qualifying interests or
 - Crossed by, adjacent to, upstream of, or downstream of, the Order Limits or
 - With potential hydrological or hydrogeological linkage to the Scheme including those containing a groundwater-dependent terrestrial ecosystem (GWDTE) or
 - Within 200m of the Affected Road Network (see Chapter 5: Air Quality of the Environmental Statement (TR010064/APP/6.1) or
 - Which would have a direct pathway to effects

- **SSSIs, National Nature Reserves (NNRs) and LNRs:** within 2km of the Order Limits and 200m of the ARN, which have hydrological connectivity to the Scheme or overlapping SSSI Impact Risk Zones (IRZs)
- **SBIs and notable habitats** such as ancient woodland and groundwater-dependent terrestrial ecosystems: within 1km of the Order Limits and 200m of the ARN
- **Protected and notable species records:** within 2km of the provisional Order Limits (available at the time of the data request – these were larger than the final Order Limits presented in this application)

2.2.2 The following sources of information were reviewed:

- Multi-Agency Geographic Information for the Countryside (MAGIC) (Defra, 2022) online mapping tool
- The Ancient Woodland Inventory (Natural England, 2021)
- Greater Manchester Ecology Unit (GMEU) data received in April 2021.

2.2.3 Information on archaeologically important hedgerows was obtained from a range of sources, including:

- Examination of pre-1850 Ordnance Survey (OS) and non-OS historic maps, compared with present-day digital maps to identify surviving hedgerows
- Examination of pre-1850 maps to identify parish boundaries (and associated hedgerows)
- Interrogation of historic environment record data for mention of hedgerows and other field boundaries.

2.3 UK habitat classification survey

2.3.1 The field survey area refers to the area in which habitat surveys were undertaken. This area is a 500m area around the provisional Order Limits which were available at the time of survey. Hedgerow surveys were undertaken up to 250m from the provisional Order Limits with focus where impacts could occur. The provisional Order Limits at the time of survey are discussed and presented in detail in the Environmental Scoping Report (TR010064/APP/6.6). The provisional Order Limits are largely concurrent with the Order Limits and any substantial deviations are included within the wider study area and captured within the overall baseline.

2.3.2 An initial approach using desk study data, GIS and aerial imagery generated a desk based UKHab map, identifying areas that required ground truthing i.e. refinement through UKHab field surveys.

- 2.3.3 The field surveys were undertaken by suitably experienced ecologists between 5 and 12 April 2021. Additional surveys of some of the land that was not accessible in April 2021 were undertaken on 16 and 17 February 2022 and again on 20 May 2023. Weather conditions during the 2021 and 2023 surveys were suitable; dry with high cloud and good visibility. During the 2022 survey, intermittent spells of heavy rain and high wind occurred. However, all weather conditions were sufficient to enable surveyors to conduct a thorough survey.
- 2.3.4 Habitats were described and mapped according to the UK Habitat Classification user manual (Butcher *et al.*, 2020). Protected/notable plant species were recorded, and plant abundance was expressed using the DAFOR scale, Dominant/(D), Abundant/(A), Frequent/(F), Occasional/(O) and Rare/(R). Botanical taxonomic nomenclature follows that of the New Flora of the British Isles, Fourth Edition (Stace, 2019). Invasive non-native species (INNS) were also recorded where observed.
- 2.3.5 Habitat condition was recorded which is a score based on the quality of the habitat, judged against the perceived ecological optimum state for that particular habitat. Not all habitats require a condition assessment (usually those of low distinctiveness do not). The process of assessing habitat condition considers how many of the key physical characteristics and typical species of a particular habitat type are present in a habitat patch. This is determined by condition criteria. The Defra technical supplement v2 (Panks *et al.*, 2019) habitat condition sheets were used. Habitat condition is divided into one of three categories: good, moderate or poor.

2.4 Hedgerow survey

- 2.4.1 A hedgerow is defined as “any boundary line of trees or shrubs (predominantly over 80% of at least one native woody species of tree / shrub) over 20m long and less than 5m wide at the base, provided that at one time the trees or shrubs were more or less continuous” (Defra, 2007). This definition includes features such as an earth bank or wall where such a feature occurs in association with a line of trees or shrubs.
- 2.4.2 The Hedgerows Regulations 1997 apply to any hedgerow growing in, or adjacent to, any common land, protected land, or land used for agriculture, forestry or the breeding or keeping of horses, ponies or donkeys, if:
- It has a continuous length of, or exceeding, 20m or
 - It has a continuous length of less than 20m and, at each end, meets (whether by intersection or junction) another hedgerow.
- 2.4.3 Hedgerows were surveyed in accordance with the Hedgerow Survey Handbook (Defra, 2007). The entire length of hedgerow was walked on both sides and surveyed for:
- Woody and ground flora species
 - Important hedgerow qualifying criteria features such as the presence of banks, walls, gaps, standard trees, ground flora and ditches
 - Evidence of legally protected plant or animal species

- Signs that hedgerows were obviously over 30 years old

2.4.4 Hedgerows Regulations surveys were undertaken by suitably experienced ecologists on the 16 and 17 November 2021. Weather conditions during the survey were overcast, mostly dry with spells of drizzle with good visibility.

Criteria for determining “Important” hedgerows

2.4.5 The results of the desk study and field survey were compiled and assessed against qualifying criteria within the Hedgerows Regulations 1997. For the purposes of the Hedgerows Regulations, a hedgerow is “important” if it, or the hedgerow of which it is a stretch of:

- Has existed for 30 years or more
- Satisfies at least one of the criteria listed in Schedule 1, Part II of the Hedgerows Regulations

Species-rich hedgerows

2.4.6 A hedgerow is defined as species-rich if the structural species making up a surveyed 30m section of hedgerow included at least four¹ native woody species (Defra, 2007). Woody species were defined as any tree or shrub species native to the UK, or which are ‘archaeophytes’ i.e. they have been recorded as naturalised in the wild before 1500 AD.

2.4.7 Although not recorded as a native species in Schedule 3 of the Hedgerows Regulations 1997, in accordance with good practice guidance (Defra, 2007), sycamore *Acer pseudoplatanus* has been included as its status as native/archaeophyte. Other certain species have not been included in the total woody species count:

- Neophytes such as horse-chestnut *Aesculus hippocastanum*
- Variety of garden shrubs such as garden privet *Ligustrum ovalifolium* or coniferous species
- Climbers and bramble *Rubus fruticosus* agg. as they depend on the presence of other woody species in order to form a distinct boundary feature

2.4.8 As stated in the Hedgerow Survey Handbook (Defra, 2007), hedgerows that contain fewer woody species but have a rich basal herbaceous flora may also be defined as species-rich. There are no set criteria for defining species richness within a hedgerow base layer so professional judgement was used to determine this information based on the diversity of herbaceous plants. Woodland flora listed on Schedule 2 of the Hedgerow Regulations 1997 are considered under wildlife and landscape criteria.

¹The number of woody species quoted has been reduced by one due to the survey being conducted in northern England

2.5 Evaluation of importance of ecological resource

- 2.5.1 Ecological Impact Assessment (EclA) uses a hierarchical geographic framework to assign importance to ecological resources. This is based on an understanding of how the ecological resource may contribute to the conservation status or distribution of the species or habitat at a particular geographic scale.
- 2.5.2 The following geographical frame of reference is based on DMRB LA 108 Biodiversity (Highways England, 2020) to assess the importance of the designated sites, habitats, hedgerows and botanical species recorded within the study area:
- International or European
 - UK or national
 - Regional e.g. north-west England
 - County (e.g. Greater Manchester)
 - Local e.g. within 2km of the Scheme
- 2.5.3 Where there is deviation from the DMRB guidance, full justification is given.

2.6 Limitations

- 2.6.1 Where land access could not be granted, habitats were determined from aerial imagery and street-level photography. This approach is not a significant constraint due to the confidence that could be gained through aerial imagery interpretation and knowledge of the surrounding habitats where land access was permitted. In addition, professional judgement was used when classifying habitats and condition. For example, habitats where condition criteria are more complex, a precautionary approach was adopted, and high value conditions were assumed. It is understood that the presence of INNS may have been under recorded in these areas. Figure 8.1.1: UK Habitats Classification Survey Extents (in Annex F) defines the locations where survey access was possible and where aerial photography was used to classify habitats.
- 2.6.2 UKHab field surveys for a small proportion of the survey area were conducted in February, outside of the optimal survey period for botanical and habitat features. However, this limitation was not deemed significant, as sufficient data was collected during the survey to determine habitat type and condition.

- 2.6.3 The Hedgerow Regulations 1997 surveys were conducted in November 2021. This survey period is recognised as outside of the optimum season to survey habitats. However, due to the mild weather, sufficient foliage was still present on surveyed hedgerows, as well as associated ground flora enabling identification. Some hedgerows were also unable to be surveyed due to land access refusal. However, species lists collated during the UKHab survey data for surveyed hedgerows were used to corroborate species richness and ground flora. Ordnance survey mapping was used to identify the presence of any physical features e.g. ditches and double rows. As such, the findings of the hedgerow surveys were deemed sufficiently accurate to determine hedgerow importance and condition. Where there was any uncertainty an unsurveyed hedgerow would be assumed to be important / species-rich and of good condition.

3 Results

3.1 Desk study

Designated sites

- 3.1.1 There are no SACs, SPAs, Ramsar sites or SSSI within 2km of the Order Limits. There are no SACs designated for bats within 30km of the Order Limits.
- 3.1.2 Rochdale Canal SAC and SSSI is located within 200m of the ARN on the M62. It is designated for its population of floating water plantain *Luronium natans*. The SAC is located approximately 5km east of the Order Limits, see Figure 8.1.2: Designated Sites in Annex F.
- 3.1.3 Ashclough SSSI and Nob End SSSI and LNR are more than 6km west of the Order Limits but are hydrologically linked to the Scheme by the Par Brook and River Irwell. Ashclough SSSI is designated for its geological interest and is more than 9.5km downstream. Nob End SSSI and LNR is more than 11.5km downstream, at the confluence of the Rivers Croal and Irwell and consists of a flat-topped, steep-sided tip of alkali waste upon which neutral and calcareous grasslands of conservation value have developed.
- 3.1.4 There are five LNRs (Philips Park, Hollins Vale, Mere Clough, Blackley Forest and Alkrington Woods) within 2km of the Order Limits, none of which are located within the Order Limits. Four LNRs (Philips Park, Mere Clough, Clifton County Park and Alkrington Woods) are within 200m of the ARN as shown in Table 3.1 and on Figure 8.1.2: Designated Sites in Annex F. Moses Gate LNR is approximately 6.5km west of the Order Limits but is linked to the Scheme by approximately 12km of watercourse via the Parr Brook and River Irwell.

