

# OTTERPOOL PARK

Environmental Statement (ES) Appendix 7.3: Habitat and Hedgerow Survey Report – Update to Include 2021 Survey Data

MARCH 2022

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## Executive Summary

Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake a habitat survey to inform an Environmental Impact Assessment (EIA) for the proposed Development and accompany an outline planning application. The proposed Development is 'Otterpool Park', a garden settlement located within Folkestone, Kent. The development area has been identified as an 'area of search'; hereafter, the area of search is referred to as "the site".

The site is located within Folkestone, Kent within the administrative boundary of Folkestone and Hythe District Council (F&HDC) and spans a large area located immediately south of Junction 11 of the M20 motorway. The site largely agricultural in nature with the majority of the site comprising arable and pasture fields, a disused horseracing course with an artificial lake ('Folkestone Racecourse Lake'), areas modified from historical use (airfields), existing historic settlements and relatively new industrial areas. The proposed Otterpool Park Area Development application site is approximately 589ha.

A Phase 1 habitat survey was conducted over multiple site visits between Autumn 2016 and Summer 2018. The survey was updated as the site conditions changed and access to different areas of the site was obtained, and a detailed botanical assessment was completed in June 2018. In April and May 2020 amphibian and mammal surveys were undertaken on the site during which changes in land use and habitat were identified. In 2021, further protected species surveys were undertaken on the site during which changes in land use and habitat were identified. Access to an additional area was also obtained in 2021 (Lyvenden adjacent to Stone Street), this was surveyed in 2021, and an National Vegetation Classification assessment was conducted on areas of the Lympne Airfield in 2021 to update the baseline data associated with this area. Only small changes in land use were identified (Figure 1, Figure 2). Overall, the results of the 2021 survey concluded that:

- No further surveys are required to inform a 2021 resubmission of the ES; and
- The valuations utilised in the 2018 submission are considered to be valid, with no evidence of any major changes in habitat within the site.

All habitats were mapped and assessed for their ecological value. This assessment will be utilised to inform a biodiversity net gain calculation (ES Appendix 7.21).

In addition, a hedgerow assessment was conducted across the site according to The Hedgerows Regulations 1997.

Across the site, a range of habitats were recorded. Of these, the largest by area were arable farmland and improved grassland pasture. However, there were more valuable habitats including hedgerows, ponds, rivers, woodland, wet woodlands and open mosaic habitats.

Habitats which are listed on Section 41 of the NERC Act 2006 (HMSO, 2006) and which were present on the site were:

- Rivers;
- Ponds;
- Arable Field Margins;
- Hedgerows;
- Traditional Orchards;
- Wet Woodland;
- Lowland Mixed Deciduous Woodland; and
- Open Mosaic Habitats on Previously Developed Land.

In order to maximise the value of the site for biodiversity in accordance with the mitigation hierarchy, the most valuable habitats will be avoided and buffered within the proposed Development. In addition, a range of valuable habitats, both within their own right and as habitat for notable floral and faunal species will be created within the proposed Development. These retained and created habitats would

be managed to maximise their biodiversity value as will be specified within a site Biodiversity Action Plan (BAP) (ES Appendix 7.20).

During the construction phase, measures would be employed to safeguard retained habitats, including fencing, pollution control measures and translocation of habitats (particularly hedgerows) where applicable.

Post construction, during the operation phase, impacts to retained and newly created habitats would be minimised through green infrastructure (GI) design to focus recreational impacts in certain areas and to minimise impacts to other areas, utilising topography, habitat and fencing to control recreational pressures.

# 1 Introduction

## 1.1 Overview

1.1.1 Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake a habitat survey to inform an Environmental Impact Assessment (EIA) for the proposed Development and accompany an outline planning application. The proposed Development is 'Otterpool Park', a garden settlement located within Folkestone, Kent. The proposed Development area has been identified as an 'area of search'; hereafter, the area of search is referred to as "the site".

## 1.2 Site Location and Setting

1.2.1 The site is located within Folkestone, Kent within the administrative boundary of Folkestone and Hythe District Council (F&HDC) and spans a large area located immediately south of Junction 11 of the M20 motorway. The site is largely agricultural in nature with the majority of the site comprising arable and pasture fields, a disused horseracing course with an artificial lake ('Folkestone Racecourse Lake'), areas modified from historical use (airfields), existing historic settlements and relatively new industrial areas. The site is approximately 589ha.

1.2.2 The M20 motorway, Channel Tunnel Rail Link and Westenhanger Station are located to the north of the site, beyond which lie the villages of Stanford and Postling within a largely rural setting including the Kent Downs Area of Outstanding Natural Beauty (AONB). This AONB extends to the east, beyond which lies the town of Hythe, and to the south where it includes Lympne village. The site also includes the settlements of Barrowhill, Sellindge, Westenhanger and Newingreen. Lympne Industrial Park and areas of woodland are located immediately south of the site. In addition, East Stour River flows through the site in a north-east to west direction. The site is centred on Ordnance Survey Grid Reference (OSGR) TR 111 363.

1.2.3 Photographs of the site can be found in Appendix A – Target Notes.



Image 1: Aerial imagery of the site

## 1.3 Proposed Development

- 1.3.1 The proposed Development is located on 589 ha of land within the wider study area as shown in Figure 1. The development proposals are to be submitted in outline for a new garden settlement accommodating up to 8,500 homes (use class C2 and C3) and E, F, B2, C1, Sui Generis development, including use of retained buildings as identified, with related infrastructure, including use of highway works, green and blue infrastructure, with access, appearance, landscaping, layout and scale matters to be reserved. A summary of the maximum floorspace areas for each land use type is provided in Chapter 4: The Site and the Proposed Development of the Environmental Statement (ES).

## 1.4 Legislation

### Habitats

- 1.4.1 Habitat legislation is covered by the designation of particular designated sites. Details of designated sites within the vicinity of the site and the associated protections are detailed in the site desk study report associated with the ES (ES Appendix 7.5).

### Hedgerows

- 1.4.2 Hedgerows are the only habitat which receives dedicated legal protection in England, with the exception of habitats protected by site designations (hedgerows can be protected whether they are within a designated site or not). This protection is conferred by the Hedgerows Regulations 1997, SI. 1160 (HMSO, 1997). The Hedgerows Regulations protect countryside hedgerows. It makes it an offence to remove these hedgerows without planning permission or specific approval.
- 1.4.3 The Regulations only apply to hedgerows adjacent to land in agricultural/horticultural use. A hedgerow may be classified as 'Important' for archaeological/historical reasons, or according to Wildlife and Landscape criteria. To be classified as 'important' under the Wildlife and Landscape criteria, the hedgerow must be over 30 years old and should comprise one of the following:
- \*at least 7 woody species/30m;
  - \*at least 6 woody species/30m and at least 3 features;
  - \*at least 6 woody species/30m including any one of four key species (see below);
  - \*at least 5 woody species and at least 4 features;
  - or if adjacent to a bridleway/footpath, at least 4 woody species and at least 2 features.
- \*If the hedgerow is situated wholly or partly in one of the counties listed in Criteria 7 subparagraph (2) of the Regulations, the number of woody species should be reduced by one.
- 1.4.4 A hedgerow may also be classified as 'important' due to the presence/recorded presence of particular animal and plant species (if it contains protected species listed in the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981) or species that are endangered, vulnerable and rare and identified in the British Red Data books); or qualify under archaeological / historical criteria, namely that it:
- marks all or part of a parish boundary that existed before 1850;
  - contains an archaeological feature such as a scheduled monument;
  - is completely or partly in or next to an archaeological site listed on a Historic Environment Record (HER), (formerly a Sites and Monuments Record);
  - marks the boundary of an estate or manor or looks to be related to any building or other feature that's part of the estate or manor that existed before 1600; and
  - is part of a field system or looks to be related to any building or other feature associated with the field system that existed before the enclosure Acts (that is before 1845).



## 1.5 Policy

1.5.1 This section outlines the policy relating to hedgerows and habitats. Policies relating to trees are stated in the separate Tree Constraints Report (ES Appendix 7.4).

### Habitats

#### National habitat policy

##### National Planning Policy Framework (NPPF) (HMSO, 2021)

1.5.2 The NPPF has three overarching objectives to deliver net gains:

*“Achieving sustainable development means that the planning system has 3 overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):*

- a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure*
- b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities’ health, social and cultural well-being; and*
- c) an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”*

1.5.3 It also states:

*“To protect and enhance biodiversity and geodiversity, plans should:*

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity<sup>61</sup>; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation<sup>62</sup>; and*
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

1.5.4 When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons <sup>63</sup> and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should*

*be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”*

**Section 41 priority habitats**

- 1.5.5 UK Biodiversity Action Plan (UK BAP) priority habitats were those that were identified as being the most threatened and requiring conservation action under the UK BAP. The original list of UK BAP priority habitats was created between 1995 and 1999 and was revised in 2007.
- 1.5.6 As a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK list of priority habitats, however, remains an important reference source and has been used to help draw up statutory lists of priority habitats in England, Scotland, Wales and Northern Ireland, as required under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006 (HMSO, 2006).
- 1.5.7 The following habitats are listed on the S41 of the NERC Act 2006 (HMSO, 2006) and are also relevant to the site, as shown in Table 1.

Table 1: Section 41 habitats that are relevant to the site.

S41 broad habitat type	S41 habitat on site	Habitat description
Rivers and Streams	Rivers	Although the East Stour River within the site is unlikely to qualify as a priority habitat under the description provided within the BAP habitat documentation, there are associated priority habitats, both wet woodland on site and chalk streams which are down-stream associated with the Great Stour. As such this habitat will be treated as a S41 habitat within this ES.
Standing Open Waters and Canals	Ponds	Within the site there are multiple ponds which would qualify as priority habitats.
Arable and Horticultural	Arable Field Margins	A proportion of the site is managed as arable land under the HLS (Higher Land Stewardship scheme). The arable fields within this area have varied field margins which would qualify under this habitat classification.
Boundary and Linear Features	Hedgerows	Across the site there are multiple hedgerows. These are outlined in more detail in the hedgerow sections of this report.
Broad-leaved, Mixed and Yew Woodland	Traditional Orchards	Within the site there is one area south of the A20 which is indicative of an orchard but does not appear to be managed as such. At the time of surveys, this area was grazed with sheep.
Broad-leaved, Mixed and Yew Woodland	Wet Woodland	Along the East Stour River and its tributaries and south of the Folkestone Racecourse Lake there are areas of wet woodland. These areas are likely to qualify as priority habitat.
Broad-leaved, Mixed and Yew Woodland	Lowland Mixed Deciduous Woodland	Within the site there are a few areas of mixed deciduous woodland. Park Wood in particular would qualify as a priority habitat.
Inland Rock	Open Mosaic Habitats on Previously Developed Land	One area of the site, an old quarry site which was being used as a lorry park (disused at the time of reporting) would qualify under this description.



### The 25 Year Environment Plan (2019)

1.5.8 The 25 Year Environment Plan further supports the NPPF by reinforcing in Chapter 1: Using and managing land sustainably that:

*“Embedding an ‘environmental net gain’ principle for development, including housing and infrastructure.”*

1.5.9 And that

*“Current policy is that the planning system should provide biodiversity net gains where possible.”*

### Local habitat policy

1.5.10 The following local policies refer to habitats and / or GI and are applicable to the proposed Development. Only those that are applicable are referenced here.

### Shepway District Council Local Plan Review (2006)

#### Policy CO11 (Nature Conservation)

1.5.11 The District Planning Authority will not give permission for development if it is likely to endanger plant or animal life (or its habitat) protected under law and/or identified as a UK Biodiversity Action Plan priority species or cause the loss of, or damage to, habitats and landscape features of importance for nature conservation, unless: there is a need for development which outweighs these nature conservation considerations and measures will be taken to minimise impacts and fully compensate for remaining adverse effects.

#### Policy CO13 (Nature Conservation)

1.5.12 Development proposals likely to have a harmful effect on the freshwater environment, including water courses, natural ponds, canals and sewers and adjoining banks, will only be permitted where harmful impact will be minimal, and where benefit in the form of increased access and / or water based recreation outweigh the negative effects. In such cases, measures should be taken to minimise impacts and fully compensate for remaining adverse effects.

### Shepway Core Strategy (Shepway District Council, 2013), with all significant additional wording from the Core Strategy Review Submission Draft (F&HDC, 2020).

#### Policy CSD4 (Green Infrastructure of Natural Networks, Open Spaces and Recreation)

1.5.13 Improvements in green infrastructure (GI) assets in the district will be actively encouraged as will an increase in the quantity of GI delivered by Shepway District Council working with partners and developers in and around the sub-region, including through pursuing opportunities to achieve net gains in biodiversity, and positive management of areas of high landscape quality or high coastal/recreational potential.

1.5.14 Green infrastructure will be protected and enhanced and the loss of GI uses will not be allowed, other than where demonstrated to be in full accordance with national policy, or a significant quantitative or qualitative net GI benefit is realised, or it is clearly demonstrated that the aims of this strategy are furthered and outweigh its impact on GI. Moreover:

- Development must avoid a net loss of biodiversity.
- [This point has been amended in F&HDC (2020) to: “Development must avoid a net loss of biodiversity, [and] achieve net gain over and above residual loss”]
- The highest level of protection in accordance with statutory requirements will be given to protecting the integrity of sites of international nature conservation importance.
- A high level of protection will be given to nationally designated sites (SSSI and Ancient Woodland) where development will avoid any significant impact.
- Appropriate and proportionate protection will be given to habitats that support higher-level designations, and sub-national and locally designated wildlife/geological sites (including Kent BAP habitats, and other sites of nature conservation interest).
- Planning decisions will have close regard to the need for conservation and enhancement of natural beauty in the AONB and its setting, which will take priority over other planning

considerations. Elsewhere development must not jeopardise the protection and enhancement of the distinctive and diverse local landscapes in Shepway (especially where these support the setting of the AONB), and must reflect the need for attractive and high-quality open spaces throughout the district.

1.5.15 Shepway's GI network shown in Figure 5.3, and other strategic open space, will be managed with a focus on:

- Adapting to and managing climate change effects.
- Protecting and enhancing biodiversity and access to nature, particularly in green corridors and other GI Strategic Opportunities in Figure 5.3, with appropriate management of public access (including a Sustainable Access Strategy for Dungeness and together with a strategic approach to the international sites as detailed above); and also avoiding development which results in significant fragmentation or isolation of natural habitats.
- Identifying opportunities to expand the GI functions of greenspaces and their contribution to a positive sense of place (including enhancements to public open spaces and outdoor sports facilities).
- Tackling network and qualitative deficiencies in the most accessible, or ecologically or visually important GI elements, including improving the GI strategic fringe zones in Figure 5.3 through landscape improvements or developing corridors with the potential to better link greenspaces and settlement.

#### Folkestone & Hythe District Council Core Strategy Review (submission draft 2020) with 2021 Main Modifications

#### Policy CSD4 (Green Infrastructure of Natural Networks, Open Spaces and Recreation)

##### **Green Infrastructure of Natural Networks, Open Spaces and Recreation**

1. The council will require development proposals over their lifetime:

- To provide net gains in biodiversity at least to comply with statutory and/or national policy requirements (assuming no residual loss);
- To demonstrate that they protect and enhance valued landscapes, sites of biodiversity or geological value and soils, commensurate to their status and quality;
- So far as possible, to deliver improvements in green infrastructure (GI) assets in the district and ensure positive management of areas of high landscape quality or high coastal/recreational potential identified in the Green Infrastructure Report (2011) (or any updates to this report).

2. Green infrastructure will be protected and enhanced and the loss of GI uses will not be allowed, other than where demonstrated to be in full accordance with national policy, or a significant quantitative or qualitative net GI benefit is realised or it is clearly demonstrated that the aims of this strategy are furthered and outweigh its impact on GI. Moreover:

- The highest level of protection in accordance with statutory requirements will be given to protecting the integrity of sites of international nature conservation importance;
- A high level of protection will be given to nationally designated sites (sites of Special Scientific Interest and Ancient Woodland) where development will avoid any significant impact;
- Appropriate and proportionate protection will be given to habitats that support higher-level designations, and sub-national and locally designated wildlife/geological sites, to include Local Wildlife Sites (LWS), Kent Biodiversity Action Plan habitats, and other sites of nature conservation interest.
- Planning decisions will have close regard to the need for conservation and enhancement of landscape and scenic beauty in the Kent Downs Area of Outstanding Natural Beauty (AONB, which will be given the highest status of protection in relation to these issues. Development within the setting of the AONB should be sensitively located and avoid or minimise adverse impacts on the AONB. Elsewhere development must not jeopardise the protection and enhancement of the district's distinctive and diverse local landscapes, and must reflect the need for attractive and high-quality open spaces throughout the district; and

- Planning applications will need to be supported by ecological surveys, mitigation strategies (when required) and enhancement plans, in order to follow and apply the mitigation hierarchy, as appropriate
3. The GI network shown in Figure 5.2 and identified in supporting evidence, and other strategic open space, will be managed with a focus on:
- Adapting to and managing climate change effects;
  - Protecting and enhancing biodiversity and access to nature, particularly in green corridors and other GI strategic opportunities in Figure 5.2, with appropriate management of public access (including the Sustainable Access and Recreation Management Strategy for Dungeness and together with a strategic approach to the international sites as detailed above); and also avoiding development which results in significant fragmentation or isolation of natural habitats.
  - Identifying opportunities to expand the GI functions of greenspaces and their contribution to a Beneficial sense of place (including enhancements to public open spaces and outdoor sports facilities); and
  - Tackling network and qualitative deficiencies in the most accessible, or ecologically or visually important GI elements, including improving the GI strategic fringe zones in Figure 5.2 through landscape improvements or developing corridors with the potential to better link greenspaces and settlements.

## Policy SS7 (New Garden Settlement – Place Shaping Principles)

### **1. A landscape-led approach**

a) The design and layout of the development shall be landscape-led and include within it structural landscaping in order to avoid or minimise adverse impacts on the Kent Downs AONB and views into and out of the AONB. Where required to mitigate any such impacts arising from the development, structural planting shall be carried out at an appropriate stage in relation to each phase in order to optimize its effectiveness, and include the provision of new habitats for priority nature conservation species. Applications shall be accompanied by a landscape and visual impact assessment that should inform the landscaping scheme at a structural and local level. The assessment should consider the proposal itself and any cumulative impacts arising from developments in the vicinity of the proposal; and

b) A green and blue infrastructure strategy shall be developed that enhances existing green and blue infrastructure assets in accordance with Policy CSD4. Additionally, the strategy shall deliver:

- Advanced woodland planting and habitat creation using native species to benefit later phases of development, particularly from prominent locations visible from the Kent Downs Area of Outstanding Natural Beauty, and to avoid as far as possible temporary loss of biodiversity value when construction begins. Advanced woodland planting, habitat creation and community green space shall also be designed to relate to local landscape character and to prevent the coalescence of the new settlement with Lympe and to separate neighbourhoods within the settlement itself. Planting and habitat creation should also be used to provide distance buffers between the M20/High Speed transport corridor for noise and air quality mitigation purposes;
- Clear net biodiversity gains over and above residual losses through the planting of native species and the creation of green ecological corridors to improve species' ability to move through the environment in response to predicted climate change, and to prevent isolation of significant populations of species. The strategy shall enhance nearby Harringe Brooks Ancient Woodlands, Local Wildlife sites, Otterpool Quarry site of Special Scientific Interest and other sensitive ecological features, including the existing pond at the former Folkestone Racecourse. Enhancements may include improvements to ecological connections both within and outside the allocation boundary, their future management and community access where appropriate. Proposal must demonstrate that there will be non impact on the Lympe Escarpment Site of Special Scientific Interest, unless exceptional circumstances can be demonstrated, in line with Places and Policies Local Plan Policy NE2;
- A pollinator network throughout the settlement with connection to the wider countryside, with the aim of providing all-year round support for pollinators, through the use of native species;
- A new country park, easily accessible from the town centre and beyond and supported by and linked to other areas of strategic open space, that enhances the historic landscape setting of Westenhanger Castle;
- Playing fields and sports provision, play areas, informal open spaces, allotments and woodland located to maximise use and meet the sporting, leisure and recreational needs of the garden settlement as informed by the council's Playing Pitch and Sports Facilities Strategies;
- Publicly accessible, well-managed and high quality open spaces, which are linked to the open countryside and adjoining settlements. This shall be informed by an access strategy that seeks to protect and enhance existing public rights of way, and create new public rights of way. The strategy shall balance demands for public access with ecological and landscape protection, taking into account the impacts of increased access on the Kent Downs AONB and Folkestone to Etchingill Escarpment Special Area of Conservation and other protected areas, which might necessitate the need for mitigation to be secured;
- Sustainable drainage systems (SuDS) to maximise landscape and biodiversity values and to avoid any increase in, and where possible reduce, downstream flooding of the East Stour River, developed as part of an integrated water management solution; and]
- A long-term security and management plan of the Green Infrastructure estate which ensures community involvement and custodianship.

## Hedgerows

1.5.16 The following local policies refer to hedgerows and are applicable to the proposed Development.

Shepway District Council Local Plan Review (2006) (Shepway District Council, 2006)

Policy SD1 (Sustainable Development)

1.5.17 All development proposals should take account of the broad aim of sustainable development - ensuring that development contributes towards ensuring a better quality of life for everyone, now and for generations to come. This involves meeting economic and social objectives and helping people meet their personal aspirations through accommodating the district's need for commercial and industrial development, new homes and other land uses and improving quality of life for all members of society whilst respecting the following environmental criteria:

*“Maintain and enhance the provision of recreational open space, amenity land and tree and hedgerow cover”*

The Kent Downs AONB Landscape Design Handbook (2006)

New Built Development

*“Use native woodland, shaw, hedgerow planting as appropriate to local character and open space to integrate new development. Use advance planting of native local trees and shrubs.”*

## 1.6 Conservation Status

### Habitats

1.6.1 In the last century there have been enormous declines in the extent of semi-natural habitats across the UK. Recent surveys are still showing habitat declines (RSPB, 2013). In terms of priority habitat types, between 1990 and 1998 there was a significant decrease in calcareous and acid grassland, rivers and streams, inland rock and boundary linear habitats. Conversely the amount of broad-leaved woodland, fen, marsh and swamp and built up gardens has increased, although the UK is still very sparsely wooded at around 11.5% coverage (Natural England 2008). As of March 2018, of the 24 priority habitats within the UK that were assessed in terms of condition, Traditional Orchard and Deciduous Woodland were amongst the poorest with 16% and 52% respectively being in target condition (Natural England 2018).