Table 3.1 LNRs within the study area or within 200m of the ARN

Site name and grid reference	Habitats/designated features	Approximate distance and direction from the Order Limits	Within 200m of the ARN?
Hollins Vale LNR (SD 81502 08603)	Hollins Vale is a farmland reserve with habitats comprising semi-natural woodland, wetland, species-rich grassland and hedgerows. The semi-natural woodland has abundant bluebells <i>Hyacinthoides</i> sp., wood anemone <i>Anemonoides nemorosa</i> and violets <i>Viola</i> sp. The grassland is grazed by cows and has a species-rich flora assemblage and one area has included, but is not limited to, devil's bit scabious <i>Succisa pratensis</i> , pignut <i>Conopodium majus</i> and harebell <i>Campanula rotundifolia</i>	30m west	No
Philips Park LNR (SD 79745 03852)	Semi-natural woodland inclusive of ancient and semi-natural woodland with ground flora comprising ancient woodland indicators. Other habitats include species-rich grassland, streams, ponds and lodges ² . The species rich grassland includes cuckoo flower <i>Cardamine pratensis</i> , common spotted orchid <i>Dactylorhiza fuchsia</i> , black knapweed <i>Centaurea nigra</i> , tufted vetch <i>Vicia cracca</i> , and bird's foot trefoil <i>Lotus corniculatus</i>	420m south-west	Yes
Mere Clough LNR (SD 80135 03923)	Semi-natural broadleaved woodland inclusive of ancient and semi-natural woodland and a watercourse (Bradley Brook)	420m south	Yes
Blackley Forest LNR (SD 84100 03550)	This site includes semi-natural broadleaved and plantation woodland, grassland, a lake, marsh and the River Irk	990m south-east	No
Alkrington Woods LNR (NGR SD 86140 05478)	Woodland, meadow, lake, fishing lodges	1.9km south-east	Yes

² Lodges are man-made waterbodies, with most examples originating from the industrial revolution. These were created to hold water for industrial processes - notably in Greater Manchester for the textile industry

Site name and grid reference	Habitats/designated features	Approximate distance and direction from the Order Limits	Within 200m of the ARN?
Clifton Country Park LNR (NGR SD 77191 04304)	Woodland, meadow, lakes	2.8km west	Yes
Nob End LNR (SD 749 062)	Calcareous and neutral grassland on historic industrial waste tip	6km west	No
Moses Gate LNR (SD 743 070)	Native broadleaf woodland with wildflower meadows, marshland areas, developing heathland, ponds and lodges. The rivers Croal and Irwell provide the backbone of the reserve.	6.5km west	No

3.1.5 Eight SBI are located within 1km of the Order Limits (Philips Park and North Wood; Hollins Plantation; Hazlitt Wood; Hollins Vale; Heaton Park Reservoir (East); Heaton Park Reservoir (West); Pilsworth; Parr Brook). Eleven SBI are located within 200m of the ARN (Philips Park and North Wood; Hazlitt Wood; Ringley Woods; Rhodes Farm Sewage Works; Boardman Brook; Alkington Woods and Rhodes Lodges; Clifton County Park; Clifton Moss (South); Rochdale Canal (Scowcroft to Warland); Rochdale Canal – Lock at Scowcroft Farm to Stott’s Lane; Sudden Brook (West)), see Table 3.2 below and Figure 8.1.2: Designated Sites in Annex F.

Table 3.2 SBIs within the study area or within 200m of the ARN

Site	Interest/designated features	Approximate distance and direction from the Order Limits	Within 200m of ARN?
Alkington Woods and Rhodes Lodges (NGR SD 86140 05478)	Habitat mosaic (Hm1)	1.9km east	Yes
Boardman Brook (NGR SD 85913 05099)	Ancient woodland (Wd1)	1.9km south-east	Yes
Clifton Country Park (NGR SD 77191 04304)	Small lodges (Fw2), birds (Br6), ancient woodland (Wd1)	3km west	Yes
Clifton Moss (South) (NGR SD 76484 03305)	Large standing water (Fw3), small lodges (Fw2), ancient woodland (Wd1) and scrub (Wd3)	4.3km west	Yes

Site	Interest/designated features	Approximate distance and direction from the Order Limits	Within 200m of ARN?
Hazlitt Wood (NGR SD 83505 05325)	Small lodges (Fw2), reedbed, swamp, and fen (Fw1), ancient woodland (Wd1)	3m south-east	Yes
Heaton Park Reservoir (East) (NGR SD 82621 05016)	Birds (Br6)	0.3km south	No
Heaton Park Reservoir (West) (NGR SD 82424 05052)	Birds (Br6)	0.3km south	No
Hollins Plantation (NGR SD 80495 04532)	Ancient woodland (Wd1)	30m west	No
Hollins Vale (NGR SD 82045 08270)	Small lodges (Fw2), and grassland (Gr2)	0.2km north-west	No
Parr Brook (NGR SD 81559 07296)	Grassland (Gr2)	0.6km west	No
Philips Park and North Wood (NGR SD 80495 04532)	Small lodges (Fw2), grassland (Gr2), and ancient woodland (Wd1) Partially overlaps Philip's Park LNR and Mere Clough LNR.	0.2km west	Yes
Pilsworth (NGR SD 82539 08337)	Large standing water (Fw3), and small lodges (Fw2)	0.3km north-east	No
Ringley Woods (East) (NGR SD 78981 04783)	Grassland (Gr2) and ancient woodland (Wd1)	1.8km west	Yes
Rhodes Farm Sewage Works (NGR SD 78933 03879)	Large standing water (Fw1), reedbed, swamp and fens (Fw1), birds (Br6)	2.2km west	Yes
Rochdale Canal (Scowcroft to Warland) (NGR SD 88273 09861)	Large standing water (Fw3)	4.9km east	Yes
Rochdale Canal - Lock at Scowcroft Farm to Stott's Lane (NGR SD 89481 03514)	Large standing water (Fw3) floating water plantain and American pondweed <i>Elodea canadensis</i>	6km east	Yes
Sudden Brook (West) (NGR SD 91055 10472)	Grassland (Gr2)	8km east	Yes

Ancient woodland

3.1.6 There are two Ancient Woodland Inventory (AWI) sites located within the 1km study area (Philips Park Wood and Mere Clough). There are four sites within 200m of the ARN (Philips Park Wood, Mere Clough, Clifton Wood and North Wood), see Figure 8.1.3: Priority Habitats and Ancient Woodland in Annex F. These are ancient semi-natural woodland habitats. The closest AWI site is Mere Clough (SD 80135 03923), which is approximately 470m west of the Order Limits.

Priority Habitat

3.1.7 The desk-based study identified a number of priority habitats within 1km of the Order Limits. However, the confidence in these classifications as detailed on the MAGIC website is 'low', likely indicating that they have been identified remotely through aerial imagery or remote sensing and have not been ground-truthed (Defra, 2021). This dataset has helped provide contextual information on local habitat types and supported the determination of habitat types during the field surveys. Table 3.3 below details the priority habitats that were identified within 1km of the Order Limits. These are shown in Figure 8.1.3: Priority Habitats and Ancient Woodland in Annex F.

Table 3.3 Priority habitats within the study area identified from desk study

Priority habitat	Description	Approximate distance and direction from Order Limits of nearest priority habitat
Lowland mixed deciduous woodland	Numerous areas of deciduous woodland	Within Order Limits
Lowland dry acid grassland	One area of lowland dry acid grassland at Hollins Vale LNR	50m north-west
Lowland fen	Twelve areas of lowland fen	230m north-west
Purple moor grass and rush pastures	Fragmented patches associated with Hollins Vale LNR	220m north-west
Wood-pasture and parkland	One area associated with Heaton Park	0.07km south
Traditional orchard	Three areas of traditional orchard	40m east
Open mosaic on previously developed land	One area associated with Pilsworth Landfill	290m north

Groundwater dependent terrestrial ecosystems

3.1.8 Groundwater dependent terrestrial ecosystems (GWDTE) that could be affected by the Scheme are identified in Appendix 13.5: Groundwater Dependent Terrestrial Ecosystems Assessment Report of the Environmental Statement Appendices (TR010064/APP/6.3) and Figure 13.5: GWDTEs and Groundwater Dependency Classification of the Environmental Statement Figures (TR010064/APP/6.2). These comprised:

- Philips Park LNR and Philips Park and North Wood SBI
- Hazlitt Wood SBI
- Hollins Vale LNR/SBI
- Hollins Plantation SBI
- Cowl Gate Farm
- The Hills South
- Castle Brook South
- Egypt Lane South
- Simister Allotment Gardens
- Parkwood Cottages South

3.1.9 The UKHab survey (see Figure 8.1.5: UKHab Survey Results in Annex F) classified the habitats at these locations as:

- g3c,10,11 other neutral grassland with scattered scrub and trees
- g3c,10,17 other neutral grassland with scattered scrub and ruderal vegetation
- r1a eutrophic standing water
- g3c,15 other neutral grassland with a significant component of *Juncus* (rush)
- an area of wetland within w1g other woodland, broadleaved

Potential peatland habitats

3.1.10 Natural England, in their response to the statutory consultation (see Annex Q of the Consultation Report Annexes (TR010064/APP/5.2)), identified that there was potential for underlying peat deposits at two locations: Cowl Gate Farm and Egypt Lane South. A combined agricultural land classification, soil resource survey and UKHab survey were all conducted within these areas and concluded that the peat/peaty soils were not contiguous and not hydraulically connected such that peatland could be restored. The surface habitats within this area (see Section 3.2) identified species-poor neutral grassland with dominant soft rush *Juncus effusus*, which is not representative of a peatland vegetation type.

Notable flora

3.1.11 Records of notable flora received as part of the desk study are presented in Table 3.4 below and in Figure 8.1.4: Notable Plants and Invasive Species in Annex F. Marsh cinquefoil *Potentilla palustris* and lesser spearwort *Ranunculus flammula* were identified within the Order Limits, south of Pike Fold Golf Course.

3.1.12 When interpreting the England Red List, it should be noted that 'threat' is not synonymous with 'rarity'. Within Great Britain and England, a species is considered 'rare' or 'scarce' if it is present below a certain number of 10km x 10km squares. A 'threat' status, on the other hand, is based on spatial and temporal trends and, where appropriate, the number of locations and/or individuals.

Table 3.4 Notable flora records within the study area

Species	Conservation status
Native bluebell <i>Hyacinthoides non-scripta</i>	Schedule 8 Wildlife and Countryside Act 1981 - Schedule 8 lists plant species are protected against picking and sale.
Common valerian <i>Valeriana officinalis</i>	A Vascular Plant Red List for England (Near Threatened) (Stroh <i>et al.</i> , 2014). A 'widespread' taxa assessed as Near Threatened due to a decline of between 20% and 30%.
Corn chamomile <i>Anthemis arvensis</i>	A Vascular Plant Red List for England (Endangered) (Stroh <i>et al.</i> , 2014). This taxa is threatened in England for which England holds ≥75% of the Great Britain hectad distribution
Cornflower <i>Centaurea cyanus</i>	Species of Principal Importance in England i.e. Priority species
Devil's-bit scabious <i>Succisa pratensis</i>	A Vascular Plant Red List for England (Near Threatened) (Stroh <i>et al.</i> , 2014). A 'widespread' taxa assessed as Near Threatened due to a decline of between 20% and 30%.
Field scabious <i>Knautia arvensis</i>	A Vascular Plant Red List for England (Near Threatened) (Stroh <i>et al.</i> , 2014). A 'widespread' taxa assessed as Near Threatened due to a decline of between 20% and 30%.
Heather <i>Calluna vulgaris</i>	A Vascular Plant Red List for England (Near Threatened) (Stroh <i>et al.</i> , 2014). A 'widespread species' but has suffered great losses in lowland England and displays a strong preference for infertile and moderately acidic soils that may be prone to habitat loss.
Lesser spearwort	A Vascular Plant Red List for England (Vulnerable) (Stroh <i>et al.</i> , 2014). This taxon is assessed as having higher level of threat in England than in Great Britain.
Marsh cinquefoil	A Vascular Plant Red List for England (Near Threatened) (Stroh <i>et al.</i> , 2014)
Mat-grass <i>Nardus stricta</i>	A Vascular Plant Red List for England (Near Threatened) (Stroh <i>et al.</i> , 2014). A 'widespread species' but has suffered great losses in lowland England and displays a strong preference for infertile and moderately acidic soils that may be prone to habitat loss.
Needle spike-rush <i>Eleocharis acicularis</i>	A Vascular Plant Red List for England (Near Threatened). This species is assessed as Near Threatened based on decline, although the aquatic form is easily missed.

Species	Conservation status
Quaking-grass <i>Briza media</i>	A Vascular Plant Red List for England (Near Threatened). A 'widespread' taxa assessed as Near Threatened due to a decline of between 20% and 30%.
Ragged-robin <i>Silene flos-cuculi</i>	A Vascular Plant Red List for England (Near Threatened). A 'widespread' taxa assessed as Near Threatened due to a decline of between 20% and 30%.
Sainfoin <i>Onobrychis viciifolia</i>	A Vascular Plant Red List for England (Vulnerable)
Tormentil <i>Potentilla erecta</i>	A Vascular Plant Red List for England (Near Threatened). A 'widespread species' but has suffered great losses in lowland England and displays a strong preference for infertile and moderately acidic soils that may be prone to habitat loss.
Tufted loosestrife <i>Lysimachia thyrsoiflora</i>	A Vascular Plant Red List for England (Critically Endangered). Plants at the sole extant location are vulnerable to visitor pressure.
Wild pansy <i>Viola tricolor</i>	A Vascular Plant Red List for England (Near Threatened)
Wild strawberry <i>Fragaria vesca</i>	A Vascular Plant Red List for England (Near Threatened)
Wood crane's-bill <i>Geranium sylvaticum</i>	A Vascular Plant Red List for England (Near Threatened)
Wood-sorrel <i>Oxalis acetosella</i>	A Vascular Plant Red List for England (Near Threatened). A 'widespread' taxa assessed as Near Threatened due to a decline of between 20% and 30%.

INNS

- 3.1.13 Invasive species records are presented in Table 3.5 and in Figure 8.1.4: Notable Plants and Invasive Species in Annex F. Japanese knotweed has been recorded previously within the Order Limits.
- 3.1.14 All species recorded are listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The exception is Nuttall's Waterweed *Elodea nuttallii*. Subject to the provisions of this Act, if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence. Nuttall's waterweed, Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum* are listed on The Invasive Alien Species (Enforcement and Permitting) Order 2019. Subject to the provisions of this Order, a person who plants or otherwise causes to grow in the wild any specimen which is of a species of plant which is included in Part 2 of Schedule 2 is guilty of an offence.

Table 3.5 Invasive species records within the study area

Species	Relevant Legislation
Canadian waterweed <i>Elodea canadensis</i>	Schedule 9 Wildlife and Countryside Act 1981 (as amended)
Cotoneaster (scientific name not given, assumed to be Schedule 9 species)	Schedule 9 Wildlife and Countryside Act 1981 (as amended)
Giant hogweed	Schedule 9 Wildlife and Countryside Act 1981 (as amended)/ The Invasive Alien Species (Enforcement and Permitting) Order 2019
Himalayan balsam	Schedule 9 Wildlife and Countryside Act 1981 (as amended)/ The Invasive Alien Species (Enforcement and Permitting) Order 2019
Japanese knotweed <i>Reynoutria japonica</i>	Schedule 9 Wildlife and Countryside Act 1981 (as amended)
Japanese rose <i>Rosa rugosa</i>	Schedule 9 Wildlife and Countryside Act 1981 (as amended)
Montbretia <i>Crococsmia aurea x pottsii = C. x crocosmiflora</i>	Schedule 9 Wildlife and Countryside Act 1981 (as amended)
Nuttall's waterweed	The Invasive Alien Species (Enforcement and Permitting) Order 2019
Rhododendron <i>Rhododendron ponticum</i>	Schedule 9 Wildlife and Countryside Act 1981 (as amended)
Rhododendron <i>sp.</i>	Schedule 9 Wildlife and Countryside Act 1981 (as amended)
Variegated yellow archangel <i>Lamiaeastrum galeobdolon subsp. Argentatum</i>	Schedule 9 Wildlife and Countryside Act 1981 (as amended)

3.2 UK habitat classification survey

- 3.2.1 The following accounts should be read in conjunction with the UKHab survey results presented in Figure 8.1.5: UKHab Survey Results in Annex F, with secondary codes and accompanying photographic plates in Annex A.
- 3.2.2 The habitats recorded are detailed below with their respective alphanumeric codes (Butcher *et al.*, 2020). The condition assessments of each habitat are also provided (Panks *et al.*, 2019).

Woodland and scrub

Broadleaved, mixed and yew woodland (w1)

- 3.2.3 Two woodlands outside of the Order Limits had restricted access and as such aerial imagery was used to categorise these habitats as broadleaved, mixed and yew woodlands, a high-level broad UKHab category. These woodlands were assigned a good habitat condition, as a precaution.

Wet woodland (w1d) – Priority habitat

- 3.2.4 An area of wet woodland was identified north of the Scheme within Hollins Vale LNR/SBI surrounded by an area of lowland fen habitat and acid grassland fields. The woodland was dominated by crack willow *Salix fragilis* with occasional goat willow *Salix caprea*. The woodland canopy was sparse. The INNS Himalayan balsam was abundant in the ground flora. Due to the abundance of Himalayan balsam, the woodland was overall categorised as being in poor condition.
- 3.2.5 Wet woodland was also located to the north of the Scheme north of Brightley Brook, surrounding a waterbody. The woodland canopy comprised mature willow sp., silver birch *Betula pendula* and sycamore with dense bramble in the understorey. Himalayan balsam was locally abundant in two areas of the woodland and as such, the woodland was categorised as being in poor condition.

Other lowland mixed deciduous woodland (w1f7) – Priority habitat

- 3.2.6 Other lowland mixed deciduous woodland habitat was identified within the survey area. This habitat was recorded in two AWI sites (Philips Park Wood and Mere Clough), as well as within Philip's Park LNR, Hazlitt Wood SBI, Hollins Plantation SBI and in four undesignated areas: one area located south of Whitefield Golf Club; one area north-east of Prestwich Heys Football Club; and two areas around Pilsworth. All lowland mixed deciduous woodland was located outside of the Order Limits, excluding the area north-east of Prestwich Heys Football Club and the area around Pilsworth. The lowland mixed deciduous woodland within Hazlitt Wood SBI and Hollins Plantation SBI are located within 30m of the Order Limits.

- 3.2.7 Mere Clough LNR and Mere Clough AWI share a similar spatial extent and were contiguous with Philip's Park LNR that included Philips Park AWI in its northern extent. Overall, these sites formed an extensive area of lowland mixed deciduous woodland outside of the Order Limits, that comprised a mixture of ancient and semi-natural woodland. The canopy was dominated by pedunculate oak *Quercus robur*, beech *Fagus sylvatica*, occasional silver birch and sycamore. The understorey was well established and diverse, comprising occasional beech, hawthorn *Crataegus monogyna*, hazel *Corylus avellana* and holly *Ilex aquifolium*. The ground layer included a number of ancient woodland indicator species such as native bluebell, ramsons *Allium ursinum*, wood anemone *Anemone nemorosa* and remote sedge *Carex remota*. INNS rhododendron, Himalayan balsam and Japanese knotweed were scattered throughout. Throughout the ground layer, Himalayan balsam was present and particularly abundant on the banks of Bradley Brook. In addition, Japanese knotweed was identified in isolated locations along Bradley Brook. Due to the abundance of INNS within the ground layer, the woodland was categorised as being in poor condition.
- 3.2.8 Other lowland mixed deciduous woodland habitat was also recorded north of the M60, south of Whitefield Golf Club and outside of the Order Limits. The woodland had an open canopy with wetland glades dominated by yellow flag iris *Iris pseudacorus* and Himalayan balsam. The canopy was dominated by silver birch, goat willow and pedunculate oak. Historic coppicing was evident throughout the woodland, with over mature coppiced specimens of goat willow and silver birch identified. The understorey was sparse with occasional hawthorn and pedunculate oak in isolated patches. The ground layer comprised bluebell, Hart's-tongue *Phyllitis scolopendrium*, Yorkshire fog *Holcus lanatus*, bramble and Himalayan balsam. An isolated patch of Japanese knotweed and two stands of rhododendron were identified close to the golf course edge. Due to the abundance of INNS the woodland was categorised as being in poor condition.
- 3.2.9 Woodland in Hazlitt Wood SBI was within 30m of the Order Limits south of M60 J18. This large woodland comprised various woodland communities with the middle section dominated by beech with a sparse understorey of holly. The desk study identified this expanse of woodland as the priority habitat wood-pasture and parkland but, as no veteran trees and/or ancient trees were identified during the field survey, this area does not meet the qualifying criteria for wood-pasture and parkland. The woodland was categorised as being in good condition due to the woodland meeting the majority of the woodland condition assessment criteria.
- 3.2.10 To the north, woodland in Hollins Vale SBI was located within 5m of the Order Limits, on either side of the M66. The canopy was dominated by pedunculate oak transitioning to sycamore dominated woodland to the south. The understorey comprised frequent hawthorn, occasional ash *Fraxinus excelsior* and horse-chestnut saplings. The ground layer was dominated by bramble, native bluebell, occasional rough meadow grass *Poa trivialis*, ramsons and opposite-leaved golden-saxifrage *Chrysosplenium oppositifolium*. The woodland met the majority of condition assessment criteria and was categorised as being in good condition.

- 3.2.11 Areas of other lowland mixed deciduous woodland were recorded around Pilsworth, beyond the Order Limits. One area on the banks of Hollins Brook had a canopy dominated by beech with occasional pedunculate oak and ash. The understorey was sparse with isolated stands of holly throughout. The ground layer was predominately bare ground with occasional pendulous sedge *Carex pendula*. The margin following Castle Road was dominated by non-native garden species, including rhododendron, associated with the adjacent industrial complex. As a result of the non-native garden species, lack of deadwood and lack of species diversity the woodland was categorised as being in moderate condition.
- 3.2.12 Other lowland mixed deciduous woodland was recorded within the survey area, north-east of Prestwich Heys Football Club, adjacent to the M60 but beyond the Order Limits. The canopy comprised frequent horse-chestnut, silver birch and sycamore with occasional wild cherry *Prunus avium*, pedunculate oak and beech. The understorey was sparse with occasional hawthorn, holly, common ivy *Hedera helix* and wood avens *Geum urbanum*.

Other broadleaved woodland types

- 3.2.13 Other broadleaved woodland types habitat was often associated with highways soft estate screening woodlands, with approximately 26 blocks located within the Order Limits. The canopy of these habitats included silver birch, alder *Alnus glutinosa*, pedunculate oak, occasional Scots pine *Pinus sylvestris*, ash and larch *Larix decidua*. The understories were sparse with occasional hawthorn, blackthorn *Prunus spinosa* and holly. The ground layer included nutrient-favouring species such as common nettle *Urtica dioica*, cleavers *Gallium aparine*, wood avens and bramble. Many of the woodlands represented recently established woodland communities that lacked overall diversity with high proportions of species associated with nutrient enrichment and INNS. As such, the highway screening woodlands were categorised as being in poor condition, with the more established areas in moderate condition.
- 3.2.14 Plantation woodland, with oak *Quercus* sp., silver birch, and wild cherry was recorded within a number of golf courses (outside of the Order Limits) within the survey area, including Bury Golf Club, Pike Fold Golf Club, Heaton Park Golf Club and Whitefield Golf Club. The majority of these woodlands lacked understories, with the ground layer dominated by rank grassland and an abundance of INNS. Species including Himalayan balsam, rhododendron, hollyberry cotoneaster *Cotoneaster bullatus* and montbretia *Crocsmia aurea x pottsii* = *C. x crocosmiiflora*. Despite this, the ground layer in these areas comprised similar nutrient-favouring species as the highways screening woodland. Most of the woodland associated with the golf courses was categorised as poor condition due to being recently planted and high abundance of INNS. Whitefield and Pike Fold Golf Club woodland had slightly higher species diversity with hawthorn and hazel in the understorey and an absence of INNS. As such, these areas were categorised as being in moderate condition. Some areas of woodland within the golf courses were not surveyed but could be categorised using aerial imagery and were assigned poor condition as a reflection of the accessible areas.