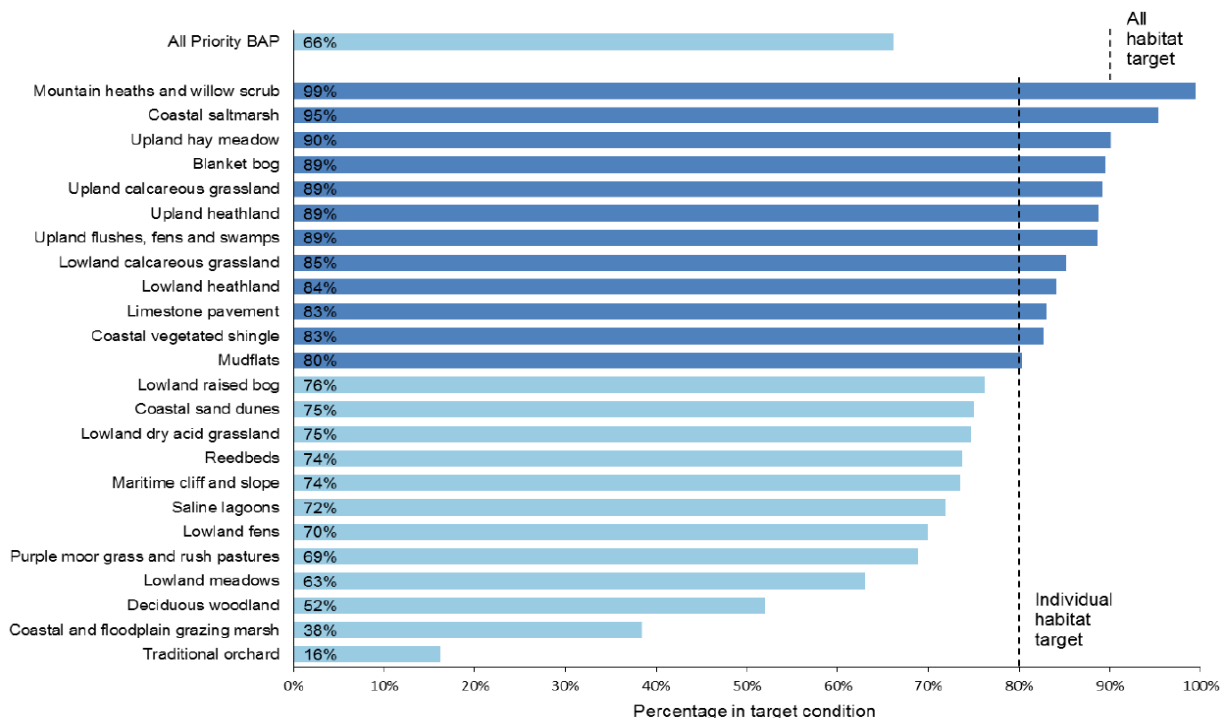


Image 2: Percentage of individual priority habitats in target condition (Natural England, 2018)

## **Hedgerows**

- 1.6.2 The number of hedgerows in the UK began to decline after the second world war. In some parts of the UK, reductions of up to 50 per cent of hedgerows has occurred since 1950. Loss of hedgerows has been identified as a factor in the decline of many plant and animal species traditionally associated with farmland. The rate of hedgerow loss has reduced in recent years (RSPB, 2018).



## 2 Methodology

### 2.1 Desk Study

- 2.1.1 Desk-based ecological information was analysed within 2km for non-statutory designated sites, protected sites and protected or otherwise notable species. The search area was extended to 5km for nationally designated statutory sites (including Sites of Special Scientific Interest (SSSIs), Local Nature Reserves) and to 10km for internationally designated sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites). This data was obtained from Magic Mapping (online) and review of aerial imagery.
- 2.1.2 In addition, data was obtained by Arcadis from KMBRC (Kent and Medway Biological Records Centre), in March 2018, with an update obtained in April 2020. This data is presented in its raw format within Appendix 7.5. Data from KMBRC included information on protected and notable species, invasive species and non-statutory designated sites. Non-statutory designated sites within 2km of the site were identified. This data is utilised within the ES assessments and to inform the surveys detailed in ES Appendices 7.6 – 7.17.
- 2.1.3 This data was also utilised to inform the habitat surveys but is not reported fully in this report. The full details of the desk study are presented in the ES Chapter (Chapter 7) with the raw data from the records centre presented in the desk study report associated with (ES Appendix: 7.5).

### 2.2 Field Survey

#### Phase 1 Habitat Survey 2016-2018 and 2020-2021

- 2.2.1 The initial Phase 1 habitat survey (JNCC, 2010) was conducted over multiple site visits between autumn 2016 and summer 2018. Further changes in land use and habitats were noted during amphibian and mammal surveys in spring 2020 as well as during habitat update surveys in spring and summer 2021, alongside other ecological surveys. The Phase 1 habitat map was updated as the site conditions changed and access to different areas of the site was permitted via dedicated surveys and incidental observations. The table below shows the dates of the dedicated surveys (Table 2). Target Notes (TNs) referred to in Table 2 are presented in Figure 1 and Figure 2 and in described in Table 8 in Appendix A. Pen portraits of the key surveyors are presented in Appendix D.
- 2.2.2 Detailed botanical assessments were also undertaken on areas with potential botanical interest these are detailed in Table 3. These surveys included a generic detailed botanical assessment and on a separate occasion a National Vegetation Classification (NVC) survey, a method that helps to identify the community of plants in a habitat and likely associations. An NVC survey includes the monitoring of all plants present in similar (homogeneous) stands of plant composition and structure.

Table 2: Dates and details of dedicated Phase 1 habitat surveys 2016-2018 and 2020

Date	Surveyor(s)	Areas Accessed
4 – 6/10/2016	Brandon Murray and Guy Stone	Main site, particularly the racecourse and farmland.
25/10/2016	Brandon Murray and Martina Girvan	Lympne Airfield and land north of Lympne, targeted surveys on other areas of the site.
10/05/2017	Aline Brodzinski and Ellen Poppleton	Land including two small young woodland south of the A20, (TN207, 208, 209).
04/08/2017	Brandon Murray, Alex Ward	Properties along the south of the A20 (The Willows, north of the A20 (White House) Cob Tree Cottage) and Upper Otterpool (TN95, 170, 171, 214).
14/08/2017	Hannah Tracey, Jon Carter	Lorry Park south of the A20 centred on (TN180).
03/05/2018	Brandon Murray	Hilhurst Farm and surrounds centred on (TN50).

Date	Surveyor(s)	Areas Accessed
11/05/2018	Brandon Murray and Katy Smart	Field west of Stone Street centred on (TN68)
31/05/2017	Brandon Murray and Ewan Gibson	Land owned by Pack and Holiday Extras Centred on (TN70).
14/06/2016	Brandon Murray and Rebecca Beale	South of the A20 around The Willows (TN233). North of the A20, 'Whiteways' and 'Boleh' (TN264).
15/06/2018	Brandon Murray and Rebecca Beale	North of the A20 Rose Cottage (TN231).
21/06/2018	Brandon Murray	Little Greys Cottages (TN258)
28/06/2018	Brandon Murray and Katy Smart	Arable field adjacent to Cob Tree Cottage (TN260). North of the A20 'Killymoon' (TN263)
30/04-01/05/2020	Brandon Murray, Ewan Gibson	Area surrounding ponds during great crested newt surveys (pond HSI and eDNA) and a water vole and otter survey.
05-07/05/2020	Brandon Murray, Rory Roche	Most of the site excluding areas without access, in tandem with badger, water vole and otter surveys.
15/05/2020	Brandon Murray	Remaining areas not already surveyed in 2020 (around buildings scattered over the site).
19/04/2021	Brandon Murray	Lympne Airfield, farmland west of Barrowhill / Otterpool Lane, Folkestone Racecourse.
29/06/2021	Joel Cronin	Land west of Stone Street (Lyveden)

Table 3: Dates and details of dedicated detailed botanical assessments / NVC Surveys

Date	Surveyor(s)	Areas Accessed
12-13/06/2018	Brandon Murray, Martina Girvan	Semi-natural grassland classification areas and general habitat distinctiveness and condition assessment
05/06/2021	Mike Head	Lympne airfield and adjacent habitats.

2.2.3 The Phase 1 habitat survey categorised and mapped the dominant habitat types, TNs provided additional information on notable features or for areas too small to map. Dominant plant species were noted, as were any uncommon species, non-native invasive species or species indicative of valuable habitat types. Botanical names follow Stace (2010), for ease of reading their scientific names are presented within Appendix C rather than throughout the document. The Phase 1 habitat survey was extended to include an assessment of the potential of the habitats to support protected or otherwise notable fauna, but this data is not discussed here. This data is fully presented in ES Chapter 7: Biodiversity.

### Grassland Categorisation

2.2.4 Within the site, there were a range of grassland habitats. The identification of a grassland typologies with the Phase 1 habitat classification definitions can be interpreted differently by different ecologists, therefore a standardised approach was utilised. This was based upon the methodology defined in Magnificent Meadows (2018), which in turn is based upon the Higher Level Stewardship (HLS) Farm Environment Plan (Natural England, 2010). The HLS FEP is



also a defining document for the Defra Biodiversity Metric (Defra, 2012). Table 4 presents the categorisations utilised for each of the grassland habitat types.

Table 4: Grassland identification descriptions utilised.

Grassland Type	Identification
Amenity grassland	This habitat is identified by its low species diversity, coupled with its management and usage (mown and utilised for amenity purposes).
Improved grassland	This habitat has a low grass species diversity (eight or fewer species per m <sup>2</sup> ) and a coverage of forbs and wildflowers (excluding White Clover, Creeping Buttercup and injurious weeds) of less than 10%, and is dominated by Perennial Rye-grass and Creeping Buttercup with more than 50% of the sward being these species or other agricultural species.
Species-poor semi-improved grassland	This is a transitional habitat, not being sufficiently species poor to be improved grassland but having too low a diversity to be classified as semi-improved neutral grassland. Within the classification utilised, this had 9 – 15 species per m <sup>2</sup> and a cover of Perennial Rye-grass and White Clover of less than 30% as per the semi-improved neutral grassland, but with less wildflower and forb diversity i.e. has less than five semi-improved grassland wildflower indicators and/or indicators of priority grassland occasional in the sward.
Semi-improved neutral grassland	Within the classification utilised, this habitat had 9 – 15 species per m <sup>2</sup> and a cover of Perennial Rye-grass and White Clover of less than 30%, with sufficient species composition diversity to allow identification of this habitat as a neutral grassland. These largely showed less signs of improvement or intensive management than the species poor semi-improved grassland. This is separated from species poor semi improved grassland by having at least five semi-improved grassland wildflower indicators and/or indicators of priority grassland.
Unimproved grassland	N/A Not present within the site. Cover of Perennial Rye-grass and White Clover is less than 10%. The sward is species-rich, more than 15 vascular plant species per m <sup>2</sup> . There is a high cover of wildflowers and sedges (more than 30%), excluding White Clover, Creeping Buttercup and injurious weeds.

## Hedgerow Survey 2018

2.2.5 A Hedgerows Regulations Assessment was conducted to determine the legislative status of the hedgerows (i.e. the status of each hedge with regard to the Hedgerows Regulations 1997 (HMSO, 1997) under the wildlife and landscape criteria). The dates of these surveys are presented in Table 5. Further information on the Hedgerow Assessment are presented in Appendix C. Where hedgerows could be determined to not meet the Hedgerows Regulations requirements from data obtained during the Phase 1 survey, these were not re surveyed (i.e. hedgerows bordering residential properties and single species Leyland Cypress hedges).

Table 5: Dates of Hedgerow Survey 2018

Date	Surveyors	Tasks undertaken
19 – 20/02/2018	Brandon Murray and Ewan Gibson	Initial survey / scoping of hedgerows on site
12 – 13/06/2018	Martina Girvan and Ewan Gibson	Survey of hedgerows, particularly ground flora in line with hedgerow regulations assessment.
29/06/2021	Joel Cronin	Hedgerows in land west of Stone Street (Lyveden)

## Survey Limitations

- 2.2.6 Some parts of the site were not accessible due to access limitations. Where this was the case, these areas have been mapped from aerial imagery noted and presented in the mapping in Figure 1 and Figure 6.
- 2.2.7 Due to changing access agreements, it was not possible to survey the entire site in a single period of visits. Therefore, some areas were accessed at separate times to the other areas on the site.
- 2.2.8 The habitats listed on the map in Figure 1 and Figure 2 are the habitats recorded at the time of the most recent habitat survey in a given area.
- 2.2.9 These limitations are not considered to have impacted upon the conclusions resulting from these surveys.
- 2.2.10 Land use change over the 2-year period has been largely limited to changes in arable crop harvesting.
- 2.2.11 Areas associated with residential properties, (curtilages) were not comprehensively surveyed. These un-surveyed properties could contain invasive plant species, especially those species frequently planted within residential gardens such as Wall Cotoneaster.
- 2.2.12 Due to the outbreak of the COVID-19 virus in 2020, survey scope was greatly impacted and had to be altered to what was safe and practical to achieve. As such, the 2020 and 2021 surveys endeavoured to collect the information intrinsic to ensuring the submission is founded on robust survey data, whilst acknowledging that the surveys needed to be proportionate in light of the additional risks to Arcadis employees and members of the public. As a result, the following changes were made to the scope:
- For the update surveys, access was not requested to parcels of land where members of the public were likely to be at increased risk of coming into contact with Arcadis employees.
  - Access to private homes and businesses (excluding farms) was not requested, both to reduce exposure risk and to avoid potential for negative reactions to interaction with Arcadis staff.
  - Where it was felt that the revised three-tiered approach called for a reduced presence on site, without impacting upon the needs of the submission, this approach was adopted to reduce risk associated with surveyor travel.
- 2.2.13 The areas that could not be surveyed have been marked in Figure 1 and Figure 2.

## 3 Results

### 3.1 Introduction

3.1.1 This section of the report outlines the results of the habitat and hedgerow surveys conducted on the Otterpool Park site. The details of the results of the associated desk study are presented in ES Appendix 7.5.

### 3.2 Field Survey

#### Habitats Overview

3.2.1 Within the site, a range of habitats were recorded. These are presented in Figure 1 and Figure 2. Where possible, all habitats on site were classified according to JNCC Phase 1 habitat classification habitat types (JNCC, 2010). Where this was not practicable, bespoke habitat descriptions were created, these are discussed in section 0 (these are identified by JNCC code J5). The following habitats were recorded on the site (in order of their JNCC alphanumeric code):

- A1.1.1 Broad-leaved semi-natural woodland;
- A1.1.2 Broad-leaved Plantation woodland;
- A1.1.2 Orchard;
- A1.3.2 Mixed plantation woodland;
- A2.1 Dense / continuous scrub;
- A2.2 Scattered scrub;
- J4 Bare ground
- A3.1 Broad-leaved parkland scattered trees;
- A3.1 Scattered trees;
- B2.2 Semi-improved neutral grassland;
- B4 Improved grassland;
- B6 Species-poor semi-improved neutral grassland;
- C3.1 Tall ruderal; and
- G1 Standing water;
- G2 Running water;
- J1.1 Arable;
- J1.2 Amenity grassland;
- J1.3 Ephemeral/short perennial vegetation;
- J1.4 Introduced shrub;
- J2.1.1 Intact hedge native species-rich;
- J2.1.2 Intact hedge species-poor;
- J2.2.2 Defunct hedge species-poor;
- J2.3.1 Hedge with trees native species rich;
- J2.3.2 Hedge with trees species-poor;
- J2.4 Fence;
- J2.5 Wall.
- J2.6 Ditch;
- J2.8 Earth bank;
- J3.6 Buildings;
- J4 Bare ground;
- J5 Hardstanding;

- J5 Riparian corridor; and
- J5 Species poor hedgerow (conifers).

## Habitat Descriptions

3.2.2 The subsequent sections of the report present an overview of the habitats recorded on the site. TNs and species recorded are presented in Appendix A along with scientific names, with the location of each TN in Figure 1 and Figure 2. The proportion of habitats on site are presented in Table 6. Additional Arcadis reports should also be reviewed for further details of the following habitat types:

- **Trees:** An Arboricultural Scoping Report has also been produced by Arcadis to support the ES (ES Appendix 7.4), this should be reviewed for additional information regarding trees and woodlands.
- **Hedgerows:** Details of all of the hedgerows present within the site are recorded in Appendix B and in Figure 1, Figure 2 and Figure 3, with further details in ES Appendix 7.4.
- **Buildings:** For a full description of the accessed buildings on the site, refer to the Bat Emergence Survey Report (ES Appendix 7.13) and Barn Owl assessment within the Breeding Bird Report (ES Appendix 7.15).
- **Ditches:** A habitat assessment of the ditches was conducted as a component of the water vole survey on the site, full details of the site ditches are presented in Water Vole Survey Report (ES Appendix 7.10).
- **Ponds:** The ponds are described in full in the associated Great Crested Newt Survey Report (ES Appendix 7.9).

### A1.1.1 Broad-leaved semi-natural woodland

3.2.3 The most notable blocks of woodland within the site are:

- Park Wood, a small woodland copse in the west of the site with some ancient woodland indicator species, including Bluebell and Opposite-leaved Golden-saxifrage. Trees present were predominantly Pedunculate Oak and Hazel.
- Springfield Wood, a woodland copse in the west of the site which is dominated by Ash trees. This woodland is grazed by sheep and had a denuded ground flora of Bramble and Common Nettle.
- Numerous small woodland copses are scattered across the site, the majority are dominated by Hawthorn, Alder and Willow species.

3.2.4 Adjacent to the site there were also two semi-natural woodlands registered on the Ancient Woodland Inventory as ancient semi-natural woodlands (see Figure 5). These are Harringe Brooks Wood to the west and Kiln Wood to the east of the site.

### A1.1.2 Broad-leaved plantation woodland

3.2.5 This habitat was present on the site mainly associated with roads as woodland buffer planting. The largest area of plantation woodland in the far east of the site adjacent to the A20, and contains primarily Field Maple, Ash and Sycamore. An arboricultural scoping survey has also been undertaken (ES Appendix 7.4), which should be reviewed for more information regarding the trees within the site.

### A1.1.2 Orchard

3.2.6 One small orchard area was present south of the A20 and contained fruit tree species, including Apple. This area was it was heavily grazed by sheep. It did not appear that the area was being managed as a productive orchard at the time of the survey.

### A1.3.2 Mixed plantation woodland

3.2.7 This habitat was largely planted for screening. These woodlands are predominantly broadleaved species (Field Maple, Birch, Poplar, Pedunculate Oak), with some Scots Pine. There is a substantial woodland belt north of Link Park planted to shield Link Park from views

from the north. An arboricultural scoping survey has also been undertaken (ES Appendix 7.4) for further information regarding trees within the site.

#### A2.1 Dense / continuous scrub

3.2.8 Areas of dense scrub are present across the site. Significant areas are present around the airfield in the south of the site and are largely comprised of Hawthorn and Bramble.

#### A2.2 Scattered scrub

3.2.9 This is largely present along field margins or within transitional areas. Species which are common within these areas are Hawthorn, Bramble, Blackthorn and Elder.

#### A3.1 Broad-leaved parkland scattered trees

3.2.10 The parkland setting surrounds Westenhanger Castle. Some of these trees are likely to pre-date the racecourse and are significant in terms of their amenity as well as ecological value. Tree species present include Beech, Lime, Evergreen Oak, Hawthorn, Ash and Pedunculate Oak. A tree scoping survey has also been compiled for the ES (ES Appendix 7.4), this should be reviewed for more information regarding the trees within the site.

#### A3.1 Broad-leaved scattered trees

3.2.11 There is a large number of individual and scattered trees. Where trees are not within hedgerows, woodlands or parkland, they are recorded as this habitat type. These trees include large Pedunculate Oak within fields, rows of trees forming linear features and scattered trees within the curtilages of businesses and residential properties. Notable scattered trees include:

- A number of large mature specimens including Willow, Pedunculate Oak and Poplar adjacent to Hilhurst Farm in the east of the site (TN51);
- Rows of mature trees to the west of Stone Street, including Common Alder, Lime, Copper Beech, Field Maple, Scots Pine and Willow (TN251, 252).
- A row of Grey Alder to the south of the A20 (TN232);
- Scattered trees associated with businesses and residential properties south of the A20 (including Upper Otterpool) (TN170, 241). Species include Walnut, Copper Beech and Pedunculate Oak.
- Scattered Mature Oak trees within fields (TN48, 55, 99, 104, 146, 223);
- Rows of Horse-chestnut (some of which are diseased) (TN1, 2, 162).

3.2.12 The significant and notable trees within the site are included as TN in Figure 1 and Figure 2 where appropriate, for detail see Appendix A.

#### B2.2 B4 Improved grassland

3.2.13 Improved grassland across the site is used for both grazing pasture and cut for silage and hay. Dominant species include Perennial Rye-grass, Cock's-foot and Yorkshire-fog, with low grass species diversity (eight or less species per m<sup>2</sup>) and a coverage of forbs and wildflowers (excluding White Clover, Creeping Buttercup and injurious weeds) of less than 10% and are dominated by Perennial Rye-grass and Buttercup with more than 50% of the sward being these species or other agricultural species.

#### B2.2 Semi-improved neutral grassland

3.2.14 This a transitional habitat, not being sufficiently species poor to be improved grassland but having too low a diversity to be classified as an unimproved neutral grassland. Within the site, all of the grasslands identified as being semi-improved in nature had a species composition indicative of neutral habitats. Within the classification utilised, this had 9 – 15 species per m<sup>2</sup> and a cover of Perennial Rye-grass and White Clover of less than 30%, with sufficient species composition diversity to allow identification of this habitat as neutral grassland. These largely showed less signs of improvement or intensive management than the species poor semi-improved grassland. This is separated from species poor semi improved grassland by having

at least five semi-improved grassland wildflower indicators and/or indicators of priority grassland.

- 3.2.15 Species present include Tufted Hair-grass, Cock's-foot, Red Fescue, Common Bent, Common Yellow-sedge, Meadowsweet, Cut-leaved Crane's-bill, False Oat-grass, Meadow Foxtail, Meadow Buttercup, Germander Speedwell, Wall Barley, Common Mouse-ear, Common Bird's-foot-trefoil, Lesser Stitchwort, Ribwort Plantain, Field Wood-rush, Yarrow, Ground Ivy and Common Field-speedwell.

### B6 Species-poor semi-improved neutral grassland

- 3.2.16 This habitat along with improved grassland were the most common across the site. This is a transitional habitat, not being sufficiently species poor to be improved grassland but having too low a diversity to be classified as semi-improved neutral grassland. Within the classification utilised, this had 9 – 15 species per m<sup>2</sup> and a cover of Perennial Rye-grass and White Clover of less than 30% as per the semi-improved neutral grassland, but with less grass and forb diversity (i.e. has less than five semi-improved grassland wildflower indicators and/or indicators of priority grassland occasional in the sward).
- 3.2.17 It is found around the racecourse, within field margins, especially areas of the site which were under Higher Level Stewardship management (HLS), and a significant area was also present within the south of the site within the disused Lympne airfield. The geological SSSI within the centre of the site also supports this habitat type.
- 3.2.18 Due to the large areas of arable land and improved grassland within the site, to improve clarity, this was not drawn using white (as is specified within a Phase 1 Habitat mapping protocol) but in a light orange (a shade lighter than for semi-improved neutral grassland).