- 3.2.15 A section of woodland to the north of the Scheme, north of Brightley Brook was categorised as other broadleaved woodland types. The woodland was a young plantation with tree guards still present and included abundant alder, occasional willow and hawthorn and one hazel individual. Himalayan balsam was locally abundant in the ground flora in the south-west of the woodland. The woodland was categorised as being in poor condition due to being recently planted.
- 3.2.16 Other broadleaved woodland types was also adjacent to the M60 verge near Prestwich Football Club. The woodland included frequent horse-chestnut, silver birch, and sycamore, with occasional beech, cherry species and oak. The understorey was sparse with occasional hawthorn and holly. The ground was covered in leaf litter with common ivy and wood avens. The woodland was mature with trees of a consistent mature age. The woodland was categorised as being in a moderate condition.
- 3.2.17 One area of woodland following the M66 soft estate to the north of the Scheme was dominated by willow, alder and silver birch with the ground layer overwhelmingly dominated by a cultivated garden variety of pendulous sedge *Carex pendulosa*. The woodland had been planted and the trees were still young; it was therefore categorised as w1g – 56. Due to the lack of age range structure and presence of undesirable species, the area was categorised as being in poor condition.
- 3.2.18 An area of broadleaved woodland was identified within a cropland field, north of Hazlitt Wood SBI, outside of the Order Limits. This was identified as an unmanaged remnant hedgerow functioning as a woodland habitat at the time of the survey. The canopy comprised dominant pedunculate oak and silver birch with an understorey of beech, elder *Sambucus nigra*, and hawthorn. The woodland was categorised as being in a moderate condition.

Line of trees (w1g6)

- 3.2.19 Two lines of trees were recorded during the field survey, outside of the Order Limits. One line comprised mature trees dominated by oak with occasional sycamore and beech, associated with Philip's Park LNR. The other line comprised silver birch along a bridleway between Simister Lane and the reservoir in Heaton Park south of the Order Limits. Both were categorised as being in moderate condition. Two additional lines of trees were recorded using aerial imagery located at OS grid reference SD 829 075 along a field boundary. As a precaution, both were categorised as being in good condition.

Other coniferous woodland (w2c)

- 3.2.20 A young pine *Pinus* sp. Plantation woodland, likely created to screen the surrounding farm buildings. The canopy was dominated by pine, with occasional cherry and leyland cypress *Cupressus x leylandii*. This habitat type was categorised as being in poor condition and was located within the Order Limits.

Dense scrub (h3)

- 3.2.21 Dense scrub was present in multiple locations throughout the survey area and was located within the Order Limits. This habitat was predominately associated with highway scrub habitat and infield set-aside, defined as allocated farmland to 'set-aside' and promote biodiversity. Many areas included dense willow scrub, whilst others comprised hawthorn, birch, ash and oak. One area of dense scrub, east of Prestwich Football Club, was dominated by an unidentified, introduced shrub species. Most areas were categorised as being in moderate condition. However, due to the lack of diversity, age range and presence of INNS, many areas were categorised as being in poor condition.

Bramble scrub (h3d)

- 3.2.22 Two areas of scrub dominated by bramble were recorded south of Pike Fold Golf Club, located within the Order Limits, and north of Hollins Vale SBI, located outside of the Order Limits. Species comprised young ash trees, hawthorn, willow and pedunculate oak. Ruderal species were abundant, comprising nutrient-favouring species such as common nettle and willowherb *Epilobium* sp. Both locations consisted of over 75% of bramble cover and therefore were categorised as being in poor condition.

Hawthorn scrub (h3f)

- 3.2.23 One overgrown, remnant hedgerow representing hawthorn scrub was located immediately west of the Simister Island roundabout and within the Order Limits. The scrub habitat consisted of over 75% hawthorn and was therefore classified as being in poor condition. The INNS variegated yellow archangel was present within hawthorn scrub to the east of the Scheme, north of Simister Lane (see Figure 8.1.5: UKHab Survey Results in Annex F).

Mixed scrub (h3h)

- 3.2.24 Mixed scrub was scarce throughout the survey area, including within the Order Limits. Bramble was the dominant species, with occasional hawthorn, blackthorn, crack willow and pedunculate oak. Mixed scrub north of Unsworth Cricket Club was categorised as being in moderate condition and an area of highway scrub was categorised as being in poor condition.
- 3.2.25 Within Hollins Vale SBI mature mixed scrub was present on the valley banks. Bramble and gorse *Ulex europaeus* were frequent with pedunculate oak and occasional hawthorn. The ground layer included frequent native bluebell, broad-buckler fern, hard fern *Blechnum spicant* and in small patches frequent bracken *Pteridium aquilinum*. The area was well established, highly diverse and had a good age range of plants, resulting in the area being categorised as being in good condition.

Grassland

Lowland acid grassland (g1a) – Priority habitat

- 3.2.26 Areas of lowland acid grassland were identified within Hollins Vale LNR, located outside of the Order Limits. The grassland areas were a mosaic of grassland communities with acid grassland prevalent on the valley banks. Species present included: wavy hairgrass *Avenella flexuosa*, common bent *Agrostis capillaris*, sheep fescue *Festuca ovina*, tormentil and hard fern. Mosses indicative of acid grassland included springy turf-moss *Rhytidiadelphus squarrosus* and common haircap *Polytrichum commune*. All areas of g1a grassland were categorised as being in good condition.

Other neutral grassland (g3c)

- 3.2.27 Other neutral grassland was present in several locations across the survey area including within the Order Limits. Neutral grassland was identified within large open fields to the east and west of M60 J18, south of Whitefield Golf Club, within and north of Pike Fold Golf Club and within Philip's Park LNR. The species composition was generally similar throughout, with species including frequent perennial rye-grass *Lolium perenne*, Yorkshire fog, red fescue *Festuca rubra*, meadow buttercup *Ranunculus acris*, creeping buttercup *R. repens*, occasional soft rush and white clover *Trifolium repens*. As most of the areas were largely species poor and comprised predominately nutrient-favouring species, these grassland areas were categorised as being in poor condition, with some areas being categorised as moderate where species diversity increased.
- 3.2.28 Three areas of neutral grassland north-west of Simister Island and south of Whitefield Golf Club were more diverse. Species included frequent perennial rye-grass, Yorkshire fog, reed canary-grass *Phalaris arundinacea*, red fescue, meadow buttercup, occasional common sorrel, crested dogs-tail *Cynosurus cristatus*, ribwort plantain *Plantago lanceolata*, red bartsia *Odontites vernus*, common knapweed and an unconfirmed marsh orchid (*Dactylorhiza* sp.) species. In parts, soft rush dominated, with occasional wet depressions dominated by yellow flag iris. Two fields within the Order Limits at Cowl Gate Farm and Egypt Lane South (SD 8249 0599) have been identified as a possible ground water dependent ecosystems due to the abundance of rushes (Appendix 13.5: Groundwater Dependent Terrestrial Ecosystems Assessment Report of the Environmental Statement Appendices (TR010064/APP/6.3)). Due to the increased diversity of the grassland habitat the areas were categorised as being in good or moderate condition.

Modified grassland (g4)

- 3.2.29 Modified grassland was present in agricultural land, golf courses and amenity areas and was identified within the Order Limits. Areas of silage and heavily grazed fields were dominated by perennial rye-grass with Yorkshire fog, creeping buttercup, common mouse ear *Cerastium fontanum* and white clover occasional throughout. These fields were species poor due to intensive management, such as regular cutting, seeding and heavy grazing, and were therefore categorised as being in poor condition.

Wetland

Lowland fens (f2a) – Priority habitat

- 3.2.30 One area of lowland fen was identified within Hollins Vale SBI, located outside of the Order Limits. The fen was within a floodplain valley leading down to Hollins Brook and was overwhelmingly dominated by meadowsweet *Filipendula ulmaria* with frequent wild angelica *Angelica sylvestris*. Other species included occasional common valerian *Valeriana officinalis* and marsh marigold *Caltha palustris*. A spring was located approximately 100m south-west of the lowland fen and the area appeared to have several areas of flushing, indicating the fen was fed by the ground water and independent from the river habitat. Species bordering the watercourse included dominant bur-reed *Sparganium* sp. and glaucous sedge *Carex flacca*. Abundant Himalayan balsam was scattered throughout the fen and therefore the habitat was categorised as being in poor condition.

Cropland

Non-cereal crops (c1d)

- 3.2.31 Three areas of agricultural silage were identified during the field survey. One was north of Heaton Park within the Order Limits, one north of Egypt Lane bordering the Order Limits and the other south-east of the Scheme, south of Simister Lane and outside of the Order Limits.

Cereal crops (c1c)

- 3.2.32 One area of arable was located to the east of the Scheme, outside of the Order Limits, north of Simister Lane.

Watercourses and waterbodies

Other rivers and streams (r2b) – Priority habitat

- 3.2.33 There are seven named watercourses within the survey area: Hollins Brook, Whittle Brook, Castle Brook, Brightley Brook, Bradley Brook, Parr Book and Blackfish Brook (see Figure 13.1: Surface Water Receptors of the Environmental Statement Figures (TR010064/APP/6.2)). Three of these watercourses, Castle Brook, Blackfish Brook and Parr Brook are located within the Order Limits.
- 3.2.34 Hollins Brook flowed east to west and passed through Hollins Vale SBI. The watercourse was approximately 3m wide with an average water depth of 30cm. The substrate consisted predominately of pebble and rock, with sandy banks. Little aquatic vegetation was identified and banking vegetation comprised soft rush and yellow flag iris.
- 3.2.35 Brightley Brook was located to the east of Castle Road and flowed east to west. The watercourse is approximately 3m to 4m wide.
- 3.2.36 Whittle Brook was located to the north-east of the Order Limits and joins Hollins Brook at Pilsworth cottages. The watercourse flowed in a south to north direction and was approximately 5m wide with an average water depth of 60cm.

- 3.2.37 Castle Brook was located to the east of the Order Limits within Pike Fold Golf Club and flowed in a south to north direction. The watercourse was heavily managed and had a silt and mud substrate. The water quality was poor and turbid within significantly managed banks. The condition of watercourses is covered in the Rivers Metric Technical Note (Appendix 8.12: Biodiversity Net Gain Report of the Environmental Statement Appendices (TR010064/APP/6.3)).
- 3.2.38 Bradley Brook was located to the south-west of the Order Limits and flowed through Philips Park and North Wood SBI. The watercourse was approximately 4m wide with steep banks and a water level averaging 10-20cm. The banks were well vegetated and included several ancient woodland indicator species such as remote sedge, ramsons and wood anemone. Himalayan balsam was abundant along most of the surveyed watercourse, with new stands of Japanese knotweed emerging.
- 3.2.39 Blackfish Brook and Parr Brook, located north of Heaton Park Reservoir, were both identified as dry ditches during the UKHab survey.
- Standing open water and canals (r1)***
- 3.2.40 One area of standing open water and canals was identified at Heaton Park Reservoir, south of the survey area and outside of the Order Limits. This was identified within an area of restricted access and therefore categorised as r1.
- Eutrophic standing water (r1a) – Priority habitat***
- 3.2.41 Eighty-eight ponds were identified within the survey area and are described briefly in Annex B. Thirty ponds were not subject to UKHab survey due to lack of access and, as a precaution, were assigned a good condition. Six ponds are located within the Order Limits (Ponds 34, 37, 38, 71, 73, and 74) and a number, associated with adjacent golf clubs, are located with 10m of the Order Limits.
- 3.2.42 The ponds included man-made waterbodies and depressions in fields that hold water after heavy rainfall. However, most of the ponds (39) qualified as priority habitats, as they supported a range of aquatic fauna and flora. Pond 19 in Heaton Park was mapped as lowland fen on the Priority Habitat inventory. However, the field survey identified this area as a waterbody surrounded by trees and has therefore been categorised as eutrophic standing water.

Urban

Built-up areas and gardens (u1)

- 3.2.43 Built-up areas and gardens are present throughout the survey area. This habitat type was only found outside of the Order Limits.
- Developed land; sealed surface (u1b)***
- 3.2.44 Developed land; sealed surface is widespread throughout the survey area in the form of roads, pathways, car parks and hardstanding. This habitat type was identified within the Order Limits.

Buildings (u1b5)

3.2.45 Buildings that were not part of large residential areas and gardens were located within Unsworth Cricket Club and Pike Fold Golf Club. This habitat type was outside of the Order Limits.

Suburban/ mosaic of developed/ natural surface (u1d)

3.2.46 The western part of the study area comprised suburban/ mosaic of developed/ natural surface, including village and residential areas surrounding Prestwich and Unsworth. This habitat type was identified within the Order Limits.

Notable flora

3.2.47 Five notable botanical species were identified during the field surveys (all outside of the Order Limits):

- Native bluebell was identified within the woodland within Mere Clough LNR/AWI and Hollins Vale SBI
- Hollins Vale SBI included lowland fen with common valerian and acid grassland with tormentil
- An unidentified species of marsh orchid was recorded in neutral grassland north-west of Simister and south of Whitefield Golf Club
- The ground flora for Hedgerow (HG) 12 included wild strawberry

INNS

3.2.48 Several INNS listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and/or The Invasive Alien Species (Enforcement and Permitting) Order 2019 were recorded across the study area and are described in Table 3.6 below and shown in Figure 8.1.7: Invasive Species in Annex F. Where presence was recorded within the Order Limits, this is specified in Table 3.6. The INNS recorded are predominantly in addition to those identified within the desk study, excluding Philips Park LNR and Philips Park and North Wood SBI where Himalayan balsam, Japanese knotweed and rhododendron were recorded.

3.2.49 Species identified listed on Schedule 9 of Wildlife and Countryside Act 1981 (as amended) were: Himalayan balsam, montbretia, Japanese knotweed, Canadian waterweed, variegated yellow archangel, hollyberry and rhododendron. Nuttall's waterweed and Himalayan Balsam are also listed on the Invasive Alien Species Order 2019.

Table 3.6 INNS located within the survey area

Species	Location (central grid reference)	Description
Nuttall's Waterweed	SD 82013 08432	Occasionally occurring in a pond created for mitigation purposes, north of the survey area and outside the Order Limits.

Species	Location (central grid reference)	Description
Himalayan balsam	SD 82467 08370; SD 82485 08364; SD 82528 08364	Three areas situated along a woodland edge and adjacent to an access track, north of Brightly Brook. Located outside of the Order Limits.
Himalayan balsam	SD 81963 08315	Abundant to the north of the survey area and outside of the Order Limits within lowland fen habitat.
Rhododendron	SD 82535 08294	One stand of rhododendron was situated on a woodland edge adjacent to Brightly Brook. Located outside of the Order Limits.
Montbretia	SD 81698 07588	One individual within a plantation in Bury Golf Club, located outside of the Order Limits.
Himalayan balsam	SD 81763 07582	This species dominated the ground flora within a plantation in Bury Golf Club. Located outside of the Order Limits.
Japanese knotweed	SD 82454 06782	Locally dominant at the top of the embankment on the south bound side of the M66 within woodland adjacent to Pike Fold Golf Club. This is located within the Order Limits.
Canadian waterweed	SD 82827 06522	Occurring occasionally within Pond 9 at Pike Fold Golf Club, bordering the Order Limits.
Variiegated yellow archangel	SD 83459 06352	Identified with hawthorn scrub, located outside of the Order Limits.
Himalayan balsam	SD 83278 06013	Abundant within a plantation, north of Simister Lane. Located outside of the Order Limits.
Hollyberry cotoneaster	SD 83699 05096	Occasionally occurring in an area of screening woodland within Heaton Park Golf Club. Located outside of the Order Limits.
Rhododendron	SD 80462 04879	One plant in a plantation within Whitefield Golf Club. Located outside of the Order Limits.
Himalayan balsam	SD 80544 04652	Locally abundant along the footpath connected to Philips Park Road, south of Whitefield Golf Club. Located outside of the Order Limits.
Rhododendron	SD 80378 04628	Two large stands located on the woodland edge south of Whitefield Golf Club. Located outside of the Order Limits.
Japanese knotweed	SD 80117 04624	Locally dominant along the footpath connected to Philips Park Road, south of Whitefield Golf Club. Located outside of the Order Limits.

Species	Location (central grid reference)	Description
Rhododendron	SD 80060 04606	One stand of rhododendron south of a footpath connected to Philips Park Road within a woodland. Located outside of the Order Limits.
Himalayan balsam	SD 80044 04575	Occasionally occurring within woodland north of the M60, south of Whitefield Golf Club. Located outside of the Order Limits.
Japanese knotweed	SD 80603 04543	Locally occasional within an area of woodland in Philip's Park LNR. Located outside of the Order Limits.
Rhododendron	SD 80405 04498	One stand of rhododendron within Philip's Park LNR. Located outside of the Order Limits.
Himalayan balsam	SD 80341 04447	Occasionally occurring in a large area of woodland (approximately 210 x 168m) within Philip's Park LNR. Located outside of the Order Limits.
Himalayan balsam	SD 80436 04436	Occasionally occurring in an area of hawthorn scrub within Philip's Park LNR. Located outside of the Order Limits.
Japanese knotweed	SD 80382 04273	Occasionally occurring in a large area of woodland (approximately 476 x 30m) along Bradley Brook within Philip's Park LNR. Located outside of the Order Limits.

Hedgerows – UKHab and Hedgerows Regulations

Hedgerow (h2a)

- 3.2.50 The survey area supported a network of hedgerows bordering agricultural fields, access roads and footpaths, see Figure 8.1.3: Priority Habitats and Ancient Woodland in Annex F. Detailed survey results are presented in Annexes C-E. Of those surveyed, HG_15, HG_17, HG_19, HG_41, HG_42, HG_43 and HG_79 have an adjacent land use that does not fall under the scope of the Hedgerows Regulations and as such would not qualify as important.
- 3.2.51 Five hedgerows, HG_44, HG_31, HG_25, HG_17, and HG_12 were found to be species rich as they averaged a total of four or more Schedule 3 species per 30m section.
- 3.2.52 HG_20 was dominated by hawthorn with some beech and blackthorn and had been recently planted to mark the boundary between two fields. Hedgerows younger than 30 years of age are not covered under the scope of the Hedgerows Regulations and therefore HG_20 was not considered important.

- 3.2.53 Two of the hedgerows surveyed, HG_08 and HG_12, were determined to be important under wildlife/landscape criteria of the Hedgerows Regulations 1997. This is due to the presence of house sparrow *Passer domesticus*, which is a red listed bird species, recorded during the wintering bird surveys (see Appendix 8.7: Wintering Bird Survey Report of the Environmental Statement Appendices (TR010064/APP/6.3)).
- 3.2.54 Following an assessment of historical OS maps pre-dating 1850, five hedgerows, HG_21, HG_22, HG_23, HG_39 and HG_80, were found on an OS map dated 1848, therefore satisfying Schedule 1 part II paragraph 1 of the archaeological and historical criteria of the Hedgerows Regulations 1997. Therefore, all five are deemed important under this criterion.
- 3.2.55 A summary of the hedgerows subject to the Hedgerows Regulations assessment is presented in Table 3.7. Please note that numbering of hedgerows is intentionally not continuous.
- Other hedgerow (h2b)**
- 3.2.56 A single non-native ornamental hedge (HG_16) was located at Pike Fold Golf Club and is not considered a priority habitat or important hedgerow.

Table 3.7 Hedgerow survey results summary

Hedgerow unit reference	Species-rich?	Important – Archaeology / history criteria met (Annex C)	Important – Wildlife / landscape criteria met (Annex D)	Condition
HG_01	No*	No	No	Good**
HG_02	No*	No	No	Good**
HG_03	No*	No	No	Good**
HG_04	Unknown	No	Unknown	Good**
HG_05	No*	No	No	Moderate*
HG_06	No*	No	No	Good**
HG_07	No*	No	No	Moderate*
HG_08	No	No	Yes	Poor
HG_09	No	No	No	Poor
HG_10	No	No	No	Good
HG_11	No	No	No	Moderate
HG_12	Yes	No	Yes	Moderate
HG_13	No	No	No	Good
HG_15	No	No	No	Good

Hedgerow unit reference	Species-rich?	Important – Archaeology / history criteria met (Annex C)	Important – Wildlife / landscape criteria met (Annex D)	Condition
HG_16	No	No – Non-native	No – Non-native	N/A – Non-native
HG_17	Yes	No	No	Good
HG_19	No	No	No	Moderate
HG_20	No	N/A – Under 30 years	N/A – Under 30 years	Moderate
HG_21	No	Yes	No	Good
HG_22	No	Yes	No	Moderate
HG_23	No	Yes	No	Poor
HG_25	Yes	No	No	Poor
HG_26	No	No	No	Moderate
HG_29	No	No	No	Good
HG_30	No	No	No	Moderate
HG_31	Yes	No	No	Moderate
HG_32	No	No	No	Moderate
HG_34	No	No	No	Good
HG_35	No	No	No	Moderate
HG_36	No	No	No	Good
HG_37	No*	No	No	Good**
HG_38	No*	No	No	Good**
HG_39	No	Yes	No	Good
HG_41	No	No	No	Good
HG_42	No	No	No	Moderate
HG_43	No	No	No	Good
HG_44	Yes	No	No	Good
HG_45	No	No	No	Moderate
HG_46	No	No	No	Moderate
HG_47	No	No	No	Good
HG_49	No	No	No	Poor
HG_69	No*	No	No	Poor

Hedgerow unit reference	Species-rich?	Important – Archaeology / history criteria met (Annex C)	Important – Wildlife / landscape criteria met (Annex D)	Condition
HG_76	No*	No	No	Good**
HG_78	No	No	No	Good
HG_79	No*	No	No	Good*
HG_80	Unknown	Yes	Unknown	Good**

* = result taken from UKHab survey / online imagery

** = condition unknown but as a precautionary measure is assumed 'Good'

4 Evaluation

4.1 Designated sites

- 4.1.1 Rochdale SAC/SSSI was identified within the study area and was regarded as of **International Importance** due to its ecological significance, notably supporting a population of floating water plantain. The site was designated under international legislation as part of a network of European important nature conservation sites.
- 4.1.2 Other SSSI within the study area are of **National Importance** due to their designation under national legislation as part of a network of nationally important nature conservation sites.
- 4.1.3 LNRs and SBIs are of **County Importance** as they are designated based on the criteria for selection of criteria set at the county level.