### Buildings

- 3.2.19 Across the site, there are a large number of buildings. These include farm buildings, residential properties, the disused racecourse buildings including stands, disused military buildings, including bunkers and commercial buildings.

### C3.1 Tall ruderal

- 3.2.20 Tall ruderal habitats are largely associated with disturbed ground and / or areas of nutrient enrichment. The majority of these areas were dominated by Common Nettle, Willowherb and Broad-leaved Dock.

### G1 Standing water

- 3.2.21 Over 30 ponds were recorded within the site, varying from relatively large water bodies such as the Folkestone Racecourse Lake (also referred to as Pond 19) to small ephemeral ponds. The emergent and marginal vegetation is presented in Appendix A. In summary:
- The larger ponds on site (TN201 TN19) had emergent vegetation at the periphery, dominated by Common Reed and Bulrush.
  - A stocked fishpond on site (TN188) has limited emergent vegetation, mainly Common Reed, Bulrush and Water-lily. Pond is surrounded by Pond-sedge with Yellow-sedge. On the island there is the non-native invasive plant species Giant-rhubarb (*Gunnera tinctoria*).
  - Some of the overgrown ponds within and adjacent to the site (TN28, 137, 217) are devoid of emergent vegetation.
  - The smaller ponds on site (TN132, 99, 141 176) were shallow and supported plants including Water Mint and Fool's-water-cress.
  - A number of ponds also supported invasive non-native species.

### G2 Running water

- 3.2.22 The primary running water within the site is the East Stour River, which runs from adjacent to Westenhanger Castle in the north of the site, east-to west. This is largely shallow (less than 1m deep) and up to 2 – 3 m wide, and largely slow flowing. The river within the site has minimal

emergent vegetation. The bankside vegetation is described in the 'riparian corridor description above, species present include Common Nettle, Bramble and limited areas of Pond-sedge and Common Reed. Starwort was recorded within the river suggesting it is relatively clean.

#### J1.1 Arable

3.2.23 The majority of arable fields have been being used to grow rape and wheat. Their field margins vary greatly in sizes, from no discernible margins to up to 10m wide. Where these habitats are of sufficient size, these margins are mapped as a separate habitat category (largely species-poor semi-improved neutral grassland).

#### J1.2 Amenity grassland

3.2.24 This habitat is largely within private gardens as lawns, or within the Folkestone Racecourse area. It is characterised by its low species diversity, coupled with its management and usage (mown and utilised for amenity purposes). Dominant species include Perennial Rye-grass and Meadow Buttercup.

#### J1.3 Ephemeral/short perennial vegetation

3.2.25 This habitat is mostly within the disused lorry park south of the A20 and is largely present within disturbed habitats. Species present include Common Bird's-foot-trefoil, Feverfew and Creeping Cinquefoil.

#### J1.4 Introduced shrub

3.2.26 This habitat was largely associated with residential properties and gardens or landscape planting around commercial areas. Species present included Cotoneaster spp., Smoke-tree and Oregon grape. Japanese Knotweed was also present, where this was recorded is presented in the TNs in Appendix A.

#### J2.1.1 Intact hedge native species-rich

3.2.27 Intact, meaning stock proof, with five or more species present, with no trees. Details of all of the hedgerows present around the site are recorded Appendix B and in Figure 1, Figure 2 and Figure 3. Species present within these hedgerows include Hawthorn, Blackthorn, Elder, Dog-rose, Hazel, Willow, Ash, Holly and Viburnum.

#### J2.1.2 Intact hedge species-poor

3.2.28 These hedgerows supported fewer than five species and were intact. The majority of these hedgerows were dominated by Hawthorn, Blackthorn or Privet.

#### J2.2.2 Defunct hedge species-poor

3.2.29 Defunct, meaning not stock proof, and species poor with less than five woody species. The largest area of this hedging type was associated with the pasture / grazing land in the west of the site. These hedgerows were dominated by Hawthorn and Blackthorn.

#### J2.3.1 Hedge with trees native species species-rich

3.2.30 These hedgerows supported five or more woody species and a varied ground flora, with hedgerow trees also present. Hedgerow tree species included large Pedunculate Oak, Ash, Field Maple, Alder, Poplar and Scots Pine.

#### J2.3.2 Hedge with trees species- poor

3.2.31 These hedgerows had fewer than five woody species and also contained trees. These hedgerows are present across the site. Further details of the hedgerows recorded around the site are presented in the Arboricultural scoping report (ES Appendix 7.4 2018). Details of all of



the hedgerows present within the site are recorded Appendix B and in Figure 1, Figure 2 and Figure 3.

#### J2.4 Fence

3.2.32 There is a large number of agricultural fences across the site, with the majority of the fences recorded within the Phase 1 map being barbed wire / stock fencing.

#### J2.5 Wall

3.2.33 A small number of walls were recorded across the site. The walls are largely associated with residential properties and were formed of brick.

#### J2.6 Ditch

3.2.34 Many of the ditches on site are dry for a proportion of the year. They vary greatly in size, water flow and depth and species composition. Where the ditches are particularly notable they have been identified with TNs on Figure 1 and Figure 2 and in Appendix A. In addition, across the site there are ditches contained running water, these are target noted and presented in Figure 1 and Figure 2 and in Appendix A. These ditches are tributaries to the East Stour River.

#### J2.8 Earth bank

3.2.35 Across the site, predominantly around Lypne Industrial Park in the south of the site, there are a number of landscape bunds. These are shown presented on in the map as a 'line features', which allows the habitats present upon these features to be shown on the mapping.

#### J4 Bare ground

3.2.36 Bare ground is found where farm tracks or areas with significant disturbance are present. A large area of bare ground is present within a lorry park south of the A20. This is formed of aggregate. There is also an area north of Lypne Industrial Park, a disused lorry park which has significant areas of bare ground. This area (TN180) is indicative of an 'Open Mosaic Habitat'.

#### J5 Hardstanding

3.2.37 Hardstanding areas are present across the site, comprised mostly of mainly roads and car parking areas.

#### J5 Riparian corridor

3.2.38 From the north east, heading west across the site is the East Stour River corridor, and tributaries to this river also run from the south-east of the site north to the East Stour and from Harringe Brooks Wood in the south west of the site north to the East Stour. This habitat is relatively homogenous and is shown on the map as 'riparian corridor'. This habitat classification is not a standard Phase 1 habitat category but was created to allow a full assessment of the biodiversity value to be classified within the net gain calculations. This habitat largely comprises mature trees dominated by Alder, with Ash and Oak also common there are also areas of mature scrub comprised largely of Hawthorn.

#### J5 Species poor hedgerow (conifers)

3.2.39 Species poor hedgerows are largely associated with residential and commercial properties. This habitat category is not a standard Phase 1 habitat category, but was added to allow the



identification of this habitat within the net gain calculations. The dominant species within the hedgerows is Leyland Cypress .

## Habitat Extents

3.2.40 The table below outlines the approximate proportions of each habitat present within the site. Arable is by far the most dominant habitat type covering almost half of the site followed by improved grassland then species poor semi-improved grassland.

Table 6: Phase 1 habitat types present on the site and approximate percentage of the total site area


Habitat	Approximate % of total site area
Arable	52.6
Improved grassland	21.0
Species poor semi-improved grassland	14.7
Semi-improved neutral grassland	3.4
Hardstanding	1.5
Amenity grassland	1.5
Broad-leaved semi-natural woodland	1.1
Riparian edge (largely broadleaved trees)	0.7
Mixed plantation woodland	0.6
Dense/continuous scrub	0.6
Tall ruderal	0.6
Standing water	0.5
Bare ground	0.4
Building	0.3
Plantation woodland	0.2
Parkland Scattered Trees	0.1
ESP	0.1
Introduced shrub	0.1




## Invasive Plant Species

3.2.41 During the surveys in 2016-2018, a number of invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981) were recorded. These are listed in Table 7. It was noted in liaison with the Environment Agency that American Skunk Cabbage is known to be present in the East Stour River catchment, but no plants were observed


during the surveys. During the 2020 surveys Giant-rhubarb was identified at one additional location.

Table 7: Non-native invasive plants listed on Schedule 9 of the WCA observed within the site

Common name	Scientific name	Location	Photograph	Grid Reference
Parrot's Feather	<i>Myriophyllum aquaticum</i>	Pond within Hillhurst Farm, Lake within racecourse.		TR 1317 3704 TR 1234 3687
Canadian Pondweed	<i>Elodea canadensis</i>	Ornamental pond within racecourse		TR 1253 3714
Japanese Knotweed	<i>Fallopia japonica</i>	Area adjacent to Barrowhill		TR 1095 3754
Montbretia	<i>Crocsmia x crocosmiiflora</i>	In the garden of the Willows		TR 1231 3634

Common name	Scientific name	Location	Photograph	Grid Reference
Wall Cotoneaster	<i>Cotoneaster horizontalis</i>	In the garden of Upper Otterpool In the front garden of 'White House' north of the A20.		TR 1129 3626 TR 1157 3665
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Upper Otterpool adjacent to Westenhanger Castle		TR 1245 3729
Giant-rhubarb	<i>Gunnera tinctoria</i>	On island in the centre of pond		TR 1183 3624
Giant-rhubarb	<i>Gunnera tinctoria</i>	Along stream at Barrowhill, at TN265. Additional record 2020.	No photograph	TR 0166 3758



Common name	Scientific name	Location	Photograph	Grid Reference
New Zealand Pigmyweed	<i>Crassula helmsii</i>	Pond adjacent to Hihurst Farm		TR 1317 3704
Variegated Yellow Archangel	<i>Lamiaeum galeobdolon</i> subsp. <i>argentatum</i>	In front of Twin Chimneys, Stone Street	No photograph	TR 1279 3661
Himalayan Balsam	<i>Impatiens glandulifera</i>	Lyvenden (off Stone Street)	No photograph	TR 1276 3652

## Hedgerow Assessment

3.2.42 Of the 67 hedgerows surveyed, 12 were found to qualify as 'important' hedgerows within The Hedgerows Regulations. These were hedges OT01, 07, 11, 12, 19, 21, 28, 32, 34, 40, 46 and 62.

3.2.43 The locations of the hedgerows surveyed are presented in Figure 3.

## Habitat Assessment 2020

3.2.44 There were no major habitat changes between when the area was surveyed in 2016-2018 and 2020. Several areas of improved grassland were now in use as arable land and several areas of arable land were now in use as improved grassland. One small area of scrub was added to the map in South Otterpool and two areas of scrub have been removed – one in Westenhanger and one just north of the A20. Large areas of the site, however, were not accessible in 2020. An updated Phase 1 habitat map can be found in Figure 1 and Figure 2.

## Habitat Assessment 2021

3.2.45 The National Vegetation Classification survey of the disused Lympe Airfield provided greater detail than the previous Phase 1 habitat surveys and found that one field previously recorded as improved grassland has changed to semi-improved neutral grassland, largely as a result of changed management; otherwise, no significant changes were observed in this area.

3.2.46 One area to the west of Stone Street which was previously not surveyed in 2016 – 2020 due to no access permission had a Phase 1 survey undertaken in 2021. This area mostly consisted of species poor semi-improved grassland, but also included a pond, a small area of semi-natural

broadleaved woodland and a small orchard. This area referred to as 'Lyvenden' is presented on Figure 7 and additional target notes are included in Appendix A.

## 4 Discussion

### 4.1 Habitat Survey Results 2016-2018

- 4.1.1 Overall, the site is dominated by large areas of relatively common and widespread habitats, predominantly arable and improved grassland (forming over 70% of the site area). These areas are intensively farmed and as such have less biodiversity value. There are areas of greater biodiversity interest, such as the semi-improved neutral and species poor semi-improved grassland including within field margins present within areas which are being managed under higher-level stewardship (HLS).
- 4.1.2 There are very few areas of habitats which have the potential qualify as priority habitats, these were:
- **Rivers:** none of the rivers on site are considered to be S41 qualifying, but these form the headwaters of S41 qualifying chalk streams downstream, so will be treated as such for mitigation purposes;
  - **Ponds:** a subset of the ponds would likely qualify under as S41 habitat (i.e. those which support great crested newt);
  - **Arable Field Margins:** the margins within the farmland managed under a HLS scheme are likely to qualify as S41 habitat;
  - **Hedgerows:** the majority of the hedgerows are likely to qualify under this priority habitat description;
  - **Traditional Orchards:** a small area south of the A20 is likely to qualify under these parameters;
  - **Wet Woodland:** most of the trees within the riparian corridor would qualify under the parameters of this habitat description;
  - **Lowland Mixed Deciduous Woodland:** Harringe Brooks Wood and Kiln Wood are adjacent to the site, these may potentially qualify as S41 habitat; and Park Wood and Springfield Wood, two deciduous woodlands are present on the site. Park Wood and Springfield Wood are historic components of the landscape, having been present since at least 1880 (they are present on historic maps). In addition, there are small woodlands present elsewhere on the site, particularly roadside woodlands and small, young woodland blocks likely to have been planted as screening.
  - **Open Mosaic Habitats on Previously Developed Land:** there are limited areas of this habitat within the defunct lorry park south of the A20 and the Link Park land to the north of the operating area of Link Park (east of Otterpool Lane).
- 4.1.3 There are areas within the site which support non-native invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981). These have been mapped as a component of the habitat surveys. It will be important to ensure that these species are not allowed to spread within and beyond the site within the development process. Where practicable, it will also be necessary to initiate a programme of control and eradication of these species.

### 4.2 Habitat Survey Results 2020 / 2021

- 4.2.1 There were no major habitat changes between when the area was surveyed in 2016-2018 and 2020. Several areas of improved grassland were now in use as arable land and several areas of arable land were now in use as improved grassland. One small area of scrub was added to the map in South Otterpool and one area of scrub in Westenhanger had been removed. The 2021 NVC survey identified one area within the Lympne Airfield had changed from improved grassland to species-poor semi-improved grassland. Overall, the results of the 2021 survey concluded that:
- No further surveys are required to inform a 2021 resubmission of the ES; and

- The valuations utilised in the 2018 submission are considered to be valid, with no evidence of any major changes in habitat within the survey area.

### **4.3 Hedgerow Survey Results**

- 4.3.1 In total, 67 hedgerows within the site were assessed to determine if they were likely to qualify as 'Important' hedgerows under the Hedgerows Regulations 1997 (HMSO, 1997). While 12 of these qualified, all of the hedgerows are considered to be important in terms of habitat connectivity.
- 4.3.2 The 2021 survey identified one additional hedgerow in the Lyvenden area west of Stone Street (in Westenhanger), this hedgerow was not 'Important'.

### **4.4 Invasive Non-Native Plant Species**

- 4.4.1 A range of these species were recorded across the site. Measures will be outlined within the ES to describe how these species are to be:
- Controlled to limit spread during the construction phase;
  - Removed where appropriate (although full method statements would be required prior to any removal commencing).

## 5 Mitigation Recommendations and Further Work

### 5.1 Introduction

5.1.1 This section outlines proposed mitigation for impacts to habitats and hedgerows within the proposed Development. In addition, specific habitats are included within a site-specific BAP which will be produced in order to guide habitat enhancements within the site (ES Appendix 7.20).

### 5.2 Design Mitigation

5.2.1 From the early stages of the project, the design of the proposed Development has been iterated to ensure primarily that the most valuable habitats are retained, and impacts are avoided (in line with the mitigation hierarchy).

5.2.2 In order to inform the Framework Masterplan layout, following the initial habitat survey conducted in 2016, habitats and areas were valued depending on their value and their requirement for retention. The following categorisations were utilised:

- 'Grade 1': likely to contain S41 or uncommon habitat types that are likely to maintain multiple notable and/or protected species and must retain and buffer;
- 'Grade 2' and/or protected species and strongly recommended to retain and buffer;
- 'Grade 3': habitats that provided important connectivity or strategic value throughout the site or have value for notable species and are recommended to be retained;
- 'Grade 4': areas supporting less commonly found habitat across the site, retention desirable; and
- Other habitats: these areas have no intrinsic value for retention, but they may have value for associated notable species.

5.2.3 This valuation was utilised to inform the Framework Masterplan and identify areas where development should not occur and is shown in Figure 4. Once identified, valuable retained habitats were buffered to reduce potential impacts, with buffers based upon the requirements of these habitats and the species which they support. Also, habitats were identified for enhancement to try and avoid or reduce the need for major restoration and/or offsets and compensation. This was carried out with reference to ES Chapter 10: Geology, Hydrogeology and Land Quality to ensure an integrated approach.

5.2.4 Details of buffers are to be provided within the appropriate ES Chapter 7: Biodiversity and 12: Landscape and Visual Impact.

5.2.5 Greater detail of the design mitigation is presented in the Biodiversity Net Gain Report (Technical Appendix 7.21) and the design of buffer habitat is presented in the DAS (Design and Access Statement (Arcadis 2018) (Application Ref.: 3.6)).

5.2.6 Within each development zone, broad parameters for the amount and type of green infrastructure planting, and prescriptions for the provision of bat and bird boxes will be proposed within areas of proposed Development. This will ensure that these areas also have value for biodiversity. These parameters are presented in ES Chapter 7: Biodiversity.

### 5.3 Construction Mitigation

5.3.1 A Code of Construction Practice (CoCP) proposes to include best practice construction mitigation. This will avoid and/or reduce impacts in areas outside of the development area.

5.3.2 Relevant guidance including Pollution Prevention Guidelines prepared by the Environment Agency and literature produced by CIRIA would form the basis for pollution control measures. Specifically, in relation to habitats, the CoCP ensures that the following measures are undertaken:

- Appropriate measures are put in place to protect water quality in the East Stour River and its tributaries. This would also protect downstream habitats.



- Appropriate measures are put in place to control dust and other emissions that could affect air quality.
  - Site compounds, storage facilities and staff facilities are suitably bunded and located in places that would not have an adverse effect on the environment; in particular, the CoCP ensures that retained biodiversity features are protected.
  - In advance of site clearance, protective fencing is installed to protect retained and/or ecologically sensitive habitats (the watercourse, mature trees and hedgerows) and their associated buffer zones to ensure that they are not subject to accidental damage (to be determined on a zone by zone basis).
  - Haul routes, storage compounds and staff facilities would be located away from retained habitats to minimise disturbance to the species they support.
  - Pre-construction surveys are carried out by an ecologist to confirm the nature and extent of any ecological constraints in advance of site clearance, to ensure that appropriate mitigation measures including licences are in place in advance of site clearance, and to confirm that no new constraints have arisen since the publication of the Environmental Statement.
  - An ecological clerk of works is in place to oversee site clearance, in particular any works that have the potential to disturb notable receptors. They would also ensure that the mitigation measures proposed adhere to best practice guidelines and take account of any changes in legislation that may have occurred.
  - The ecological clerk of works would ensure that the hedgerow translocation is undertaken in accordance with an agreed method statement. They would also ensure that the retained and translocated hedgerows are monitored to ensure that they are managed appropriately.
  - The construction site drainage solutions would incorporate measures to ensure that all surface water runoff is balanced and treated and returned to the watercourse at greenfield runoff rates.
  - Care is taken with the design of site drainage to prevent unbalance of and untreated silt laden surface water runoff from entering retained habitats.
  - The CoCP ensures that Schedule 9 plants are not allowed or caused to spread within or outside of the development area:
- 5.3.3 An ecological clerk of works would be employed to ensure that the ecological protection measures outlined in the CoCP are adhered to. They would also undertake regular monitoring to ensure that the protection measures remain in place for the time that they are required.
- 5.3.4 The Ecological Clerk of Works would report to the Site Manager and Environmental Clerk of Works to ensure that remedial actions are undertaken in a timely manner.
- 5.3.5 In addition, as a component of each phase of the development, there would be a programme of eradication of Schedule 9 plants.

## 5.4 Additional Mitigation

### Habitat Creation / Enhancement

- 5.4.1 Across the site, a range of habitats are to be created to maximise the value of the GI around the site. Where these habitats are to be created as mitigation for impacts to a particular species, these are described in the appropriate ES Appendix and in the Design and Access Statement (Application Ref.: 3.6).
- 5.4.2 Within the GI, a large area of valuable habitats is to be created. These habitats to be created include:
- Ponds created for biodiversity, these will be designed to meet the prescriptions of the relevant 'habitat of principal importance' description. Areas where ponds are to be created include the buffer around Harringe Brooks Wood, south of the Folkestone Racecourse Lake (TN21), adjacent to the East Stour (around TN102), and to the west of Lymgne Village.
  - Areas of woodland planting, these areas are to be planted to screen the Otterpool park development and to create connectivity. This includes planting linking Harringe Brooks Wood

to the river corridor to the north. This tree planting will be to the west of the proposed Development.

- Sustainable Drainage Systems (SuDS) features including ponds, drainage ditches, swales and rain gardens (these will not primarily be for biodiversity, but will have biodiversity value);
- Areas of ditch to be created for water voles. A large 14ha area in the north-west of the site and a smaller area adjacent to the tributary to the East Stour south of the A20 (by TN186). These will be a species rich aquatic habitat providing a valuable habitat for a range of receptors.
- Hedgerows will be planted across the proposed Development. These will be native species hedgerows and will be planted to subdivide parcels within the proposed Development, but also to provide a permeable barrier for wildlife between properties and GI. These features will provide a notable habitat for a range of species.
- Areas of species rich wildflower grassland will be created across the site. The habitat composition / seed and planting mix should be based upon the soil present but should be based upon the descriptions of priority habitat (lowland meadow).
- Scattered trees are to be planted through the GI of the proposed Development. The species of these will be designed to safeguard against disease and climate change but will be native where appropriate.
- Areas of scrub will be created/allowed to develop, which will have value for invertebrates and provide a heterogeneous habitat for reptiles.
- Microhabitat features will also be created for a range of receptors, including earth banks and deadwood piles for invertebrates.

5.4.3 Areas where enhancement will occur includes (but is not limited to):

- Hedgerow enhancements to improve connectivity in the form of gapping up; improved management and restoration of ground flora;
- Pond enhancement to achieve the parameters of the S41 description;
- Enhancements of the river corridor to increase the heterogeneity and improve the value for notable receptors, including water vole (described in further detail in ES Appendix 7.10).

5.4.4 The biodiversity net gain report (ES Appendix 7.21) outlines how the creation of these habitats across the site will ensure that the proposed Development achieves net gain, in line with the Prescriptions of the NPPF (2021).

### **Otterpool Park BAP**

5.4.5 Within the ES documentation, a site BAP has been compiled (ES Appendix 7.20). This outlines the target communities for key habitats to be created within the Otterpool site. This should be used to guide ongoing biodiversity management and mitigation during the operational phase of the development. The selection of the habitats listed in the site BAP is based upon:

- Habitats and targets listed in the Kent Biodiversity Strategy, especially those which support the aims of the Kent BOA (Biodiversity Opportunity Areas) statements, particularly the Mid Kent Greensand and Gault BOA statement.
- The habitats of value present and retained on the site within the development (particularly those which meet the criteria of habitats of principal importance in under Section 41 of the NERC Act 2006 (HMSO, 2006) (S41 Habitats).
- The priority habitats listed on Section 41 of the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981) which it is appropriate to create within the site;
- Habitats known to support protected or notable species which are present / have the potential to be present within the Otterpool Park development site.

## **5.5 Operational Mitigation**

5.5.1 Post construction, during the operation phase, impacts to retained and newly created habitats would be minimised through GI design to focus recreational impacts in certain areas and to

minimise impacts to other areas, utilising topography, habitat and fencing to control recreational pressures.

- 5.5.2 In addition, as each phase of the development is commenced, it will be necessary to manage and monitor the habitats created on the site. The requirement for management and monitoring will be finalised as each parcel of the development is brought forward, however an overview of the management and mitigation is provided within the Otterpool BAP (ES Appendix 7.20). This is a live document and should be updated throughout the development and operation please of the Otterpool Park site.

## **5.6 Further Survey Requirements**

- 5.6.1 It is not considered that further habitat surveys will be required to inform the detailed design. It may be necessary to update the surveys should site conditions change, and to update the habitat information throughout the extended buildout process.
- 5.6.2 As each of the phases / parcels is brought forward for planning approval, it will be necessary to conduct additional arboricultural surveys, including detailed BS5837:2012 surveys. Further details of these requirements are presented within the arboricultural scoping survey (ES Appendix 7.4).

## 6 Conclusions

- 6.1.1 A Phase 1 habitat survey was conducted over multiple site visits between Autumn 2016 and Autumn 2018. The habitat survey was updated as the site conditions changed and access to different areas of the site was obtained, and a detailed botanical assessment of selected areas was undertaken in June 2018.
- 6.1.2 All habitats were mapped and assessed for their ecological value. This assessment will be utilised to inform a biodiversity net gain calculation (ES Appendix 7.21).
- 6.1.3 In addition, a hedgerow assessment was conducted across the site according to the Hedgerows Regulations 1997 (HMSO, 1997).
- 6.1.4 Across the site, a range of habitats were recorded. Of these, the largest by area were arable farmland and improved grassland pasture. However, there were also more valuable habitats including hedgerows, ponds, rivers, woodland, wet woodlands and open mosaic habitats.
- 6.1.5 Habitats which are listed on Section 41 of the NERC Act 2006 (HMSO, 2006) which were present on the site were:
- Rivers;
  - Ponds;
  - Arable Field Margins;
  - Hedgerows;
  - Traditional Orchards;
  - Wet Woodland;
  - Lowland Mixed Deciduous Woodland; and
  - Open Mosaic Habitats on Previously Developed Land.
- 6.1.6 A habitat assessment update was undertaken in 2020 to update the validity of the survey. There were no major habitat changes between when the area was surveyed in 2016-2018 and 2020-2021. Several areas of improved grassland were now in use as arable land and several areas of arable land were now in use as improved grassland. One small area of scrub was added to the map in South Otterpool and one area of scrub in Westenhanger had been removed. Overall, the results of the 2021 update survey concluded that:
- No further surveys are required to inform a 2021 resubmission of the ES; and
  - The valuations utilised in the 2018 submission are considered to be valid, with no evidence of any major changes in habitat within the survey area.
- 6.1.7 In order to maximise the value of the site for biodiversity in accordance with the mitigation hierarchy, the most valuable habitats will be avoided and buffered within the development. In addition, a range of valuable habitats, both within their own right and as habitat for a range of notable floral and faunal species will be created within the development. These habitats are described in detail in ES Chapter 7: Biodiversity and in the DAS (Design and Access Statement, Application Ref.: 3.6).
- 6.1.8 During the construction phase, measures would be employed to safeguard retained habitats, including fencing, pollution control measures and translocation of habitats (particularly hedgerows) where applicable. These measures have been specified within a CoCP.
- 6.1.9 Post construction, during the operation phase, impacts to retained and newly created habitats would be minimised through GI design to focus recreational impacts in certain areas and to minimise impacts to other areas, utilising topography, habitat and fencing to control recreational pressures.
- 6.1.10 Within the ES documentation, a site BAP has been compiled. This outlines the target communities for key habitats to be created within Otterpool Park. This should be used to guide ongoing biodiversity management and mitigation during the operational phase of the development

## 7 References

Ref	Reference Description
Ref 1	BSI (2012) <i>Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services</i> . Available online: <a href="https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services">https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services</a> [accessed November 2020].
Ref 2	Defra (2012) <i>Biodiversity Offsetting Pilots Technical Paper: the metric for the biodiversity offsetting pilot in England</i> . Available online <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69531/pb13745-bio-technical-paper.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69531/pb13745-bio-technical-paper.pdf</a> [accessed November 2020].
Ref 3	HMSO (1981) <i>Wildlife and Countryside Act 1981</i> . HMSO, London.
Ref 4	HMSO (2006) <i>Natural Environment and Rural Communities Act 2006</i> . HMSO, London.
Ref 5	HMSO (2021) <i>The National Planning Policy Framework</i> . HMSO, London.
Ref 6	JNCC (2010). <i>Handbook for Phase 1 habitat survey</i> . Available online: <a href="https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a">https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a</a> [accessed November 2020].
Ref 7	Magnificent Meadows (2018) <i>How to identify the type of grassland you have</i> . Available online: <a href="http://www.magnificentmeadows.org.uk/assets/pdfs/How_to_identify_different_types_of_grassland.pdf">http://www.magnificentmeadows.org.uk/assets/pdfs/How_to_identify_different_types_of_grassland.pdf</a> [accessed November 2020].
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Ref 9	Natural England (2010) <i>Higher Level Stewardship, Farm Environment Plan (FEP) Manual Third Edition (NE264)</i> . Available at: <a href="http://adlib.everysite.co.uk/adlib/defra/content.aspx?id=251201">http://adlib.everysite.co.uk/adlib/defra/content.aspx?id=251201</a> [accessed November 2020].
Ref 10	Natural England (2013) <i>Higher Level Stewardship: Environmental Stewardship Handbook, Fourth Edition – January 2013 (NE350)</i> . Available online: <a href="http://publications.naturalengland.org.uk/publication/2827091">http://publications.naturalengland.org.uk/publication/2827091</a> [accessed November 2020].
Ref 11	Natural England (2013) <i>Multi-Agency Geographical Information for the Countryside (MAGIC)</i> . Available online: <a href="https://www.magic.gov.uk">https://www.magic.gov.uk</a> [accessed November 2020].
Ref 12	Natural England (2018) 2a. <i>Status of threatened habitats</i> . Available online: <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726436/2a_Priority_habitats_2018.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726436/2a_Priority_habitats_2018.pdf</a> [accessed November 2020].
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[2013/pdf/EB\\_01.95\\_Shepway\\_Core\\_Strategy\\_Local\\_Plan\\_2013.pdf?m=637206813197930000](https://www.shepway.gov.uk/2013/pdf/EB_01.95_Shepway_Core_Strategy_Local_Plan_2013.pdf?m=637206813197930000) [accessed November 2020].

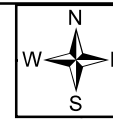
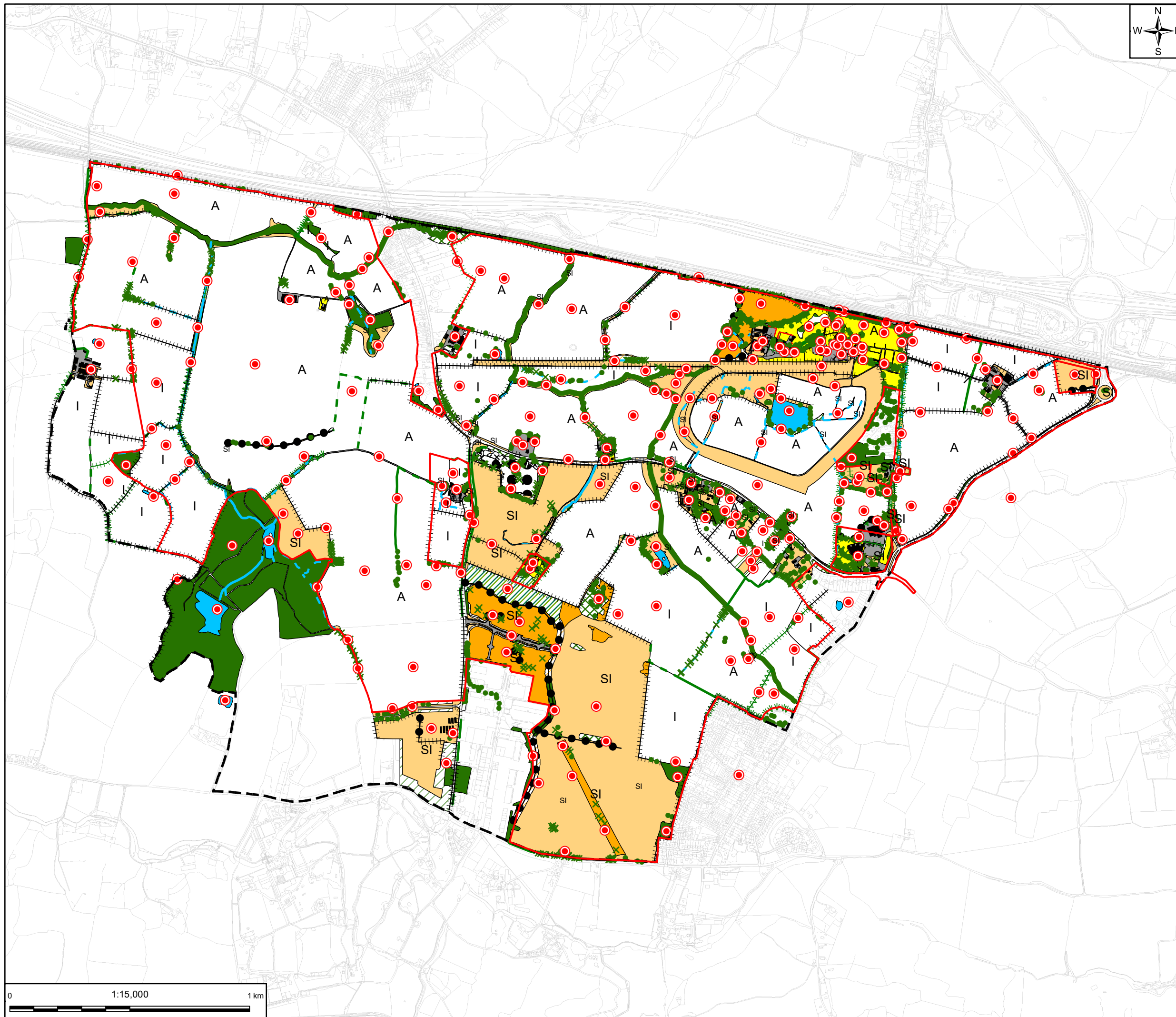
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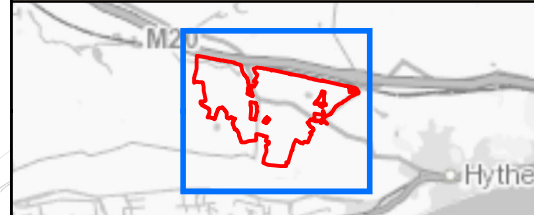
**Figure 1: Habitat survey overview (as surveyed in 2016 – 2019)**





- Legend**
- Outline Planning Application Boundary
  - Framework Masterplan Boundary
  - Target notes
  - x Scattered scrub
  - Scattered trees
  - Earth Bank
  - Hedge with Trees Species-poor (conifer)
  - | Intact Hedge Native Species-rich
  - | Intact Hedge Species-poor
  - | Defunct Hedge Species-poor
  - | Hedge with Trees Native Species rich
  - | Hedge with Trees Species-poor
  - | Fence
  - | Ditch
  - | Running water
  - | Wall
  - Broad-leaved semi-natural woodland
  - Broad-leaved parkland scattered trees
  - Mixed plantation woodland
  - Plantation woodland
  - Dense/continuous scrub
  - Ephemeral / short-perennial
  - Introduced shrub
  - Tall ruderal
  - Amenity grassland
  - Arable
  - Semi-improved neutral grassland
  - Species poor semi-improved grassland
  - Improved grassland
  - Bare ground
  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

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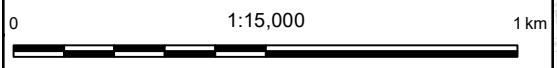


REV	Date	Description	Drawn	Check	Approv
02	02-11-2021	FOR INFORMATION	PH	BM	MG
01	24-09-2021	FOR INFORMATION	NG	BM	MG

**ARCADIS**  
 80Fen  
 80 Fenchurch Street  
 London  
 EC3M 4BY

**OTTERPOOL PARK**  
 COUNTRYSIDE • CONNECTED • CREATIVE

**Figure 1**  
**Phase 1 Habitat Survey Overview**



scale	original size	datum	grid
1:15,000	A3	Sx	BNG

**Figure 2: Habitat survey detailed view (as surveyed in 2016 – 2019)**

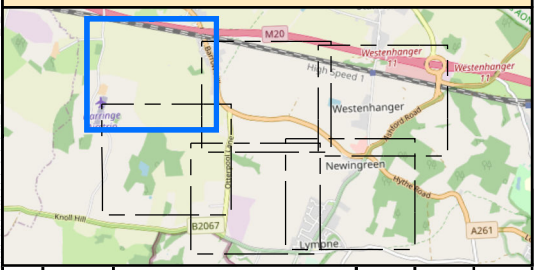




**Legend**

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Target notes
- x Scattered scrub
- Scattered trees
- Earth Bank
- Hedge with Trees Species-poor (conifer)
- ~ Intact Hedge Native Species-rich
- Intact Hedge Species-poor
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- ~ Hedge with Trees Native Species rich
- + + + + Hedge with Trees Species-poor
- + + + + Fence
- - - - Ditch
- Running water
- Wall
- Broad-leaved semi-natural woodland
- Broad-leaved parkland scattered trees
- Mixed plantation woodland
- Plantation woodland
- Dense/continuous scrub
- Ephemeral / short-perennial
- Introduced shrub
- Tall ruderal
- Amenity grassland
- Arable
- Semi-improved neutral grassland
- Species poor semi-improved grassland
- Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

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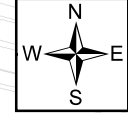
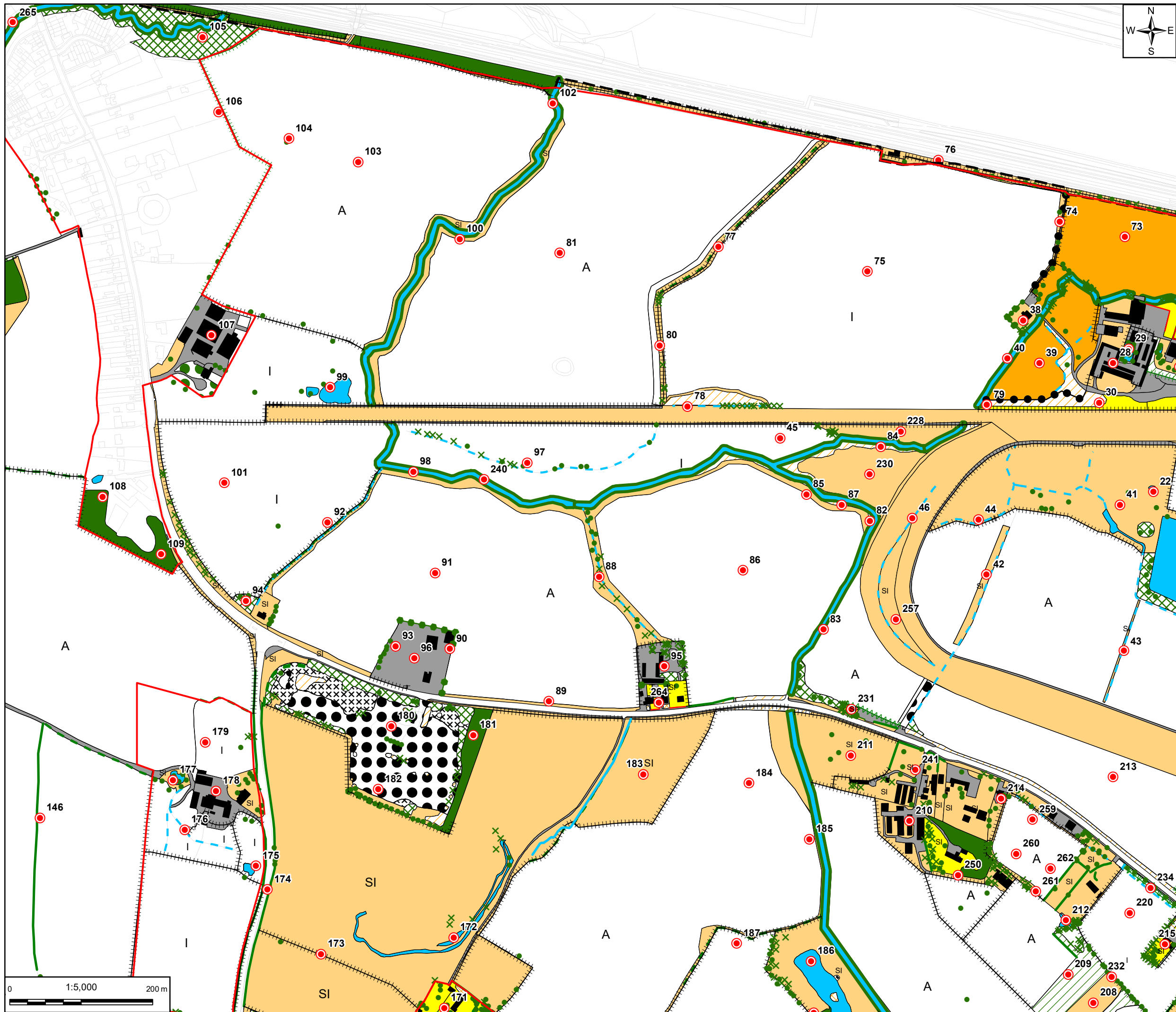
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 London  
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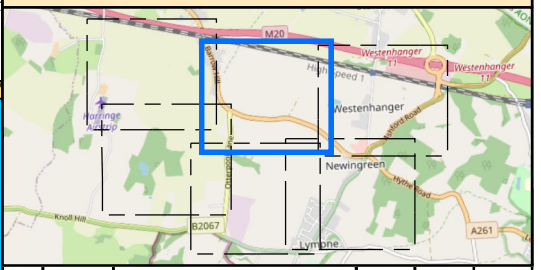
**Figure 2**  
**Phase 1 Habitat**  
**Survey - Detailed View**  
 (Page 1 of 6)

scale	original size	datum	grid
1:5,000	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Framework Masterplan Boundary
  - Target notes
  - x Scattered scrub
  - Scattered trees
  - Earth Bank
  - Hedge with Trees Species-poor (conifer)
  - Intact Hedge Native Species-rich
  - Intact Hedge Species-poor
  - Defunct Hedge Species-poor
  - Hedge with Trees Native Species rich
  - Hedge with Trees Species-poor
  - Fence
  - Ditch
  - Running water
  - Wall
  - Broad-leaved semi-natural woodland
  - Broad-leaved parkland scattered trees
  - Mixed plantation woodland
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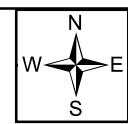
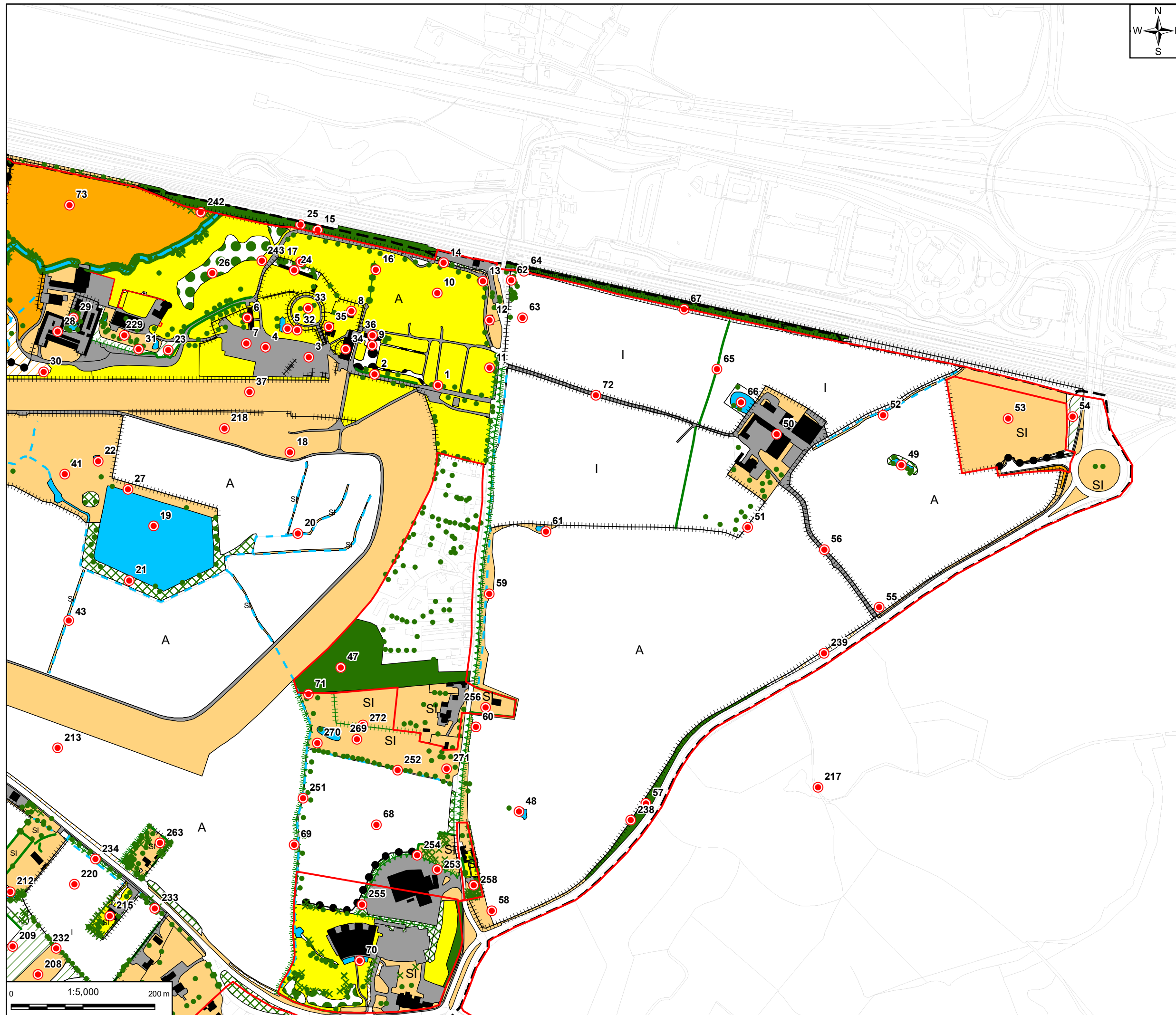
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**Figure 2**  
**Phase 1 Habitat**  
**Survey - Detailed View**  
 (Page 2 of 6)