4.2 Habitats

- 4.2.1 Fourteen habitat types ranging from **National** to **Local Importance** were identified within the survey area, detailed in Table 4.1 below. Where habitats are located within designated sites e.g. ancient woodland within a SBI, the SBI as a whole is of **County Importance** but the component ancient woodland habitat is of **National Importance**.
- 4.2.2 Where areas of habitats identified in county or equivalent authority plans or strategies are identified, including priority habitats, these are considered to be of **County Importance**. Areas of habitat considered to appreciably enrich the habitat resource within the local context including features of importance for migration, dispersal, or genetic exchange are classified as being of **Local Importance**.

Table 4.1 Evaluation of habitats identified within the survey area

Broad habitat type	Importance	Justification
Ancient Woodland	National	Two ancient woodland sites were located within the survey area: Philips Wood and Mere Clough. AWI sites designated to protect a rare and declining habitat. Ancient woodland is an irreplaceable habitat type.
Wet woodland priority habitat (w1d)	County	A priority habitat, located north of Brightley Brook surrounding a waterbody, comprising a mature willow canopy. A nationally declining habitat, uncommon habitat within the region and the study area.
Lowland mixed deciduous woodland (w1f7 and w1)	County	A priority and nationally declining habitat, uncommon habitat within the region and the study area.

Broad habitat type	Importance	Justification
Hedgerows (h2a)	County	A collective priority hedgerow network, including individual species-rich hedgerows, and those supporting mature trees or other notable species. A nationally declining, uncommon habitat within the region and the study area.
Eutrophic standing water (r1a)	County	Thirty-nine priority ponds representing a local and national declining resource.
Other broadleaved woodland (w1g7)	Local	Common and widespread habitats, typical of this region. Areas of habitat considered to appreciably enrich the habitat resource within the local context including features of importance for migration, dispersal, or genetic exchange.
Scrub (h3, h3d, h3f and h3h)	Local	
Other neutral grassland (g3c)	Local	
Other rivers and streams (r2b)	Local	
Modified grassland (g4)	Local	
Cropland (c1d and c1c)	Local	
Non-priority ponds (r1a)	Local	
Non-priority hedgerows (h2b)	Local	
Other coniferous woodland (w2c)	Local	
Line of trees (w1g6)	Local	

4.2.3 Three priority habitats identified during the desk study were assigned non-priority habitat classification during the field survey: one area of lowland fen (SD 82976 07156) was classified as standing water; two areas of traditional orchard (SD 8214 0603 and SD 8212 0608) were identified as other broadleaved woodland dominated by sycamore; and an area of wood pasture and parkland within Hazlitt SBI had an absence of ancient/veteran trees and so did not meet the criteria of that priority habitat.

4.3 Notable flora

4.3.1 Several notable plants species are present within the study area, particularly within semi-natural areas that are less intensively managed. There were five species of notable plant species identified during the field survey. The native bluebell being one, alongside red listed species: common valerian, tormentil and wild strawberry. Additionally, there was an unidentified species of marsh orchid. These were all considered to be of **Local Importance** due to their 'near threatened' status.

4.4 Hedgerow

4.4.1 A summary of the hedgerow assessment is as follows:

- A total of 34 hedgerows were surveyed. Two of which, HG_08 and HG_12, were classified as "important" under the wildlife and landscape criteria in the Hedgerows Regulations, due to the presence of a red listed bird species. Five hedgerows (HG_21, HG_22, HG_23, HG_39 and HG_80) were classified as important under the archaeological and historical criteria, as they are thought to pre-date 1850.
- Twelve hedgerows were not surveyed due to limitations (HG_01, HG_02, HG_03, HG_04, HG_05, HG_06, HG_07, HG_37, HG_38, HG_69, HG_76, HG_79). Their importance under the wildlife and landscape criteria is unknown. They should be presumed important if updated surveys are not completed prior to construction.
- Five hedgerows assessed (HG_44, HG_31, HG_25, HG_17, and HG_12) were classified as being species-rich.
- The vast majority of hedgerows within the survey area qualify as priority habitats for the conservation of biodiversity in England (S41: NERC Act 2006). With one exception being HG_16, a non-native ornamental hedge which does not qualify.

4.4.2 The collective hedgerow network within the survey area including individual species-rich hedgerows, and those supporting mature trees or other notable species are considered to be of **County Importance**, due to interconnecting priority hedgerows that serve as important habitats for a variety of flora and fauna.

4.5 INNS

- 4.5.1 Himalayan balsam, Japanese knotweed, rhododendron, Canadian waterweed, montbretia, hollyberry cotoneaster and variegated yellow archangel are included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and are found throughout the study area. Nuttall's waterweed and Himalayan balsam are also listed on The Invasive Alien Species (Enforcement and Permitting) Order 2019. These plants and should be treated appropriately or removed to prevent them spreading. Botanical INNS have not been attributed an ecological importance category as they are considered a feature causing adverse impact on other ecological resources rather than having an intrinsic value themselves.

Acronyms and initialisms

Acronym or initialism	Term
NERC	Natural Environment Research Council
BAP	Biodiversity Action Plan
CJP	Costain Jacobs Partnership
LPA	Local Planning Authority
SSSI	Site of Special Scientific Interest
SAC	Special Area of Conservation
INNS	Invasive non-native species
BMBC	Bury Metropolitan Borough Council
GMBAP	Greater Manchester Biodiversity Action Plan
SPA	Special Protection Area
SBI	Site of Biological Importance
LNR	Local Nature Reserve
AWI	Ancient Woodland Inventory
OS	Ordnance Survey

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Annex A Survey photographs, target notes and secondary codes




Table A.1 Target Notes and Photographs




Target note	Description	Photograph
TN1	Shoots of Japanese knotweed with small, young leaves of Himalayan balsam visible. Associated with Philip's Park LNR woodland	
TN2	w1f woodland associated with Heaton Park	




Target note	Description	Photograph
TN3	Running water within w1f woodland associated with Pond 19 within Heaton Park to the south-east of the Scheme	
TN4	Area of g3c grassland overwhelmingly dominated by soft rush, within provisional Order Limits directly adjacent to the southbound carriageway	
TN5	w1g stand of broadleaved woodland and surrounding g3c grassland of Pike Fold Golf Club	




Target note	Description	Photograph
TN6	HG_16 – h2b cypress ornamental hedge associated with Pike Fold Golf Club	
TN7	HG_15 and HG_19 associated with Pike Fold Golf Club	
TN8	HG_20 – young (<30 years) hedgerow dominated by hawthorn with occasional blackthorn and beech	

Target note	Description	Photograph
TN9	HG_45 – defunct hawthorn hedgerow located on the edge of Order Limits	
TN10	Castle Brook associated with HG_23 to the east of the Scheme	
TN11	HG_31 and g4 grassland to the east of the Scheme. Signs of heavy poaching	

Target note	Description	Photograph
TN12	Young stand of birch running directly adjacent to the northbound carriageway of the M60 to the north of the Scheme	
TN13	Hollins Brook to the north-west of the Scheme	
TN14	G4 Modified grassland – playing field associated with Unsworth Cricket Club	

Target note	Description	Photograph
TN15	Poor quality g4 modified grassland associated with Unsworth Cricket Club	
TN16	g3c – other neutral grassland within provisional Order Limits to the west of the Scheme	
TN17	Stand of birch trees close to the west of the Order Limits	

Target note	Description	Photograph
TN18	Small stand of INNS variegated yellow archangel north of Simister lane	
TN19	Small stretch of hedgerow surrounded by stands of broadleaved woodland, within g4 modified grassland.	
TN20	Woodland dominated by birch within a fenced off area south of Simister Lane to the south-east of the Scheme	

Target note	Description	Photograph
TN21	Marshy area with rush within g3c grassland, directly adjacent to southbound carriageway to the south of the Scheme.	
TN22	HG_09 - within g4 modified grassland. Heavy poaching by grazing pressure.	
TN23	w1g semi-natural broadleaved woodland adjacent to Heaton Park Reservoir	



Target note	Description	Photograph
TN24	HG-03 - Line of trees on the edge of provisional Order Limits to the south-west of the Scheme	
TN25	w1g woodland stand associated with Heaton Park	

Table A.2 UKHab Secondary Codes


Number	Secondary Code Description
10	Scattered Scrub
11	Scattered Trees
14	Scattered Rushes
15	Rushes Dominant
16	Tall herb
17	Ruderal/ephemeral
48	Non-Native
52	Coppice With Standards
53	Felled



Number	Secondary Code Description
56	Young Trees - Planted
57	Young Trees - Self-Set
58	Grazed
67	Dry Stone Wall
89	Car Park
540	Golf Course



Annex B Ponds located within the survey area



1.1.1 As per Appendix 8.8: Great Crested Newt Survey Report of the Environmental Statement Appendices (TR010064/APP/6.3), several ponds were identified via a desk study and online mapping resources. Some of these were subsequently scoped out for further survey during the completion of the HSI assessments as the pond did not exist when the location was visited. As a result, pond numbering is not sequential. Where there are gaps in pond numbering it has been confirmed through direct field observations that these ponds no longer exist.



Table B.1 Ponds located within the survey area



Pond number and Grid Reference	Description	Photograph
Pond 1 SD8248006892	Amenity pond on golf course. One mature ash on the north side, scattered ash, alder, and willow also present on banks. The water was murky, turbid with no invertebrates identified during the survey. The pond perimeter was fringed with compact rush <i>Juncus conglomeratus</i> . Water depth was approx. 1.5m deep. UKHab condition = moderate. This pond was likely to support species of high conservation importance e.g. UK Biodiversity Action Plan (BAP) species and qualified as a priority habitat.	