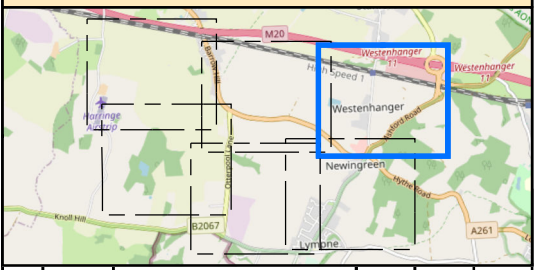
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- Legend**
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  - Hardstanding
  - Standing water
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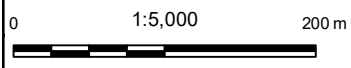


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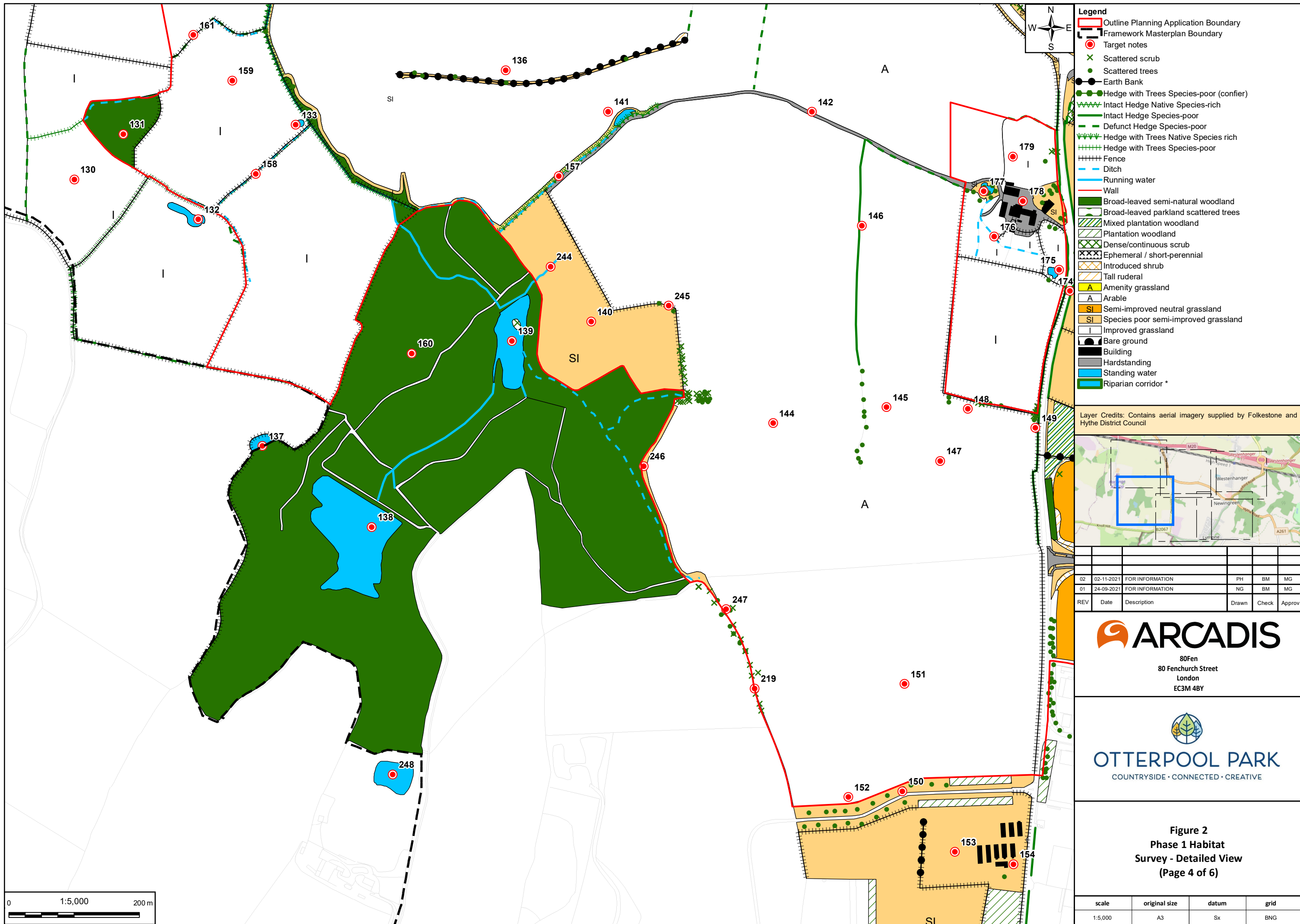
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**Figure 2**  
**Phase 1 Habitat**  
**Survey - Detailed View**  
 (Page 3 of 6)

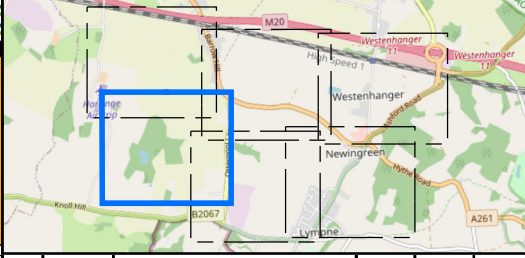


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- Legend**
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  - Hardstanding
  - Standing water
  - Riparian corridor \*

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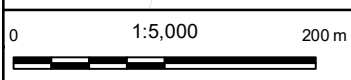
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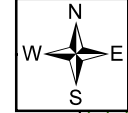
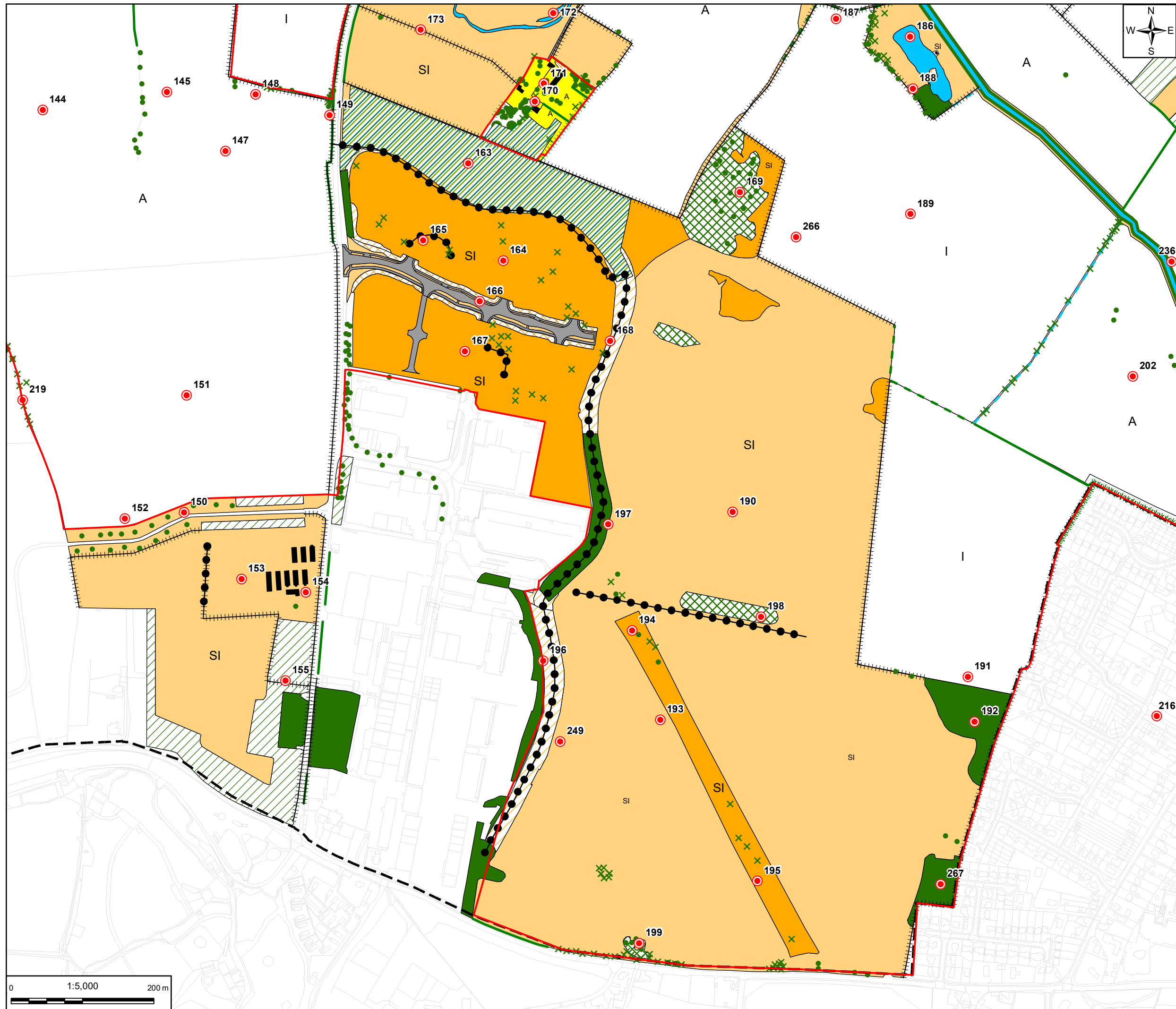
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**Figure 2**  
**Phase 1 Habitat**  
**Survey - Detailed View**  
 (Page 4 of 6)

scale	original size	datum	grid
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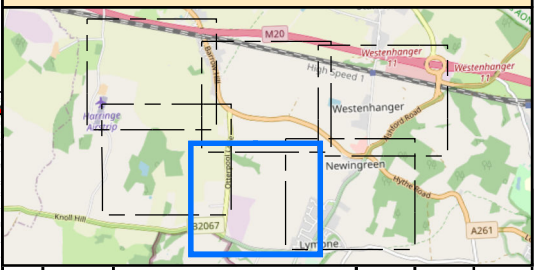






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  - Hardstanding
  - Standing water
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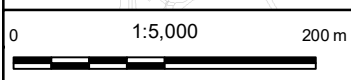


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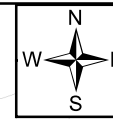
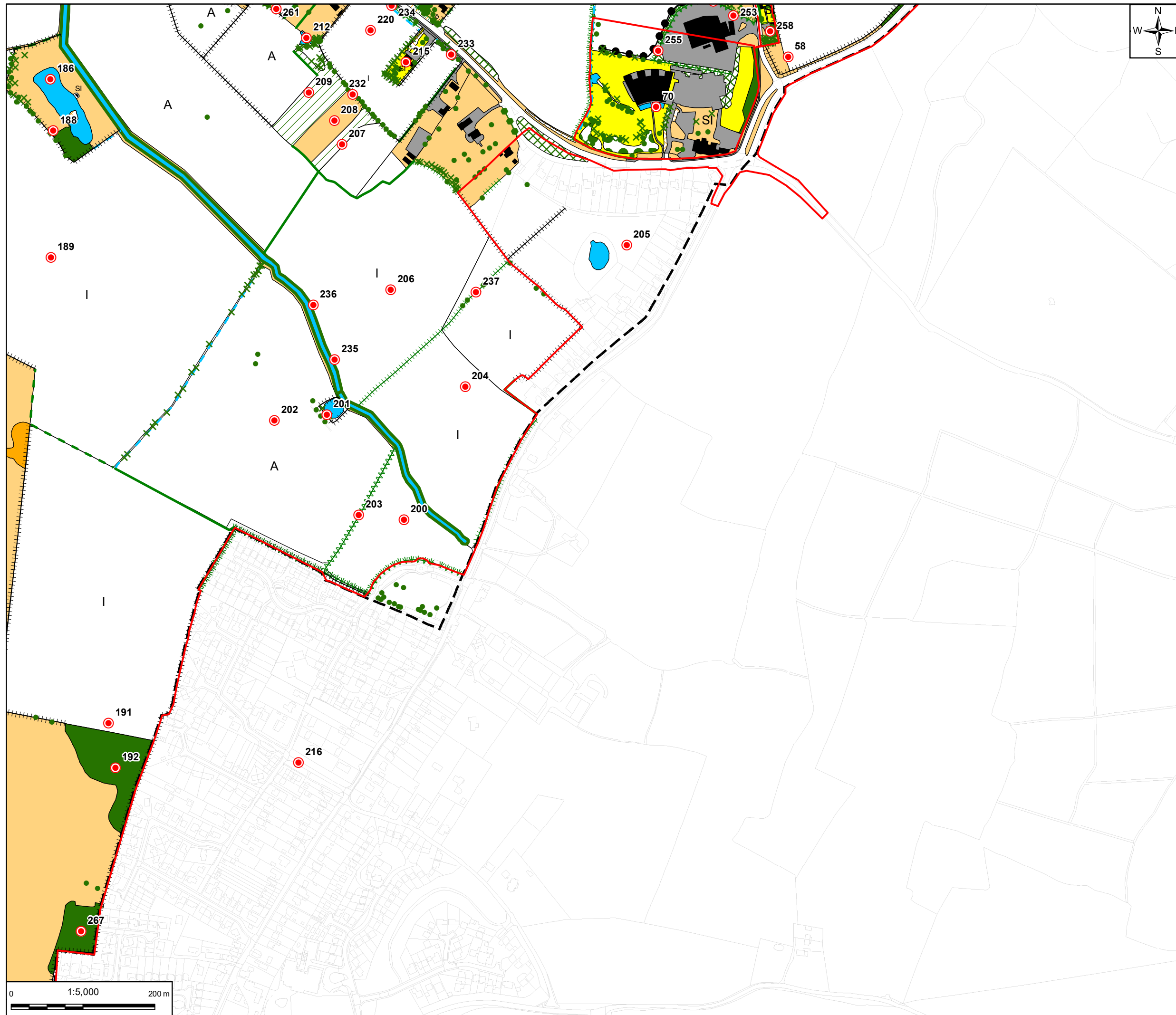
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**Figure 2**  
**Phase 1 Habitat**  
**Survey - Detailed View**  
 (Page 5 of 6)



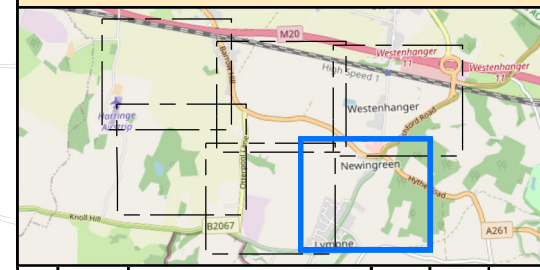
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- Legend**
- Outline Planning Application Boundary
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  - Building
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  - Standing water
  - Riparian corridor \*

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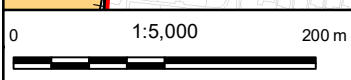


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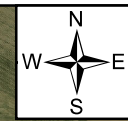
**Figure 2**  
**Phase 1 Habitat**  
**Survey - Detailed View**  
 (Page 6 of 6)



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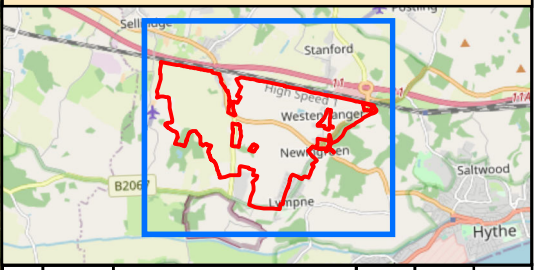
### Figure 3: Hedgerow survey results





- Legend**
- Outline Planning Application Boundary
  - Framework Masterplan Boundary
  - Important Hedgerow
  - Standard Hedgerow

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**Figure 3**  
**Hedgerow Survey Results**

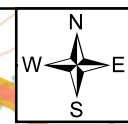
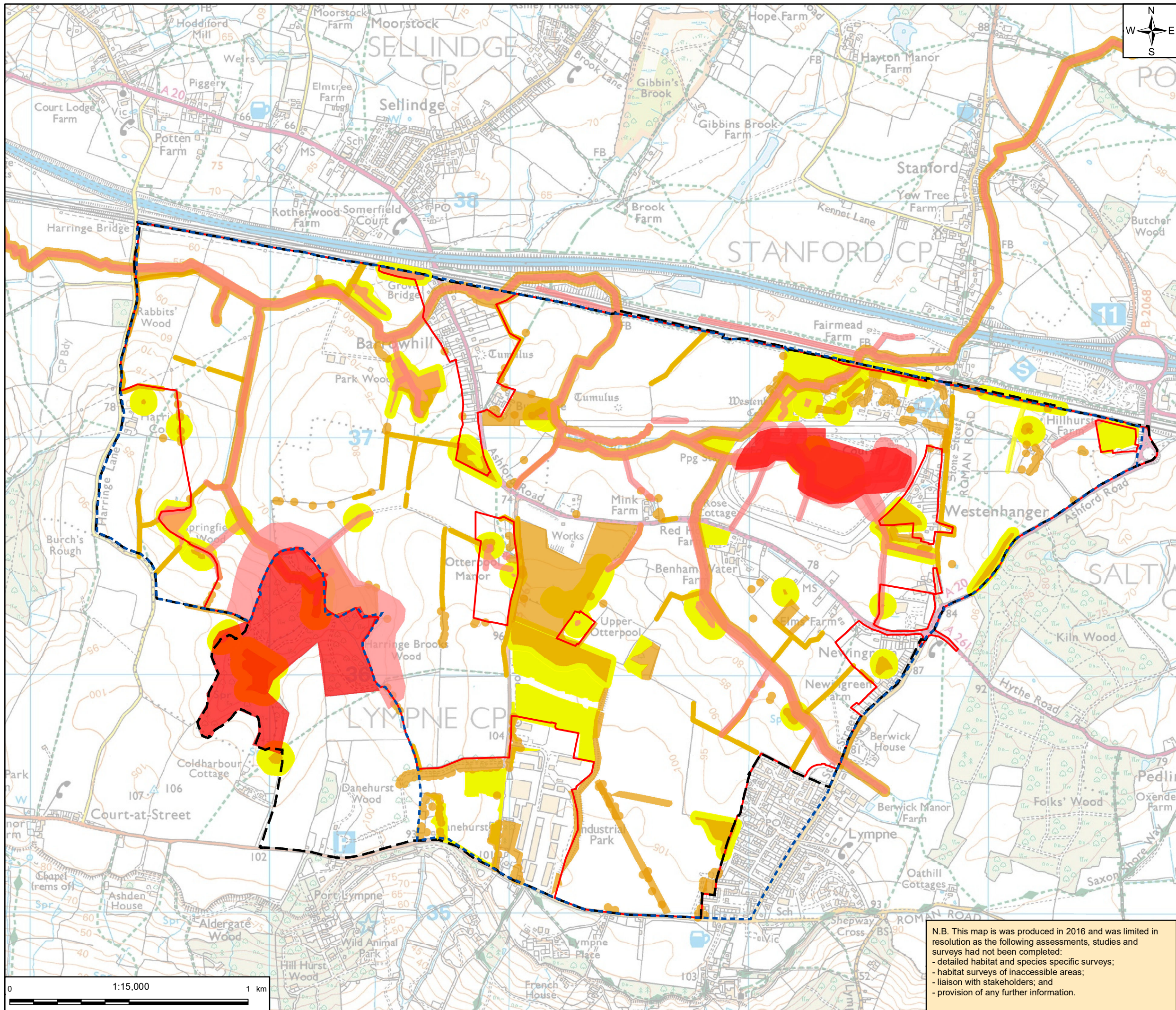
scale	original size	datum	grid
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## Figure 4: Habitat valuations used in masterplanning design

N.B. This map was produced in 2016 and was limited in resolution as the following assessments, studies and surveys had not been completed:- detailed habitat and species specific surveys; habitat surveys of inaccessible areas; liaison with stakeholders and provision of any further information.





**Legend**

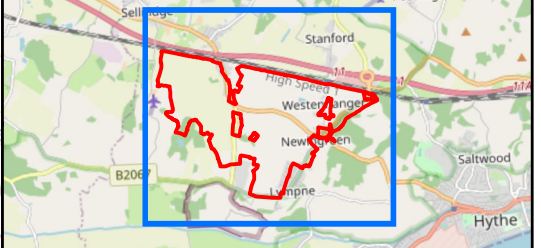
- Survey Area
- Outline Planning Application Boundary
- Framework Masterplan

**Habitats/**

- Grade 1
- Grade 2
- Grade 3
- Grade 4

- Habitats/Areas Grade 1 – MUST retain – contain habitats of irreplaceable or high value or support multiple notable / protected species;
- Habitats/Areas Grade 2 – STRONGLY recommend retention (contain or buffer habitats of high value or support notable / protected species);
- Habitats/Areas Grade 3 – Retention recommended (contain or buffer habitats of high value or support notable / protected species); and
- Habitats/Areas Grade 4 – Retention preferred/known constraints (contain or buffer habitats of value or known to be likely to support notable / protected species).

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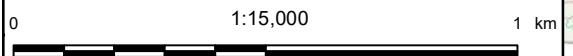
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**Figure 4**  
**Habitat Valuations used in Masterplanning Design**

N.B. This map is was produced in 2016 and was limited in resolution as the following assessments, studies and surveys had not been completed:

- detailed habitat and species specific surveys;
- habitat surveys of inaccessible areas;
- liaison with stakeholders; and
- provision of any further information.

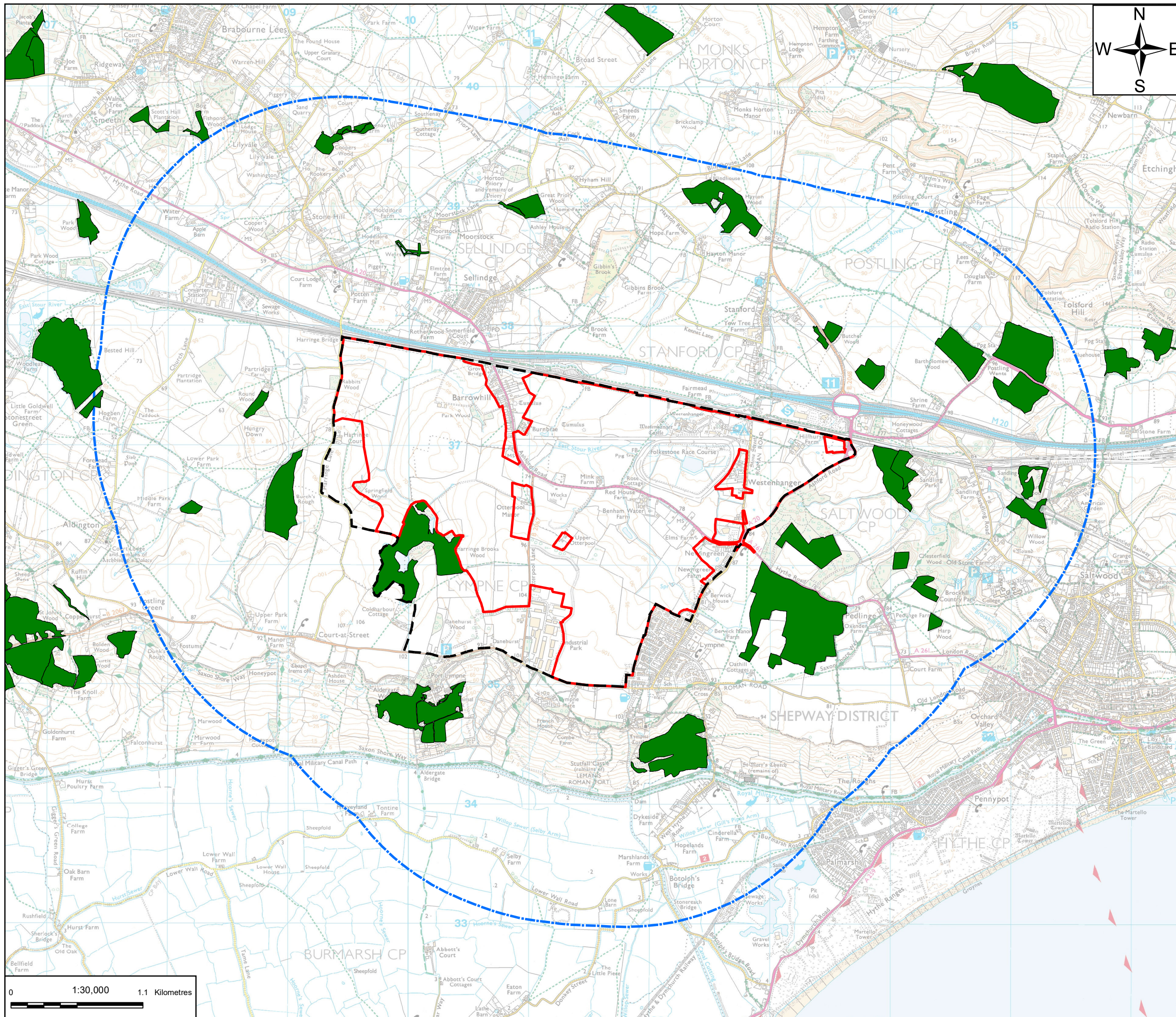


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## Figure 5: Ancient Woodland within 2 Km of the Study Area

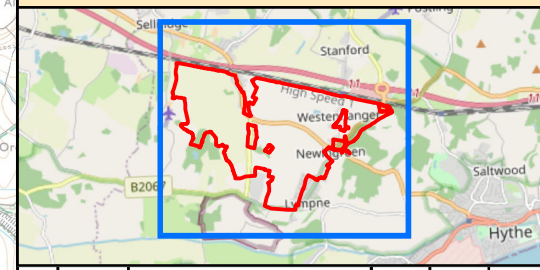




**Legend**

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- 2km Buffer
- Ancient Woodland

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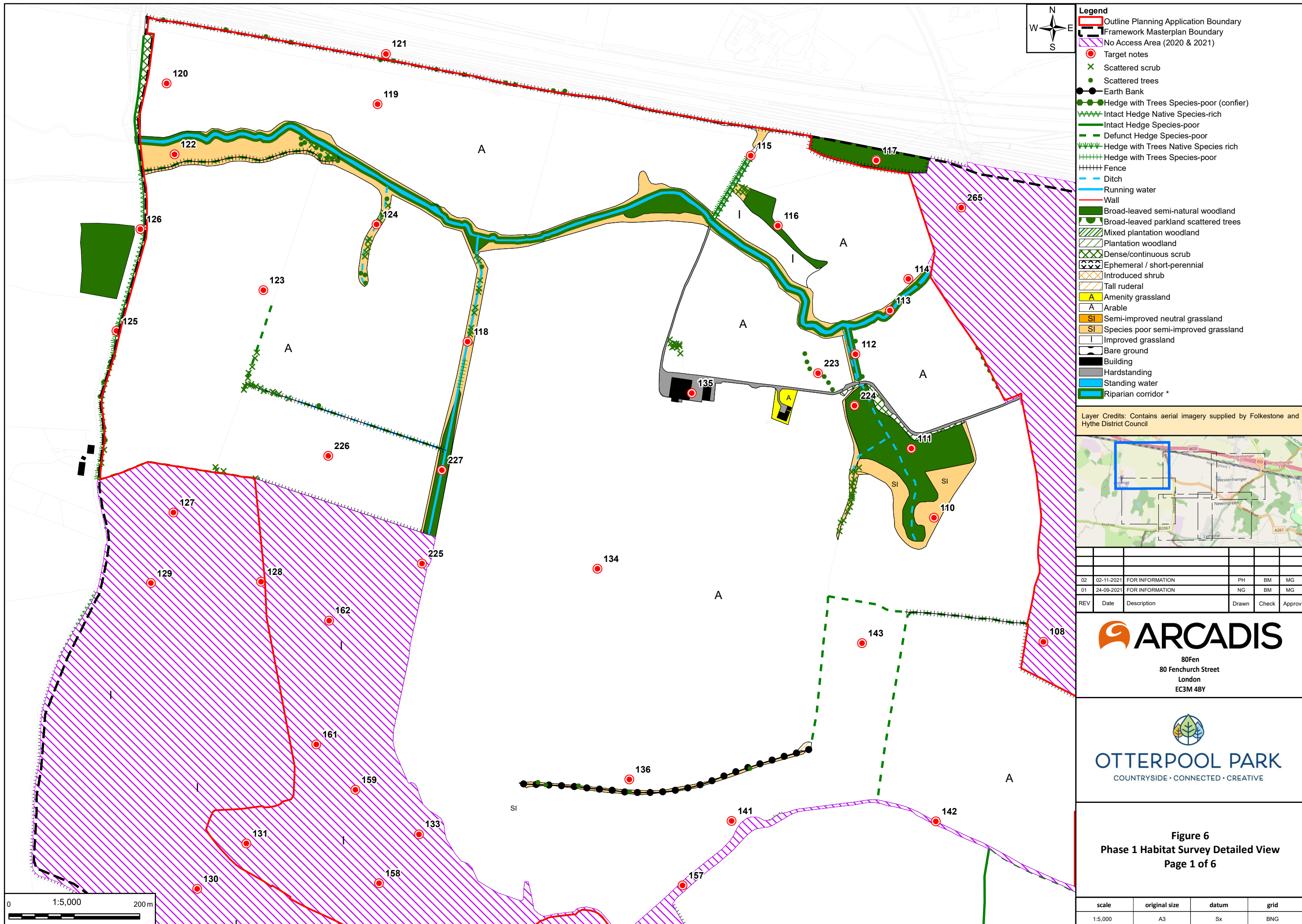
  
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**Figure 5**  
 Ancient Woodland within 2 km of the site

scale	original size	datum	grid
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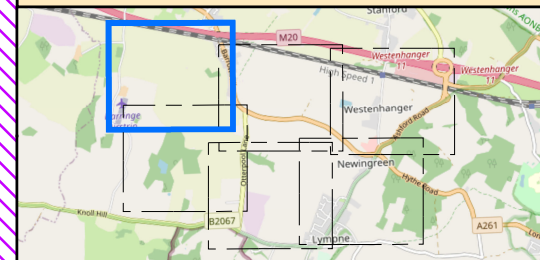
## Figure 6: Habitat survey overview 2021



**Legend**

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- No Access Area (2020 & 2021)
- Target notes
- × Scattered scrub
- Scattered trees
- Earth Bank
- Hedge with Trees Species-poor (conifer)
- | Intact Hedge Native Species-rich
- | Intact Hedge Species-poor
- | Defunct Hedge Species-poor
- | Hedge with Trees Native Species rich
- | Hedge with Trees Species-poor
- Fence
- Ditch
- Running water
- Wall
- Broad-leaved semi-natural woodland
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- Dense/continuous scrub
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- Amenity grassland
- Arable
- Semi-improved neutral grassland
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- Hardstanding
- Standing water
- Riparian corridor \*

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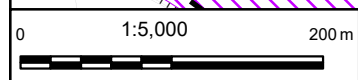
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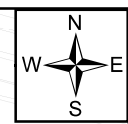
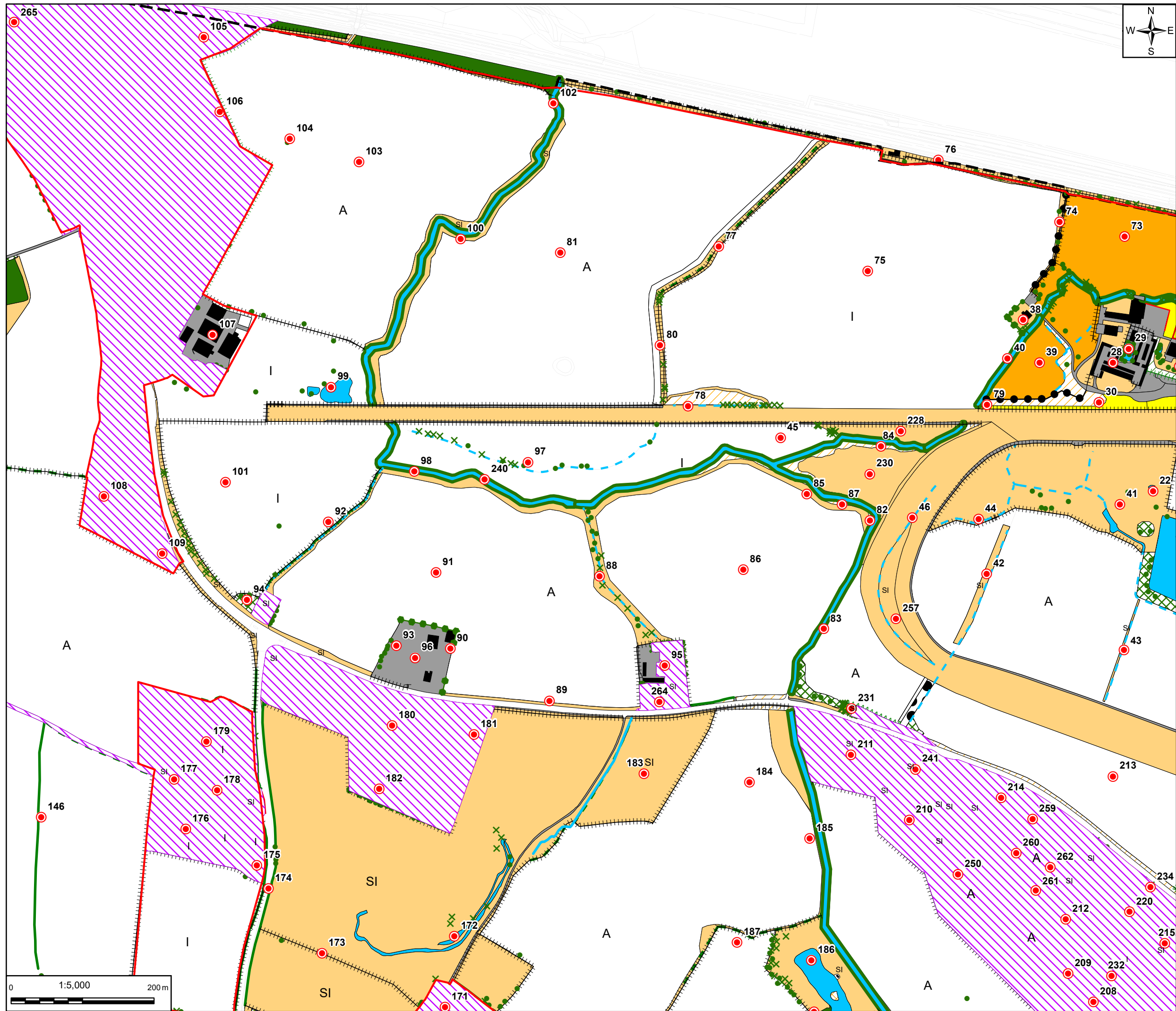
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**Figure 6**  
**Phase 1 Habitat Survey Detailed View**  
 Page 1 of 6

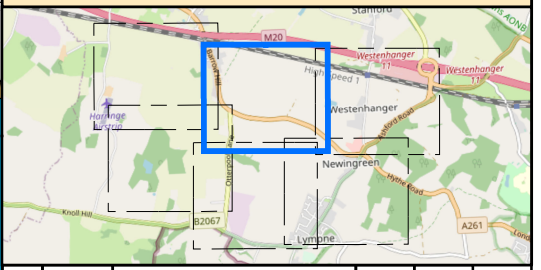
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- Legend**
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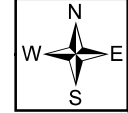
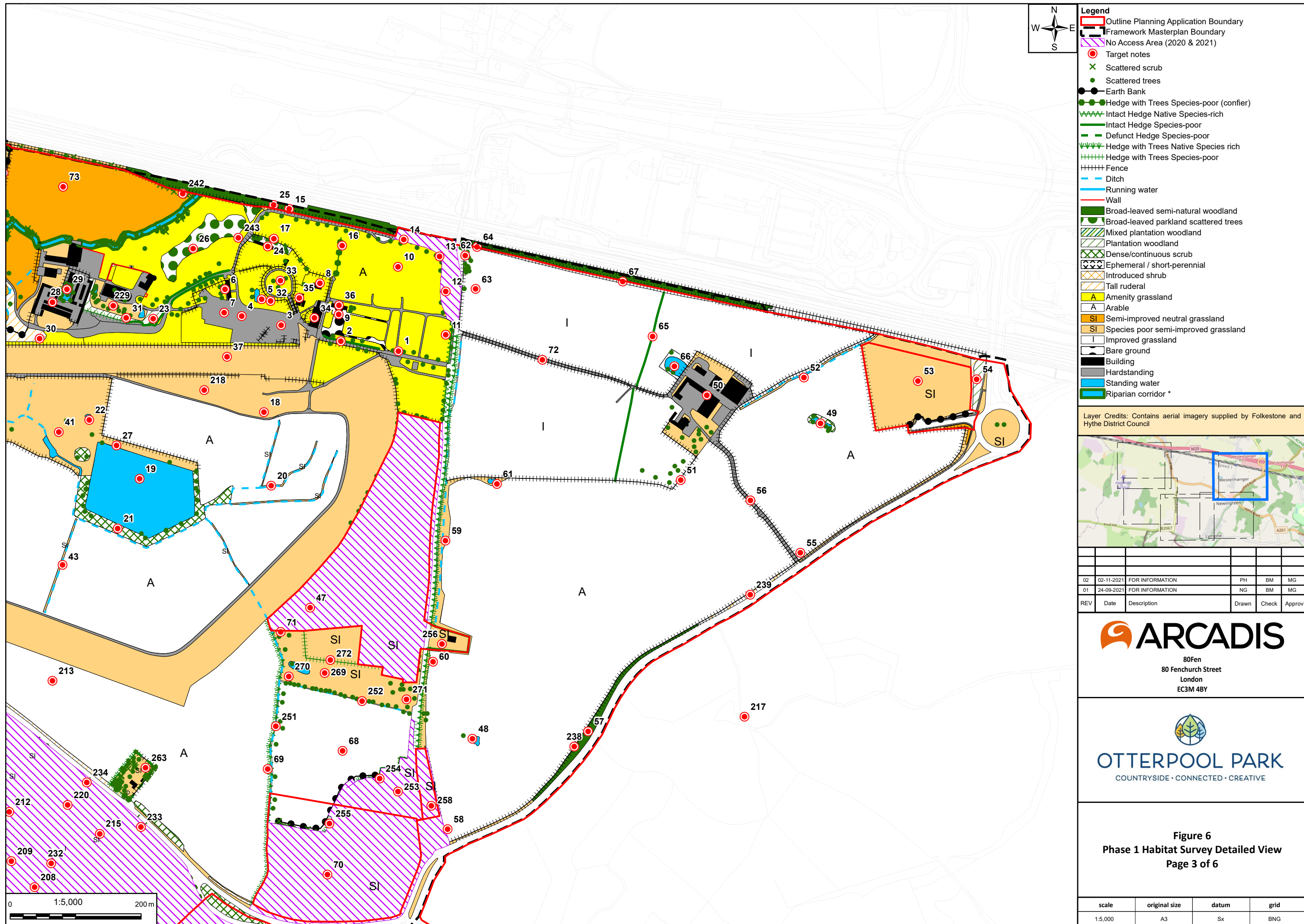
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**Figure 6**  
 Phase 1 Habitat Survey Detailed View  
 Page 2 of 6

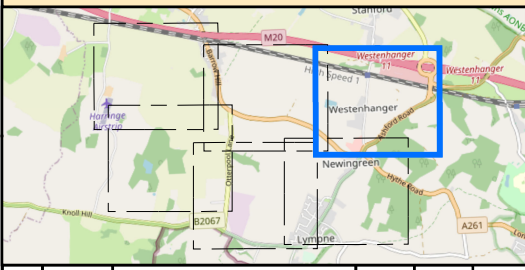
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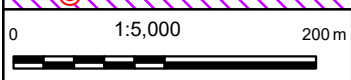


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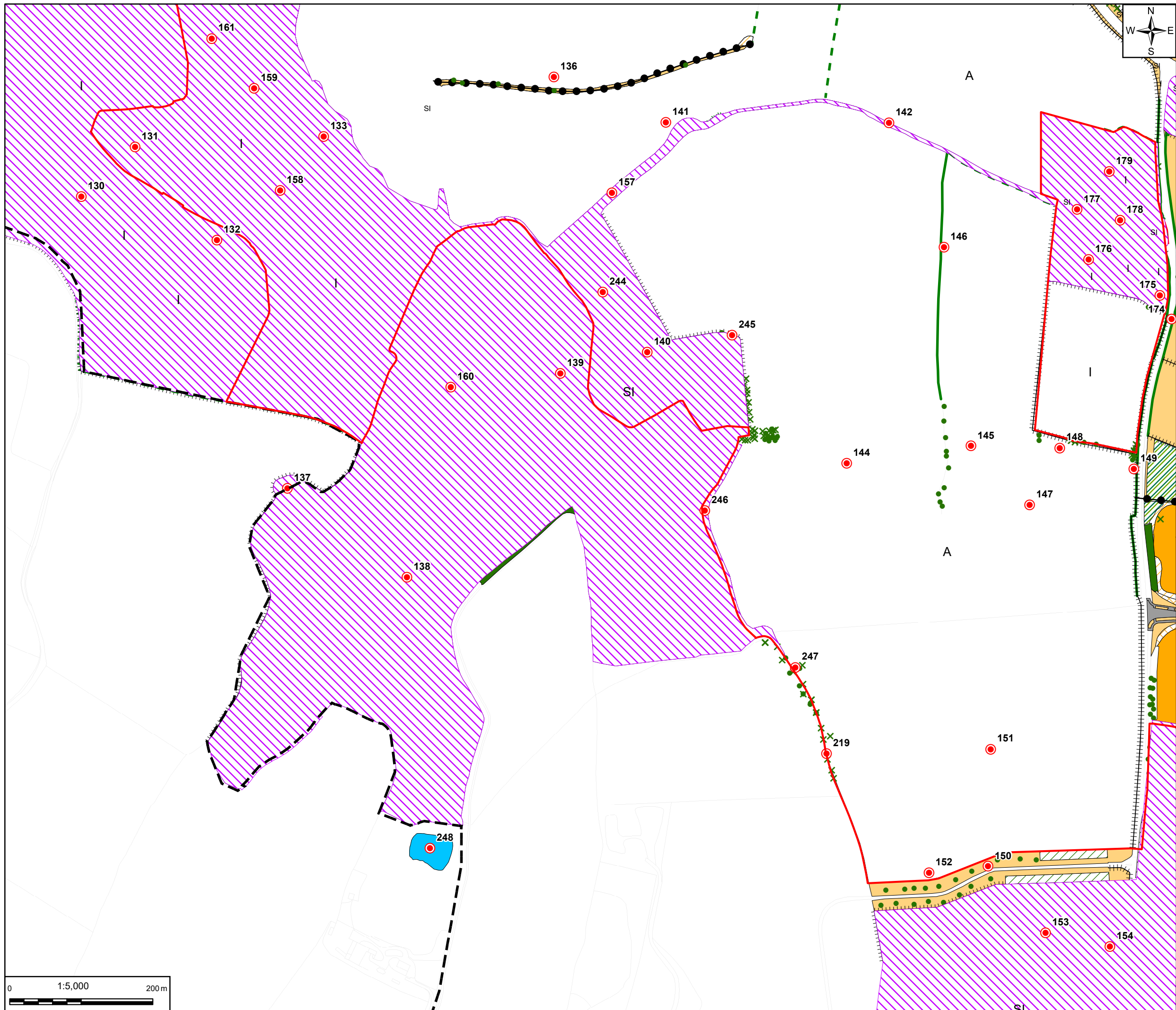
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**Figure 6**  
 Phase 1 Habitat Survey Detailed View  
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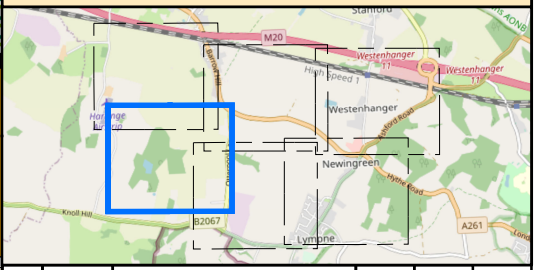
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**Legend**

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- No Access Area (2020 & 2021)
- Target notes
- × Scattered scrub
- Scattered trees
- Earth Bank
- Hedge with Trees Species-poor (conifer)
- Intact Hedge Native Species-rich
- Intact Hedge Species-poor
- Defunct Hedge Species-poor
- Hedge with Trees Native Species rich
- Hedge with Trees Species-poor
- Fence
- Ditch
- Running water
- Wall
- Broad-leaved semi-natural woodland
- Broad-leaved parkland scattered trees
- Mixed plantation woodland
- Plantation woodland
- Dense/continuous scrub
- Ephemeral / short-perennial
- Introduced shrub
- Tall ruderal
- Amenity grassland
- Arable
- Semi-improved neutral grassland
- Species poor semi-improved grassland
- Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