Pond number and Grid Reference	Description	Photograph
<p>Pond 2 SD8248006953</p>	<p>Amenity pond on golf course. Willow and alder scrub were occasional on the pond perimeter. Water was murky, turbid with no invertebrates identified during the survey. Pond perimeter was fringed with compact rush and rosebay willowherb <i>Chamaenerion angustifolium</i>. Water depth was approx. 1.5m deep.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
<p>Pond 3 SD8245907017</p>	<p>Amenity pond on golf course. Alder scrub on pond perimeter. Water was murky, turbid with no invertebrates identified during the survey. Pond perimeter was fringed with compact rush and soft rush <i>Juncus effusus</i> with bulrush <i>Typha latifolia</i> occasional. Water depth was 1.5m.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	




Pond number and Grid Reference	Description	Photograph
Pond 4 SD8238207105	<p>Amenity pond in the corner of the golf course. Surrounded by young birch dominated woodland. Species present included occasional bulrush, abundant duckweed <i>Lemna sp.</i> And occasional starwort <i>Callitriche stagnalis</i>. Water depth was 1.5m.</p> <p>UKHab condition = poor.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 5 SD8276307179	<p>Amenity pond in the rough of a golf course, adjacent to a water course with no hydrological connection. Shallow pond currently most likely to dry out in warmer months. 90% of pond filled with bulrush. Willow scrub surrounding pond edge.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 6 SD8283107113	<p>Amenity pond on golf course in rough grassland. Pond has algae present and 90% cover of bulrush. Pond drains into water course.</p> <p>UKHab condition = poor.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 8 SD8294606683	<p>In golf course by wet ditch and field boundary.</p> <p>Large pond with marginal and aquatic vegetation including soft rush, common reed <i>Phragmites australis</i>, bulrush, and starwort present.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 9 SD8283006516	<p>Pond in golf course bordering unmanaged field.</p> <p>Marginal vegetation includes soft rush, bulrush, willowherb, scattered willow and alder. Pond is connected to a wet ditch following a field boundary leading to a line of trees, and an unmanaged field. Frogspawn present within the waterbody.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 10 SD8273406540	<p>Large pond on well managed golf course with soft rush, bulrush, willowherb, scattered willow and alder bordering perimeter. Highly managed grassland surrounding. In close proximity to a line of trees and a less managed grassland area.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	




Pond number and Grid Reference	Description	Photograph
Pond 11 SD8271006627	<p>Large amenity golf course pond. Willow and alder scrub border the margins along with bulrush and common nettle. Water depth approximately 1.5m.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 12 SD8259306547	<p>Large amenity golf course pond. Bulrush and starwort are abundant. Scattered birch, willow and alder form a young tree line the north edge. Pond depth up to 1.5m.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 13 SD8215707011	<p>Not surveyed (inaccessible)</p> <p>It is assumed this pond has a good UKHab condition and qualified as a priority habitat.</p>	N/A
Pond 14 SD8215307026	<p>Not surveyed (inaccessible)</p> <p>It is assumed this pond has a good UKHab condition and qualified as a priority habitat.</p>	N/A
Pond 15 SD8213607051	<p>Not surveyed (inaccessible)</p> <p>It is assumed this pond has a good UKHab condition and qualified as a priority habitat.</p>	N/A




Pond number and Grid Reference	Description	Photograph
Pond 16 SD8230006823	<p>Pond at Unsworth Cricket Club within unmanaged grassland, scrub and scattered tree bank.</p> <p>Bulrush dominated pond with abundant floating sweet grass <i>Glyceria fluitans</i>. Section of bank was shaded and wooded with adjacent areas dominated by rank neutral grassland.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 17 SD8225406865	<p>Pond at Unsworth Cricket Club.</p> <p>Pond was bordered with willow scrub. Bulrush was frequent, duckweed was also present.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	




Pond number and Grid Reference	Description	Photograph
Pond 18 SD8286005429	<p>Large fishing pond in arable field.</p> <p>Large patch of bulrush within the waterbody. Mature oak trees were found along east side of perimeter.</p> <p>Approximately 2m water depth. Woodland was present to the west. Soft rush on perimeter. Highly turbid water.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 19 SD8345205103	<p>Heaton Park Lake. Highly shaded surrounded by semi-natural broadleaved woodland. Wildfowl utilising the waterbody. Silver birch and willow dominated the surrounding woodland. Small area of common reed and rushes south side.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 20 SD8303905208	<p>Pond in a naturalised area in Heaton Park.</p> <p>Dense willow scrub on banks, water depth approximately 1m with bulrush and water forget-me-not <i>Myosotis scorpioides</i> present.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g.</p>	




Pond number and Grid Reference	Description	Photograph
	UKBAP and qualified as a priority habitat.	
Pond 21 SD8214606289 Pond 22 SD8217206314 Pond 23 SD8216206303 Pond 24 SD8219106327 Pond 25 SD8217006332	<p>A series of five ponds within Sunnybank residential area. These were located within an unmanaged rough grassland. Marshy grassland dominated by soft rush surrounded these ponds. Aquatic and marginal species present included bulrush, marsh marigold, water plantain and floating sweet-grass. A vantage survey from the pond bankside appeared to show the ponds water depth at approximately 0.3-0.5m with clear water with algae blooms present in Pond 21.</p> <p>Pond 21 UKHab condition = moderate.</p> <p>Pond 22-25 UKHab condition = good.</p> <p>These ponds were likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 26 SD8325306399	<p>Natural pond in a garden. This pond was surrounded by non-native shrubs alongside holly, sycamore and mature willow trees. The pond did not appear to be lined and had steep banks and a stone wall to the south. Bullrush was occasionally present on the pond.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 27 SD8312306337	<p>Pond within horse pasture fields surrounded by willow scrub and hawthorn. No macrophytes identified at the time of the survey.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 28 SD8310406323	<p>Pond within horse pasture fields surrounded by willow scrub and hawthorn. No macrophytes identified at the time of the survey.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 29 SD8305406215	Pond within horse pasture field. One young willow tree located in the centre of the pond. Bulrush and rush species present on pond banks and algae was frequent on the water. UKHab condition = poor.	
Pond 31 SD8226806217	A field depression located in a horse pasture field. No aquatic or marginal species identified during the survey. UKHab condition = good.	
Pond 33a SD8345005784	A residential ornamental pond located in the garden surrounded by concrete flags and a lawn. UKHab condition = good.	




Pond number and Grid Reference	Description	Photograph
Pond 33b SD8352805834	<p>A lake in residential area. Willow scrub, bulrush and rushes bordered the edge of the pond. A large population of fish and wildfowl were both identified during the survey.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 34 SD8324605692	<p>A wet field depression in horse pasture. Aquatic species include frequent floating sweet-grass, occasional water starwort and algae blooms. Pond also adjacent to residential gardens.</p> <p>UKHab condition = poor.</p>	
Pond 37 SD8259906104	<p>Field depression in horse pasture.</p> <p>Pond located in a field depression in horse pasture. Floating sweet grass frequent, algal blooms present and approximately 0.3m deep. Pond adjacent to residential gardens.</p> <p>UKHab condition = good.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 38 SD8284306102	A flooded area of water within marshy grassland. Pond dominated by soft rush with floating sweet grass also frequent. The surrounding land comprises marshy grassland and a motorway. UKHab condition = good.	
Pond 40 SD8300206322	A depression within grazed horse pasture. No defined banks but scattered rushes present. UKHab condition = good.	
Pond 41 SD8350506412	Pond with a pasture field. No bank formation but scattered hawthorn and willow present on the pond edges. Aquatic vegetation included duckweed dominated with floating sweet-grass also present. The surrounding habitat included modified grassland and tall ruderal species such as rosebay willowherb. UKHab condition = poor.	



Pond number and Grid Reference	Description	Photograph
Pond 44 SD8310805153	Depression in pasture field with no defined banks. The surrounding habitat included modified grassland and semi natural broadleaved woodland. Aquatic species included occasional floating sweet-grass. UKHab condition = good.	
Pond 46 SD8322505105	Depression in cow pasture field with no defined banks. Macrophytes included water starwort. The surrounding habitat comprised heavily grazed modified grassland and broadleaved woodland. UKHab condition = good.	
Pond 48 SD8336006008	Pond artificially created in an allotment for drainage purposes. A small drainage ditch joined up to the pond. Macrophytes includes frequent water starwort and bulrush. The pond banks are dominated by bramble scrub, rush species and the INNS Himalayan balsam. Algae blooms present in the pond, depth unknown but likely > 0.5m. UKHab condition = poor.	



Pond number and Grid Reference	Description	Photograph
	<p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
<p>Pond 49 SD8323405158</p>	<p>Depression in a pasture field with no defined banks. The surrounding habitat included grazed modified grassland and broadleaved woodland. Aquatic species included abundant floating sweet-grass. UKHab condition = good.</p>	
<p>Pond 51 SD8225206044</p>	<p>Field depression in horse pasture. No aquatic or marginal species present. Likely to dry in warmer months. UKHab condition = good.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 52 SD8227406110	<p>Field depression in horse pasture. No aquatic or marginal species present. Likely to dry in warmer months.</p> <p>UKHab condition = good.</p>	
Pond 53 SD8219106244	<p>Pond located in a waterlogged pasture field. The pond margins appeared to be dominated by rush species. Aquatic species included floating sweet-grass and algae.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 55 SD8235206363	Field depression in horse pasture. No aquatic or marginal species present. The water was turbid at an estimated depth of 1.5m. UKHab condition = good.	
Pond 58 SD8278407157	Amenity pond on golf course. Located in the rough of a golf course. Surrounded by tussocky grassland, soft rush, reeds on pond edge. UKHab condition = moderate. This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.	
Pond 59 SD8284607147	Amenity pond on golf course surrounded by managed grassland. Pond was completely covered in bulrush, one willow scrub on south side. Compact rush on pond edge. The surrounding area included regularly mown grassland. UKHab condition = moderate. This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.	



Pond number and Grid Reference	Description	Photograph
Pond 61 SD8297407142	<p>Pond associate with Pike Fold Golf Club. Scattered willow scrub and compact rush were identified on the pond banks. Marginal species included dominant bulrush with floating sweet-grass and duckweed also present. The surrounding area comprised well-maintained and regularly mown grassland. A vantage survey from the pond bankside appeared to show turbid water at a depth >0.5m.</p> <p>UKHab condition = poor.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 62 SD8299107095	<p>Pond associate with Pike Fold Golf Club. Marginal species included common reed and soft rush. Scattered willow was present on the banks. The surrounding habitat included regularly mown grassland with patches of marshy grassland. The west end of the pond included semi-natural woodland.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 63 SD8314507023	<p>Pond associate with Pike Fold Golf Club. The pond was located in rough, with tussocky grassland scattered hawthorn, willow and rush species surrounding the pond edge. Bulrush dominated the pond.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 64 SD8324306827	<p>Pond associate with Pike Fold Golf Club. Macrophytes included common reed and bulrush species with marginal species including compact and soft rush. The surrounding habitat included well managed, regularly mown grassland as well as rough tussocky grassland. The pond was hydrologically linked to a drainage ditch that was dry at the time of the field survey.</p> <p>UKHab condition = moderate.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	



Pond number and Grid Reference	Description	Photograph
Pond 65 SD8298206890	<p>Pond associated with Pike Fold Golf Club. Pond surrounded by marshy grassland within the rough of the golf course. Marshy grassland dominated the banks and also appeared in the centre of the pond. Marginal species included occasional bulrush.</p> <p>UKHab condition = poor.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 66 SD8297706859	<p>Pond associated with Pike Fold Golf Club. An artificially created pond with an exposed lining. No aquatic or marginal vegetation was identified during the survey. The surrounding area comprised tussocky grassland.</p> <p>UKHab condition = good.</p>	


Pond number and Grid Reference	Description	Photograph
Pond 67 SD8292006848	<p>Pond associate with Pike Fold Golf Club. Habitat surrounding the pond included marshy grassland and dense willow scrub. A vantage survey from the pond bankside appeared to show water at < 0.1m deep, despite a sign indicating that deep water was present.</p> <p>UKHab condition = poor.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 68 SD8275506807	<p>Pond associate with Pike Fold Golf Club. The surrounding habitat included regularly mown grassland. No aquatic or marginal species were identified at the time of the survey however one mature willow was located on the south side of the pond.</p> <p>The functionality of this pond was a drainage pond, three drainage pipes from the golf course field fed into this pond.</p> <p>UKHab condition = poor.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	

Pond number and Grid Reference	Description	Photograph
Pond 69 SD8278106769	<p>A wet depression associate with Pike Fold Golf Club. Bulrush was frequent across within the pond with frequent rush species surrounding the pond. The wider area included grassland that was regularly cut.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 70 SD8281206657	<p>Pond associate with Pike Fold Golf Club. Marginal species included abundant bulrush and soft rush. The southern banks included willow and alder scrub habitat. The aquatic species water starwort was identified during the survey. A wooden bridge was located across the pond. A vantage survey from the pond bankside appeared to show a very varied water depth ranging from <0.1m deep but up to 0.5m at one point.</p> <p>UKHab condition = good.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	

Pond number and Grid Reference	Description	Photograph
Pond 71 SD8310306553	Flooded area in pasture field and likely to dry out annually. Aquatic species identified include algae and floating sweet grass. UKHab condition = poor.	
Pond 72 SD8353306368	Flooded area within pasture field and likely to dry out annually. No macrophytes were identified at the time of the survey. UKHab condition = good.	