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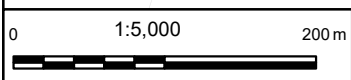
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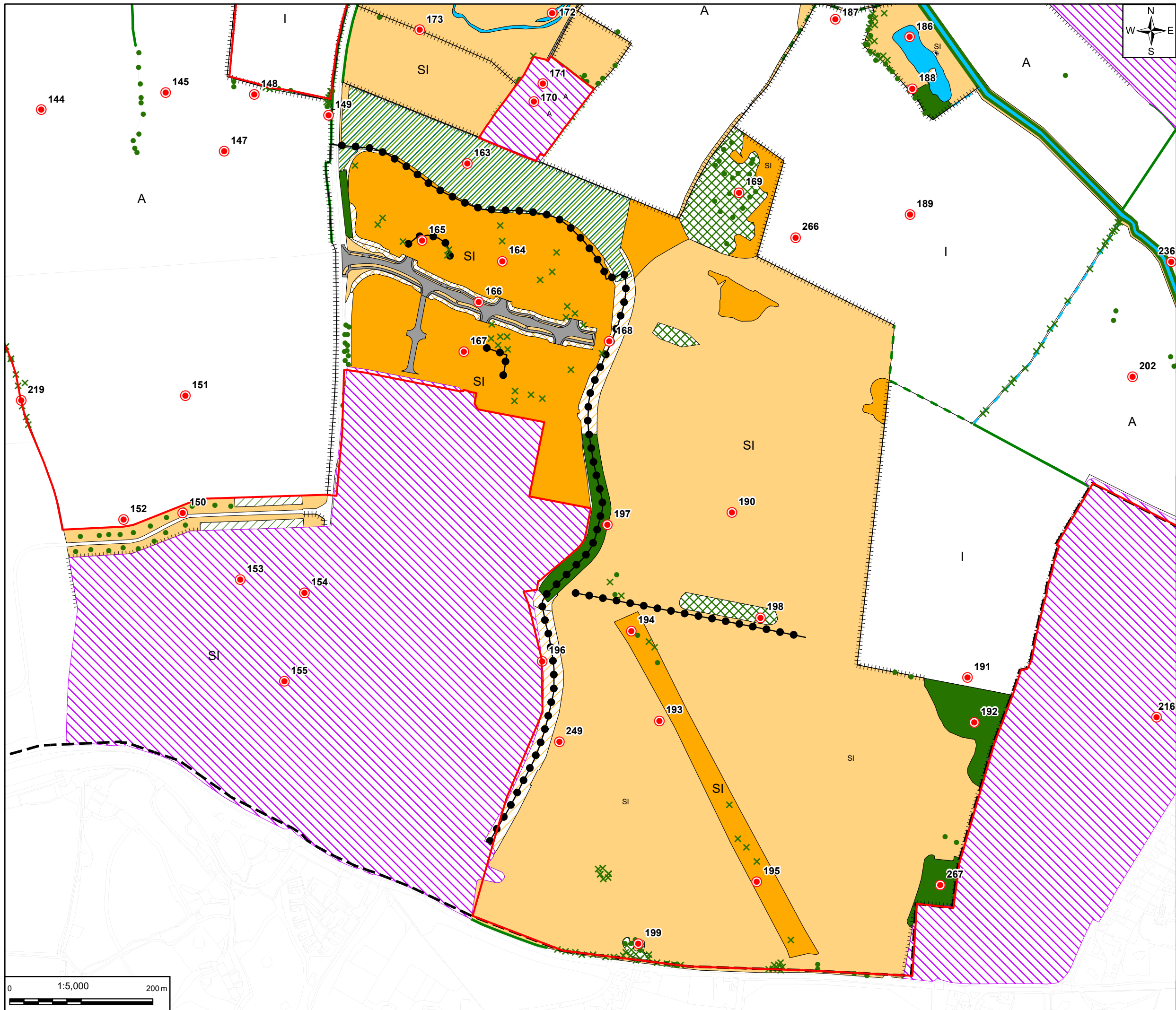
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**Figure 6**  
 Phase 1 Habitat Survey Detailed View  
 Page 4 of 6

scale	original size	datum	grid
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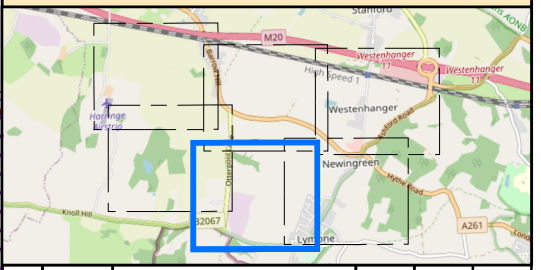




**Legend**

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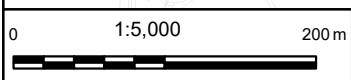


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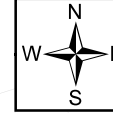
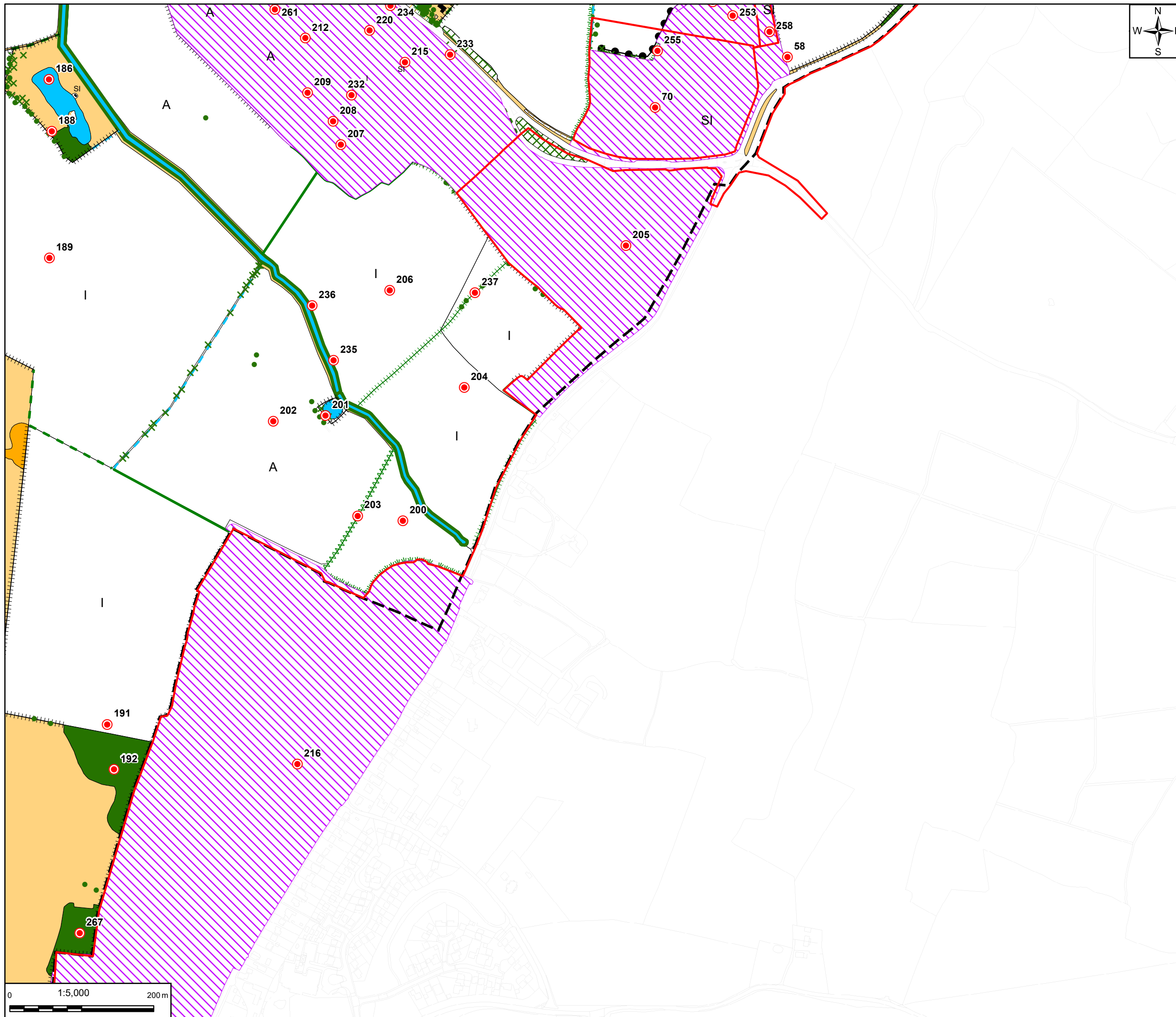
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**Figure 6**  
 Phase 1 Habitat Survey Detailed View  
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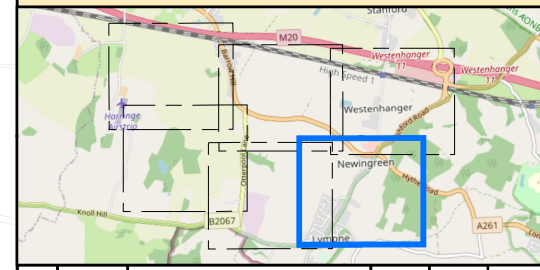


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- Outline Planning Application Boundary
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  - Tall ruderal
  - A Amenity grassland
  - Arable
  - SI Semi-improved neutral grassland
  - SI Species poor semi-improved grassland
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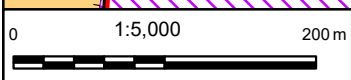


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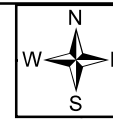
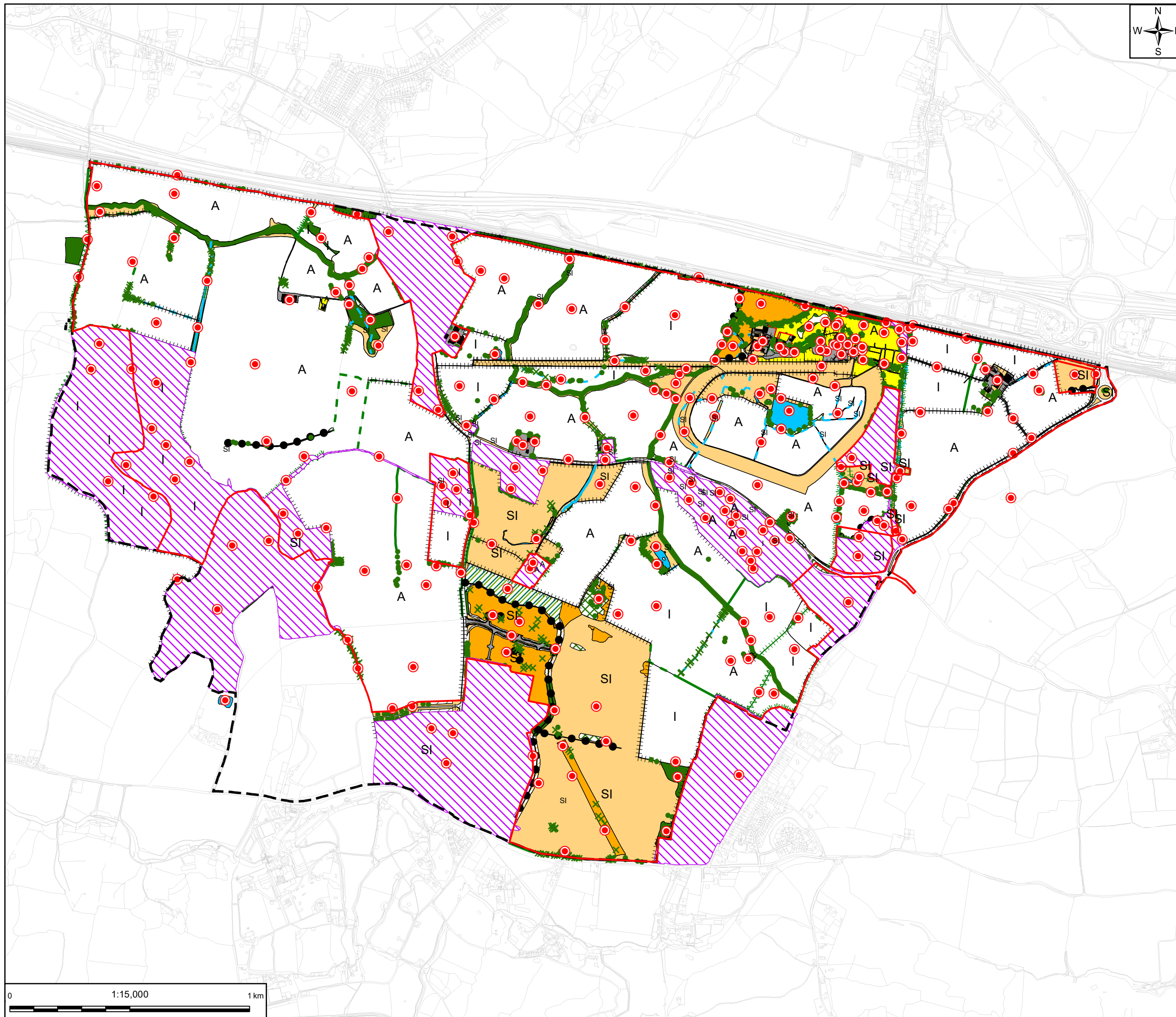
**Figure 6**  
**Phase 1 Habitat Survey Detailed View**  
 Page 6 of 6



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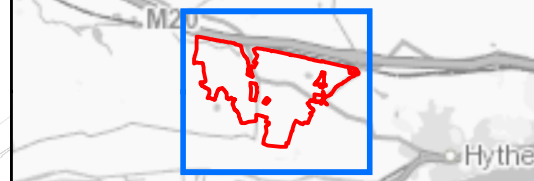
## Figure 7: Habitat survey detailed view 2021





- Legend**
- Outline Planning Application Boundary
  - Framework Masterplan Boundary
  - Target notes
  - No Access Area (2020 & 2021)
  - x Scattered scrub
  - Scattered trees
  - Earth Bank
  - Hedge with Trees Species-poor (conifer)
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**Figure 7**  
**Phase 1 Habitat Survey Overview**

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scale	original size	datum	grid
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## APPENDIX A: Target Notes

Table 8: Habitat Survey Target Notes

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
1	Scattered trees	Avenue of scattered trees 	Horse-Chestnut	No	Trees heavily pruned
2	Species poor native hedge	Isolated stretch of hedge 	Hawthorn, common Ivy	Yes (hedgerow)	Trimmed more than once a year
3	Building	Dilapidated spectator stands 	N/A	N/A	No apparent management. very dilapidated

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 ES Appendix 7.3: Habitat and Hedgerow Survey Report



Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
4	Building	Newer spectator stands 	N/A	N/A	No apparent management
5	Standing water (pond)	Ornamental pond with brick sides 	Iris, Bulrush, Canadian Waterweed, Redshank	No	Dredged
6	Building	Wooden Building 	N/A	N/A	N/A
7	Building	Dilapidated spectator stand (formed of asbestos) 	N/A	N/A	N/A

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
8	Building	Residential House 	N/A	N/A	Appears to be maintained and occupied
9	Bare ground	Car Park 	N/A	No	N/A
10	Improved grassland	N/A 	Perennial Ryegrass, Yarrow, Creeping Cinquefoil, Dandelion, Spear Thistle, Red Fescue, Meadow Buttercup	No	Mown regularly (c. Once per month).






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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
11	Native hedge	Managed hedge (failed/cut) 	Blackthorn, Field Maple, Elder, Hawthorn	Yes - hedgerow	Trimmed.
12	Building	Private house with new barn style residential conversion 	N/A	N/A	Good condition well maintained



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
13	Native hedge	Unmanaged hedgerow/scrub 	Hawthorn, Dogwood, Ash, Pedunculate Oak, Gorse.	Yes - hedgerow	Appears to be unmanaged
14	Scrub	Rail side vegetation, mammal burrows visible in this area 	Willow, Hawthorn, Common Nettle, Ash	No	N/A

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
15	Broadleaf semi-natural woodland	Woodland by railway 	Sycamore, Oak, Hawthorn, Silver Birch.	No	Unmanaged
16	Native species-poor hedge	Tall hedge 	Hawthorn, Plum. Ground flora dominated by Common Nettle, Ground Ivy	Yes (hedgerow)	Flailed
17	Mature scattered trees	Line of mature trees, some bat roosting potential. Visible in fore and background of the photograph. 	Includes, Beech, Lime, Cherry, Horse-Chestnut.	No	Well pruned trees.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
18	Building	Building – disused toilet block. 	N/A	N/A	No apparent management at the time of the survey.
19	Standing water (large pond/lake)	Large waterbody used to irrigate the racecourse. Water is clear, depth indeterminate. Approximate size is 100m X 160m. 	Water Mint, Fan-leaved Water-crowfoot, Bulrush, Branched Bur-reed, Water-plantain.  North bank supports Common Nettle, Common Bent, Yorkshire-fog, Soft-rush, Meadowsweet, Broad-leaved Dock, False Oat-Grass, Willow saplings.	Yes	Emergent vegetation cut annually.
20	Running water - ditch	Ditch network. Partially dry at time of survey.	Soft-rush, Common Reed, Marsh-bedstraw, Bulrush, Water Figwort, Wild Angelica,	No	No apparent in channel management



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Greater Bird's-foot-trefoil.		
21	Broad-leaved woodland (small copse)	<p>Small woodland around the south of the large pond. Dense and scrubby, largely young / semi mature trees.</p> 	Blackthorn, Willow, Alder, Ash, Common Nettle, Hedge Woundwort, Hogweed, Hedge Bindweed, Hawthorn, Bramble.	Yes -wet woodland	No apparent management
22	Standing water (ponds)	<p>Small ephemeral ponds.</p> 	Water Mint, Greater pond-sedge, Water Horsetail, Bulrush, Great Willowherb, Wild Angelica, Soft-rush, Common Reed, Hard Rush.	Yes	No apparent management



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
23	Standing water – small pond	Small wet area, unlikely to hold water year-round 	Common Reed, Bramble. Surrounded by Ivy, Common Nettle, Hawthorn.	No	N/A
24	Building	Row of stables 	N/A	No	No apparent maintenance.
25	Introduced shrub (Virginia Creeper)	Virginia creeper growing on fence 	Virginia-creeper	No	N/A – no evidence of control of invasive plants

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
26	Scattered trees	Mature  scattered trees.	Includes Ash, Lime (Tilia), Beech, Maple, Sycamore, Whitebeam	No	Well pruned
27	Scattered scrub around the pond.	Scattered scrub, predominantly Willow. Grass snake observed in this area. 	N/A	No	N/A
28	Buildings	Multiple single storey stable, not fully accessible wooden and concrete construction.	N/A	N/A	No apparent management. Becoming dilapidated.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
29	Standing water - pond	<p>Pond within complex of buildings surrounded by trees. Very little emergent vegetation.</p> 	Willow species, Bramble, Common Ivy, Common Duckweed on surface.	No	N/A
30	Tall ruderal on Bund	<p>Bund dominated by Nettle.</p> 	Common Nettle, Horse-radish, Hogweed, Hemlock, False Oat-Grass.	no	No apparent management on mound





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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
31	Hedge – native species poor with scattered trees behind	Tall hedge dominated by Hawthorn 	Hawthorn, Common Ivy, Holly, Bramble.  Trees scattered behind include Sycamore, Evergreen Oak, Lime, Hawthorn.	Yes	Hedges appear to be trimmed
32	Scattered tree	Mature Yew 	Yew	No	Evidence of pruning

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
33	Scattered trees	Mature trees 	Beech, Lime	No	Evidence of pruning
34	Buildings	Single storey buildings 	N/A	N/A	N/A

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
35	Buildings		N/A	N/A	N/A
36	Buildings		N/A	N/A	N/A
37	Species poor semi-improved grassland	<p>An area of the racecourse where a species poor semi-improved grassland has developed.</p>	<p>Dominated by Perennial Ryegrass, with Cock's-foot, Yorkshire-fog, Common Bent, Rough Meadow-grass, Greater Plantain, Hairy Sedge, Yarrow, Creeping Cinquefoil. Forbs form less than</p>	No	Hay cut annually

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			30% of the total cover.		
38	Building	Building. New roof. 	N/A	N/A	Building in good condition.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
39	Neutral semi-improved grassland	<p>Reptile potential. Also contains scattered trees predominantly Horse-Chestnut.</p> 	Timothy, False Oat-Grass, Creeping Buttercup.	No	Cut at least annually
40	Defunct species poor hedge with trees.		Blackthorn, Ash, Alder.	Yes	No apparent management
41	Species poor semi-improved grassland. (Damp)	<p>Grassland with ditches, ponds etc. The grassland showed signs of improvement with forbs (excluding Meadow Buttercup and Red Clover) of less than 30%.</p>	See TN22 for details on ephemeral water bodies. Species present within grassland include: Tufted Hair-grass, False Oat-grass, Spear Thistle, Lesser Stitchwort,	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Smooth Sow-thistle, Meadow Buttercup, Cleavers, Broad-leaved Willowherb, Soft-brome, oxeye Daisy, Perennial Rye-grass, Meadow Vetchling, Common Mouse-ear, Black Medick, Meadow Foxtail, Cleavers, Common Sorrel, Common Nettle, Meadowsweet, Bramble.</p>		
42	Dry ditch	<p>Dry ditch.          No photograph</p>	<p>Great Willowherb, Tufted Hair-grass, Hard Rush, Water Figwort, Meadowsweet, Common Reed.</p>	No	No current management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
43	Dry ditch		Cock's-foot, Hedge Woundwort, soft-rush, Great Willowherb, Fool's-water-cress, Marsh Woundwort.	No	Ditch flailed / cut
44	Running water	<p>Low water levels. Feeds into East Stour through culvert under the racecourse</p> 	Greater Pond-sedge, soft-rush, Common Reed, Bulrush, Wild Angelica, Meadowsweet.	No	No apparent management
45	Semi Improved Grassland with areas of tall ruderal plants	Tall ruderal to west, patches of wet grassland.	False Oat-grass, Perennial Rye-grass, Sweet Vernal- grass,	No	Grazed with sheep

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Bramble,          Hogweed,          Greater Burdock,          Great Willowherb.</p>		
46	Other	<p>Culvert under racecourse. No above ground structure visible.          No photograph.</p>	N/A	No	N/A
47	Broad-leaved woodland	<p>Not fully accessed</p> 	N/A – not accessed.	Unknown	N/A



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
48	Dry pond	Dry pond adjacent to an Oak tree. 	Common Nettle, Perennial Rye-grass, Sweet Vernal-grass, Great Willowherb.	No	N/A
49	Dry pond	Dry pond, vegetation suggested that it rarely holds water. Pond is within copse of trees in photograph. 	Soft-rush, Hawthorn, Common Nettle, Elder, Grey Willow, Rape.	No	N/A
50	Buildings	Farm buildings of varying age and design. Bat roosting and barn owl breeding potential.	N/A	N/A	No apparent management