Pond number and Grid Reference	Description	Photograph
Pond 73 SD8257205902	<p>A wet depression in a pasture field. Aquatic species identified included algae, water starwort, water plantain and floating sweet -grass. The surrounding habitat comprised marshy grassland dominated by rushes. A vantage survey from the bankside appeared to show water at <0.2m deep.</p> <p>UKHab condition = poor.</p>	
Pond 74 SD8236906034	<p>Field depression in horse pasture. Aquatic species identified include algae and floating sweet grass. A vantage survey from the bankside appeared to show water at <0.5m deep.</p> <p>UKHab condition = poor.</p>	

Pond number and Grid Reference	Description	Photograph
Pond 75a SD8212706359	<p>Pond south of Sunnybank Residential Area. This pond was located within a rough grassland field surrounded by marshy grassland. Aquatic and marginal species included bulrush and floating sweet-grass. A vantage survey from the pond bankside appeared to show the water depth at approximately 0.5m.</p> <p>UKHab condition = poor.</p> <p>This pond was likely to support species of high conservation importance e.g. UKBAP and qualified as a priority habitat.</p>	
Pond 75b SD8209908149	<p>Pond within council owned broadleaved woodland, located on the edge of a public footpath. The Pond had no defined banks and abundant leaf litter present. No macrophytes were identified at the time of the survey.</p> <p>UKHab condition = good.</p>	

Pond number and Grid Reference	Description	Photograph
Pond 77 SD8200807945	<p>Pond within council owned broadleaved woodland, located on the edge of a public footpath. The habitat surrounding the pond was being managed by volunteers at the time of the survey. Marginal and aquatic species included yellow flag iris and water starwort. The gradients of the banks were shallow, approximately 30 degrees and comprised broadleaved woodland bramble scrub. A vantage survey from the bankside showed water appeared to be approx 0.3m deep.</p> <p>UKHab condition = good.</p>	
Pond 81 SD8340805661	<p>Pond could only be viewed from afar due to being fenced off.</p> <p>Good condition.</p>	No photograph taken
Pond 100a SD8196608470	<p>Large mitigation pond area. Scrub on banks, aquatic vegetation includes water horsetail, yellow flag iris, Nuttall's waterweed. Pond approximately 200m by 8m. Pond oblong. Historical fishing pitches.</p> <p>UKHab condition = moderate.</p>	No photograph taken
Pond 83 SD8375505924 Pond 84 SD8372306576 Pond 85 SD8377506649 Pond 86 SD8385205041 Pond 87	<p>Not surveyed – Assumed good condition.</p>	

Pond number and Grid Reference	Description	Photograph
SD8030504958		
Pond 88		
SD8004704729		
Pond 89		
SD7992404205		
Pond 90		
SD8218008515		
Pond 91		
SD8251208434		
Pond 92		
SD8282807783		
Pond 93		
SD8287807503		
Pond 94		
SD8310807490		
Pond 95		
SD8284807221		
Pond 96		
SD8294007231		
Pond 98		
SD8322007122		
Pond 99		
SD8329207120		
Pond 100b		
SD8038105365		
Pond 101		
SD8366805589		
Pond 102		
SD8370605613		
Pond 103		
SD8374505652		
Pond 104		
SD8253508339		
Pond 106		

Pond number and Grid Reference	Description	Photograph
SD8206307520		
Pond 107		
SD8302705157		
Pond 108		
SD8175007612		
Pond 109		
SD8175507596		
Pond 110		
SD8219108610		
Pond 111		
SD8324605692		

Annex C Hedgerow survey results – archaeology and history criteria

Table C.1 Survey results of archaeology and history criteria of the Hedgerows Regulations 1997

Hedgerow Unit Ref. No.	HG_01	HG_02	HG_03	HG_04	HG_05	HG_06	HG_07	HG_08	HG_09	HG_10	HG_11	HG_12	HG_13	HG_15	HG_16	HG_17	HG_19
1. The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose, "historic" means existing before 1850.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
2. The hedgerow incorporates an archaeological feature which is— (a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979(7); or (b) recorded at the relevant date in a Sites and Monuments Record.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
3. The hedgerow— (a) is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and (b) is associated with any monument or feature on that site.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
4. The hedgerow— (a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at that date at a Record Office; or (b) is visibly related to any building or other feature of such an estate or manor.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
5. The hedgerow— (a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts; or (b) is part of, or visibly related to, any building or other feature associated with such a system, and that system— (i) is substantially complete; or (ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for the purposes of development control within the authority's area, as a key landscape characteristic.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Hedgerow Unit Ref. No.	HG_20	HG_21	HG_22	HG_23	HG_25	HG_26	HG_29	HG_30	HG_31	HG_32	HG_34	HG_35	HG_36	HG_37	HG_38	HG_39	HG_41	HG_42	HG_43	HG_44
1. The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose, "historic" means existing before 1850.	No	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes	No	No	No	No
2. The hedgerow incorporates an archaeological feature which is— (a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979(7); or (b) recorded at the relevant date in a Sites and Monuments Record.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
3. The hedgerow— (a) is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and (b) is associated with any monument or feature on that site.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
4. The hedgerow— (a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at that date at a Record Office; or (b) is visibly related to any building or other feature of such an estate or manor.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
5. The hedgerow— (a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts; or (b) is part of, or visibly related to, any building or other feature associated with such a system, and that system— (i) is substantially complete; or (ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for the purposes of development control within the authority's area, as a key landscape characteristic.	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Hedgerow Unit Ref. No.	HG_45	HG_46	HG_47	HG_49	HG_69	HG_76	HG_78	HG_79	HG_80
1. The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose, "historic" means existing before 1850.	No	No	No	No	No	No	No	No	Yes
2. The hedgerow incorporates an archaeological feature which is— (a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Archaeological Areas Act 1979(7); or (b) recorded at the relevant date in a Sites and Monuments Record.	No	No	No	No	No	No	No	No	No
3. The hedgerow— (a) is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and (b) is associated with any monument or feature on that site.	No	No	No	No	No	No	No	No	No
4. The hedgerow— (a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a Sites and Monuments Record or in a document held at that date at a Record Office; or (b) is visibly related to any building or other feature of such an estate or manor.	No	No	No	No	No	No	No	No	Yes
5. The hedgerow— (a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Enclosure Acts; or (b) is part of, or visibly related to, any building or other feature associated with such a system, and that system— (i) is substantially complete; or (ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act, for the purposes of development control within the authority's area, as a key landscape characteristic.	No	No	No	No	No	No	No	No	No

Annex D Hedgerow survey results – wildlife and landscape criteria

Table D.1 Survey results for hedgerows with associated criteria for wildlife and landscape importance

*Hedgerows that did not receive hedgerow survey under the hedgerows regulations, but criteria and importance added from UKHab data

Hedgerow unit reference number	HG_01*	HG_02*	HG_03*	HG_05*	HG_06*	HG_07*	HG_08	HG_09	HG_10	HG_11	HG_12	HG_13	HG_15	HG_16		
Wildlife / landscape features	Total no. of woody species in hedgerow	1	1	2	1	1	1	2	2	4	4	5	6	3	n/a	
	Average no. of woody species per 30m	1	1	2	1	1	1	2	2	3	3	4	3	3	n/a	
	Species-rich (4+ average)?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
	Adjacent to public path/byway/road open to public															
	Rare species present (WCA Sch 1, 5, or 8)							Yes – house sparrow				Yes– house sparrow				
	Features	Bank or wall												•		
		Less than 10% gaps								•		•	•			
		1+ standard tree per 50m														
		Over 100m and 1+ tree per 50m														
		3+ woodland species (Schedule 2)								•		•				
Ditch																
Connectivity score 4 or over																
Parallel hedge											•		•			

Number of features		0	0	0	0	0	0	0	0	2	0	3	2	1	n/a	
Important under wildlife/landscape criteria?		N	N	N	N	N	N	Y	N	N	N	Y	N	N	n/a	
Hedgerow unit reference number		HG_17	HG_19	HG_20	HG_21	HG_22	HG_23	HG_25	HG_26	HG_29	HG_30	HG_31	HG_32	HG_34	HG_35	
Wildlife / landscape features	Total no. of woody species in hedgerow	4	2	3	3	6	3	6	6	2	5	4	2	4	2	
	Average no. of woody species per 30m	4	2	3	3	3	2	4	3	2	3	4	2	2	2	
	Species-rich (4+ average)?	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	
	Adjacent to public path/byway/road open to public															
	Rare species present (WCA Sch 1, 5, or 8)															
	Features	Bank or wall					.		.						.	
		Less than 10% gaps	.								.					
		1+ standard tree per 50m	.										.	.		
		Over 100m and 1+ tree per 50m	.													
		3+ woodland species (Schedule 2)														
Ditch							.		.		.	.
Connectivity score 4 or over								.	.							
Parallel hedge		.		.	.		.	.	.	.	.	.	.	.

Number of features		3	1	n/a	1	2	1	3	3	2	2	3	2	2	0					
Important under wildlife/landscape criteria?		N	N	n/a – less than 30 years old	N	N	N	N	N	N	N	N	N	N	N					
Hedgerow Unit Ref. No.		HG_36	HG_37*	HG_38*	HG_39	HG_41	HG_42	HG_43	HG_44	HG_45	HG_46	HG_47	HG_49	HG_69*	HG_76*	HG_78	HG_79*	HG_80		
Wildlife / landscape features	Total no. of woody species in hedgerow	2	1	1	2	4	1	2	7	1	4	4	1	1	5	3	1	Unknown		
	Average no. of woody species per 30m	2	1	1	2	3	1	2	6	1	3	3	1	1	Unknown	3	1	Unknown		
	Species-rich (4+ average)?	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	Unknown		
	Adjacent to public path/byway/road open to public																	.		
	Rare species present (WCA Sch 1, 5, or 8)																			
	Features	Bank or wall							.	.		.					.
		Less than 10% gaps					.	.	.			.						.
		1+ standard tree per 50m																		
		Over 100m and 1+ tree per 50m																		
		3+ woodland species (Schedule 2)																		
		Ditch																		
		Connectivity score 4 or over																		
Parallel hedge				.	.	.	.	.		.	.	

	Number of features	0	0	0	1	2	2	3	2	0	2	2	0	0	0	1	2	Unknown
	Important under wildlife/landscape criteria?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Unknown - Hedgerow identified following an assessment of historical OS maps pre-dating 1850.

Annex F Figures

The figures in this annex have been included in separate documents as follows:

- Environmental Statement Appendix 8.1: UK Habitat Classification Survey Report Annex F: Figures (Figures 8.1.1-8.1.4):
 - Figure 8.1.1: UK Habitats Classification Survey Extents
 - Figure 8.1.2: Designated Sites
 - Figure 8.1.3: Priority Habitats and Ancient Woodland
 - Figure 8.1.4: Notable Plants and Invasive Species
- Environmental Statement Appendix 8.1: UK Habitat Classification Survey Report Annex F: Figures (Figures 8.1.5-8.1.7):
 - Figure 8.1.5: UK Habitat Classification Survey Results
 - Figure 8.1.6: Hedgerow Survey Results
 - Figure 8.1.7: Invasive Species