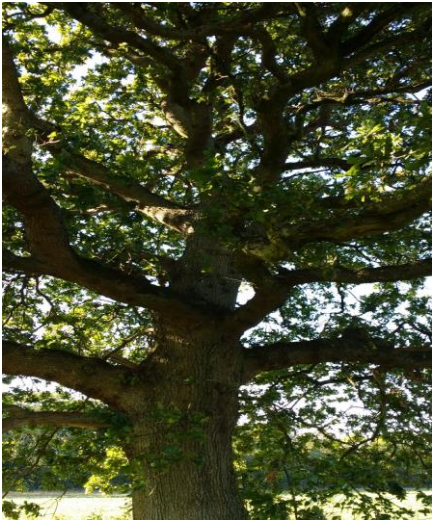
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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
51	Scattered trees	<p>Scattered trees around house / business and farm buildings. Some large trees with bat potential.</p> 	Pedunculate Oak, Ash, Magnolia, Hawthorn, Poplar.	No	Trees are within well maintained garden.
52	Running water - ditch	Ditch containing a low level of water. Low water vole potential.	Bulrush, Fool's-water-cress, Branched Burr-reed.	No	Ditch is recently re dug out.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
53	Species poor neutral semi improved grassland	<p>Area of an old compound, some hardstanding areas and bunds. Reptile potential.</p> 	grey	No	Overgrown area with no evidence of management.
54	Deciduous woodland shelter belt.	Highways planting.	Ash, Field Maple, Sycamore, Hawthorn.	No	No current management apparent.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
55	Scattered trees	<p>Large Oak tree</p> 	Pedunculate Oak	No	No current management apparent.
56	Bare ground / hardstanding. Hardstanding – farm track	Track edges are grassed, SI grassland No Photograph	False Oat-grass on road edge.	No	N/A



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
57	Hedgerow (native species rich with trees) and roadside woodland planting	Broad leaf woodland and hedgerow 	Oak, Ash, Blackthorn, Hawthorn, Wild Privet, Sycamore, Dog-rose, Elder, Blackthorn, Hazel, Willow, Honeysuckle. Ground flora included Common Nettle, Scarlet Pimpernel, Herb-Robert, Cock's-foot, Common Mallow.	Yes	N/A
58	Semi-improved grassland	Small area of semi-improved grassland 	Common Fleabane, Cock's-foot, Hard Rush, Meadow Buttercup	No	Field edge appears to be flailed / mown.
59	Native species poor hedgerow with trees	Native species poor hedgerow No Photograph	Hawthorn, Wild Plum, Sycamore, Ash	No	

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
60	Scattered trees within improved grassland	Some scattered trees surrounded by bramble with improved grassland. 	Scots Pine, Bramble, Perennial Rye-grass.	No	No apparent management
61	Dry pond	Pond (barely visible) 	Cock's-foot, Yorkshire-fog, Soft-rush, Creeping Buttercup.	Np	No apparent management
62	Scrub / scattered trees	Scrub and scattered trees on an embankment	Ash, Blackthorn, Hawthorn, Meadowsweet.	No	No apparent management
63	Native species poor hedge	Dominated by Blackthorn	Blackthorn, Ash, Hazel.	Yes	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
64	Scattered trees	Scattered Ash trees 	Ash	No	No apparent management
65	Species poor native hedgerow	Managed hedgerow	Hawthorn	Yes	Hedge appears to be regularly flailed / cut.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
66	Standing water - pond	<p>Pond with nearby cherry trees. Contains schedule 9 invasive species.</p> 	<p>Willow, Cherry, New Zealand Pigmyweed, Parrot's-feather, Fool's-water-cress, Common Duckweed.</p>	Yes	Surrounding area grazed by sheep.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
67	Scattered trees	<p>Trees are off site on rail land</p> 	Ash, Poplar, Bramble.	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
68	Improved grassland		Dominated by Perennial Rye-grass.	No	Regularly mown
69	Native species poor hedge with trees. Dry stream within the hedge.	Stream largely dry. Concealed within trees to the right of the photograph.	Hawthorn, Willow, Poplar, Alder.	No	No apparent management




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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
70	Standing water – ornamental pond	Ornamental pond within Holiday Extra Land. No GCN potential. 	N/A	No	N/A
71	N/A	Pond shown on OS mapping believed to now be dry. No photograph.	N/A – no direct access	N/A	N/A
72	Fence	N/A	N/A	No	A

<sup>1</sup> Photograph from Bramley Associates (2016) 'An Ecological Scoping Report for Holiday Extras, Ashford Road, Newingreen, Kent.


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
73	Semi-improved neutral grassland	<p>Area adjacent to Westenhanger castle. Reptile potential. Grass composition was more interesting than in other areas of the site, with a forb cover of 30% or greater (excluding Meadow Buttercup and Red Clover).</p> 	<p>Tufted Hair-grass, Cock's-foot, Red Fescue, Common Bent, Common Yellow-sedge, Meadowsweet, Cut-leaved Crane's-bill, False Oat-grass, Meadow Foxtail, Meadow Buttercup, Germander Speedwell, Wall Barley, Common Mouse-ear, Common Bird's-foot-trefoil, Lesser Stitchwort, Ribwort Plantain, Field Wood-rush, Yarrow, Ground Ivy, Common Field- speedwell,</p>	No	Appears to be cut rarely – likely an annual hay cut.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Common Nettle, Hogweed.		
74	Other– Bund	<p>Bund with grass and ruderal species.</p> 	Common Nettle, Bramble, Horse-radish, False Oat-grass, Ragwort, Spotted Medick, White Clover, Wild Teasel, Birch saplings, Hazel saplings.	No	No apparent management
75	Improved grassland	<p>Evidence of hay cutting</p> 	Dominated by Perennial Rye-grass, with Yorkshire- fog, Creeping Bent.	No	Hay cut apparent
76	Scattered scrub and trees on rail side	On rail embankment	Hawthorn, Bramble, Oak, Ash, Grey Willow, Elder. Ground flora	N/A	No apparent Management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			dominated by Common Nettle.		
77	Defunct species poor hedge and ditch	<p>Ditch was dry.</p> 	Hawthorn, Blackthorn, Elder.	N/A	No apparent Management
78	Ditch	Very heavily vegetated ditch.	Meadowsweet, Greater Pond-sedge, Bulrush, Grey Willow scrub, Field Bindweed, Common Nettle, Red Campion, Elder, Bramble.	No	No apparent Management



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
79	Scattered scrub		Gorse, Bramble, Cock's-foot.	No	No apparent Management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
80	SI grassland field edge with some tall ruderal and scrub	Unmanaged grassland 	Tufted Hair-grass, Cock's-foot, Common Nettle, Hogweed.	No	No apparent Management
81	Arable	Arable field. Field margins are largely narrow (<3m). 	N/A		Managed as intensive arable farming.
82	Building	Water pumping station.	N/A	No	Maintained, active structure


Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
83	Ditch (running water), bare ground (road), trees.	<p>Ditch is very shallow (&lt;500mm) surrounded by trees and scrub. Ditch is heavily overgrown.</p> 	Alder, Oak, Hawthorn, Elder, Bramble, Common Nettle.	No, associated hedgerow and wet woodland is S41 habitat	To the west of the ditch, sections of the surrounding vegetation around the ditch is managed as a hedge and appears to be flailed. No management is apparent to the east side of the ditch.


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
84	Tall ruderal	<p>Small boundary area of tall ruderal within a species poor semi-improved grassland field.</p>  	Dominated by Common Nettle and Broad-leaved Dock.	No	No apparent management.





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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
85	Improved grassland	Field edge adjacent to riparian corridor. Approximately 6m wide. 	Dominated by Perennial Rye-grass	Yes	Field boundaries are flailed throughout the year.
86	Arable	N/A 	N/A	No, but field margins are S41 habitat	Managed as intensive arable field.
87	Running water	East Stour River	Largely surrounded by trees including Oak, Ash, Alder, Hawthorn.	No. No qualifying features but will be treated as S41 habitat. Associated strips of riparian	No apparent management

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Minimal in channel vegetation. Water-starwort present in a few locations. Bankside vegetation is dominated by scrub and tall ruderal including Common Nettle, Bramble, Horse-radish.</p> <p>Aquatic species were sparse along the river corridor but included. Pendulous Sedge, Branched Bur-reed, Purple-loosestrife.</p>	<p>corridor / wet woodland are s41 habitats.</p>	
88	Scattered scrub and damp ditch	<p>Scattered scrub along damp ditch.</p> 	<p>Great Willow herb, Willow, White Clover, Common Nettle.</p>	<p>No</p>	<p>No apparent management of ditch. Adjacent field boundary is flailed.</p>

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
89	Tall ruderal		Cock's-foot, Common Nettle, Ribwort Plantain, Sheep's-fescue, Hogweed, Common Knapweed	No	Road verge is mowed
90	Species poor hedge	<p>Hedge of coniferous trees</p> 	Leyland Cypress	No	Hedge appears to be flailed on the field side.
91	Arable	N/A	N/A	No, field margins -area s S41 habitat.	Managed as arable field.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
92	<p>Native species poor intact hedge along ditch.</p> <p>Tall ruderal, species poor semi-improved grassland.</p>	<p>Adjacent field boundary is narrow and dominated by tall ruderal and rank grassland species. Ditch was largely dry.</p> 	<p>Hedge dominated by Hawthorn. Adjacent species poor semi improved grassland supports Rape, False Oat - grass,</p>	No	<p>Hedge is heavily managed with evidence of regular flailing.</p>
93	<p>Area of scattered broadleaf trees. In the north of this area is a dry ditch.</p>	N/A	Dominated by Grey Willow	No	No evidence of management



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
94	Scattered trees, scrub.	<p>Trees including Oak surrounded by tall ruderal species and scrub.            Trees visible in bottom left of below photograph.</p> 	Oak, Blackthorn, Common Nettle, Hemlock.	No	No apparent management
95	Building (and surrounding area),	Buildings are formed of fibreboard sheet with metal frames. Surrounding area is largely bare ground and some scattered scrub.	Bramble, Common Nettle,	No	Very delapidated structures – no


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
	bare ground, ornamental shrub, scattered trees.		Hawthorn surrounding buildings. In residential garden are ornamental shrubs including Snowberry. One large hollow Ash is present in the residential garden of White House (the furthest east of the three properties).		apparent management. Garden is maintained.
96	Hardstanding and building	<p>Area not fully surveyed. Structure is an active café. Surrounding area is a bare ground car park.</p> 	N/A	No	Managed as active café and car park.
97	Scattered scrub / scattered trees	Scattered scrub and trees along dry ditch.	Willow, Hawthorn	No	No apparent management. Surrounding area is sheep grazed.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
98	Running water	<p>East Stour River largely over shaded. River is largely devoid of in channel vegetation and is shallow, (mainly 50mm or less deep).</p> 	<p>Alder, Hawthorn. Water-starwort, Hart's-tongue.</p> <p>Aquatic species were sparse along the river corridor but included. Pendulous Sedge, Branched Bur-reed, Purple-loosestrife.</p>	<p>No, no S41 qualifying features, but will be treated as S41 habitat. Adjacent areas of riparian corridor / wet woodland are S41 habitat.</p>	<p>No apparent management</p>
99	Field pond and scattered trees within semi improved grassland	<p>Two ponds surrounded by scattered trees. The field is grazed by sheep. The smaller pond was largely dry at the time of surveying.</p>	<p>Trees, Oak and Hawthorn. Ponds contain Broad-leaved Pondweed, Amphibious Bistort, Water-</p>	<p>Yes</p>	<p>Area is grazed. Some evidence of clearance of larger pond.</p>

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>starwort, Common Duckweed, Common Spike-rush, Branched Bur-reed, Waterplantain, Greater Pond-sedge.</p>		
100	Running water, scrub, scattered trees.	<p>East Stour River. River is largely over shaded by trees. Minimal in channel vegetation.</p> 	<p>Alder, Oak, Hawthorn Bramble, Common Nettle, Nipplewort, Hogweed, False Oat-grass on banks.</p>	<p>No, no S41 qualifying features, but will be treated as S41 habitat. Adjacent areas of wet woodland are s\$! habitat.</p>	<p>No apparent management of river corridor. Adjacent field margins are flailed.</p>
101	Improved grassland, scattered trees.	<p>Improved grassland grazed by sheep.</p>	<p>Perennial Rye-grass, Common Bent. One large</p>	<p>No</p>	<p>Field is grazed by sheep.</p>






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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Oak present in the field.		
102	Dense scrub	Area of dense scrub around river / railway 	Blackthorn, Hawthorn, Field Bindweed, Common Nettle, Ash, Elder.	No	No apparent management.
103	Arable		N/A	No, field margins yes	N/A


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
104	Scattered tree	Oak tree within field. 	Oak	No	No apparent management
105	Dense scrub and scattered trees	Area not fully accessed. A very dense area of scrub. 	White Willow, Grey Willow, Bramble, Field Maple, Blackthorn.	No	No apparent management.
106	Introduced Shrub (too small to map)	Approximate location of Japanese knotweed	Japanese Knotweed	No	No apparent control / management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
107	Buildings, scattered tree, bare ground, hardstanding.	<p>Farm buildings and a farmhouse. The majority of the structures are large agricultural barns constructed from metal.</p>  	N/A	No	Structures are active and well maintained.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
108	Pond	<p>Dry pond within woodland- No photograph of pond. Pond is within trees shown in photograph. The pond is largely free of vegetation.</p> 	Common Nettle, Bramble.	No	N/A
109	Small area of mixed plantation woodland	Small area of mixed woodland within a private garden. Small wet area. Area not fully accessed.	Poplar, Pine	N/A	No apparent management of woodland.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
110	Area of neutral semi improved grassland (neutral)	Area of semi-improved grassland. Honey bee hives present within this area.	Yorkshire-fog, False Oat-grass, Common Bent, Creeping Thistle	No	Area appears to be mown infrequently.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
111	Woodland -Park Wood -(deciduous)	<p>Area of woodland. Contains some ground flora indicating areas may be ancient semi natural woodland. Know to support an assemblage of invertebrates including Kent RDB1 species.</p> <p>Oak and Hazel (coppiced) dominate the tree composition in the east, Ash becomes more prevalent to the west.</p> 	Ground flora of Enchanter's-nightshade, Bluebell, Greater Stitchwort, Red Campion, Opposite-leaved Golden - saxifrage. Trees are predominantly Oak, Hazel and Ash. Common Nettle and Bramble also present.	Yes	Largely devoid of management, one area has been recently cut to prevent impacts to overhead lines.
112	Ditch	Open ditch. Largely dry at the time of the survey.	Fool's-water-cress, Bulrush, Great Willow herb, Banks dominated by Common Nettle.	No	No apparent management of ditch. Adjacent field margins are narrow and are regularly flailed.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
113	River (East Stour)	<p>Clean slow flowing river with banks dominated by Bramble, Alder, Willow (Salix alba). Minimal emergent vegetation.</p> 	<p>Common Nettle, Bramble, Alder, Willow.          See TN100</p>	<p>No, does not meet qualification criteria but will be treated as S41 habitat. Associated wet woodland / riparian corridor is a S41 habitat.</p>	<p>No apparent management of river corridor.</p>
114	Improved grassland	<p>No photo – strip of grass dominated by tall fescue</p>	<p>Tall Fescue, Perennial Rye-grass.</p>	<p>No</p>	<p>Field margins are regularly flailed.</p>



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
115	Two parallel species rich hedges		Field Maple, Hawthorn, Ash, Elder, Hop.	Yes	Hedges appear to be cut.
116	Broadleaf woodland	<p>Alder woodland</p> 	Alder, Hawthorn, Bramble, Nettle, Broad Buckler-fern	Yes, wet woodland	No apparent management
117	Broadleaf woodland / dense scrub	Woodland on railway embankment not accessed. Some evidence of badger setts within this area.	Hawthorn, Oak, Alder, Bramble, Ash, Poplar, Grey Willow.	Yes	No apparent management



Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
118	Ditch, hedgerow (species rich in sections), dense scrub, species poor semi-improved grassland and scattered trees.	<p>Small shallow running ditch, surrounded by defunct hedge / trees / scrub. Beyond this is a narrow field margin of species poor semi-improved grassland.</p> 	<p>Grey Willow, Alder, Wayfaring- tree, Hawthorn, Great Willow herb. Grades to mature Grey Willow to the south. Field margin varies from negligible to 5m in width. Species present include False Oat-grass, Meadow Fescue, Herb- Robert, Great Willowherb, Smooth Sow-thistle, Lesser Stitchwort, Pendulous Sedge and Yellow Iris (in wetter areas)</p>	<p>Yes (Qualifies as hedgerow), in areas is a wet woodland.</p>	<p>Field margins adjacent to the field are narrow.</p>



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Scarlet Pimpernel, Broad-leaved Dock, Perennial Rye- grass and arable crop species including Rape and Wheat.		
119	Arable field	<p>Arable field with pylons present within the field.</p> 	Laid to cereal crop.	No, field margins are S41 habitat.	Intensively farmed
120	Dense scrub on embankment	<p>Highways planting on an embankment.</p> 	Hawthorn, Sycamore, Bramble, Hazel, Dog-rose, Dogwood.	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
121	Scrub, scattered trees, species poor semi improved grassland on railway embankment	<p>Scrub and SI grassland on railway embankment grading to a species poor SI grassland field margin (largely less than 1m wide).</p> 	Common Nettle, Hawthorn, Blackthorn, Elder	Field margin -yes	No apparent management. Field is cropped very close to land boundary
122	Species poor semi-improved grassland	Area of species poor semi improved grassland with ant hills apparent.	SI grassland dominated by Common Bent with Creeping Buttercup, Yorkshire-fog, Perennial Rye-grass, False Oat- grass.	No	Grazed with sheep

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
123	Arable	<p>Arable field. Field margin largely small (c 1m) Can be seen in distance beyond the pylon in the below photograph.</p> 	N/A	No, filed margins where present – yes.	Intensively farmed
124	Defunct species poor hedgerow with trees	Short area of defunct hedgerow (intermittent) with interspersed tall ruderal and scrub.	Hawthorn, Grey Willow, Elder, Common Nettle, Ash, Oak.	No	Flailed.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
125	A narrow band of Broad-leaved woodland to the west of a species poor hedgerow with trees.	<p>A narrow band of Broad-leaved woodland on an embankment.          (Woodland shown on right hand side of photograph)</p> 	Ash, Elder, Hawthorn, Oak.	No	No current management apparent.
126	Species rich intact hedgerow (native).	A parallel hedge runs either side of the road.	Hazel, Blackthorn, Dogwood, Elder, Grey Willow, Blackthorn.	Yes	Hedgerow is manged and there is evidence of flailing.


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
126	Native species rich intact hedge	<p>Hedges on road edge. On slight bank and a slight ditch also present.</p> 	Hawthorn, Blackthorn, Elder, Dogwood, Hazel.	Yes	Flailed hedges
127	Pond	Pond is largely absent of vegetation. Heavily impacted by grazing livestock.	N/A	No	No management apparent.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
128	Pond / standing water	<p>A small damp area present on a field boundary.</p> 	Fool's-water-cress, Hard Rush, Perennial Rye-grass.	No	Appears that area has been excavated to provide a water resource for livestock.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
129	Buildings		N/A	No	N/A
130	Improved grassland, native species rich defunct hedge, native species poor defunct hedge.	<p>Heavily grazed area of improved grassland. Very limited sward diversity and representation of forbs.</p> 	<p>Dominated by Perennial Ryegrass, Common Bent, Crested Dog's-tail, Cock's foot, Common Mouse-ear, Creeping Thistle, Soft-brome, Common Nettle, Creeping Bent, Common Chickweed.</p> <p>Hedgerows surrounding this area support Blackthorn, Field Maple, Hawthorn, Hazel, Oak, Wayfaring-tree. Ground flora</p>	Hedgerow - yes	Heavily sheep grazed.






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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			largely not present.		
131	Broad-leaved woodland	<p>Broad-leaved woodland, open to sheep grazing. Very impoverished ground flora.</p> 	Ash, Hornbeam, Hazel, Oak, Hawthorn, Field Maple.	Yes	No apparent management, ground flora is impoverished by grazing.
132	Pond	<p>An excavated pond in the periphery of a field. Appears to dry regularly.</p> 	Pendulous Sedge, Fool's-water-cress, Hard Rush, Floating Sweet-grass, Common Duckweed, Jointed Rush.	No	No apparent management.
133	Pond	<p>A relatively newly excavated pond. Fenced from grazing pressure.</p>	Broad-leaved Pondweed, Brooklime, Water-starwort.	No	Fenced to prevent access by livestock. No other management observed.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
134	Arable field	<p>Large arable field.</p> 	N/A	No, field margins yes	Intensively farmed.
135	Buildings	<p>A residential property within an arable landscape. To the west of this property were a number of large metal agricultural buildings.</p>	N/A	No	Buildings appear to be well maintained.



Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
136	Scattered trees on embankments	<p>A number of trees within a field</p>  	Grey Willow	No	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
137	Pond	<p>A pond within the edge of a woodland. Contains deposited waste. Largely devoid of vegetation.</p> 	Bluebells, Wood Avens present around the periphery of the pond. Hawthorn / Oak saplings within the pond.	Yes	No apparent management.
138	Pond (stocked with fish)	No photograph – off-site, not fully accessed.	N/A	Yes	Managed a fishing lake. Swims present around periphery of the pond.
139	Pond	A large drained pond.	Bulrush, Common Reed, Branched Bur-reed, Water Forget-me-not.	No	At the time of the survey the pond was drained and works to refill the pond as a fishing lake were ongoing.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
140	Neutral SI grassland (damp), contains a wet flush	<p>An area of semi-improved neutral grassland which has areas which support a plant community indicative of a damp area (abundant rushes).</p> 	<p>Yorkshire-fog, Greater Bird's-foot-trefoil, Lesser Trefoil, Creeping Buttercup, Selfheal, Water Figwort, Creeping Bent, Greater Pond-sedge, Hard Rush, Purple-loosestrife, Tufted Hair-grass, Water Mint, Marsh Ragwort, Bird's-foot-trefoil, Glaucous Sedge, False Oat-grass, Wild Angelica, Pink Purslane,</p>	No	Grazed with sheep. Flush has evidence of dredging.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Thyme-leaved Speedwell, Sweet Vernal-grass, Grass Vetchling.		
141	Pond, adjacent hedge / ditch.	<p>A pond adjacent to a hedgerow and an arable field. The ditch is damp.</p> 	Pond supports Fool's-water-cress, Hard Rush, Watercress, Primrose, Meadowsweet.	Yes	No apparent management.
142	Bare ground (access track)		N/A	No	Maintained for vehicular access.
143	Defunct species poor hedgerows. Dry ditch at base.	Bottom of the hedge contains a dry ditch.	Multiple defunct species poor hedgerows. Support Blackthorn, Hazel, Elder,	Yes	Evidence of infrequent flailing.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Hawthorn.          Understorey supports Lords-and-Ladies.           Dry ditch contains Common Nettle.</p>		
144	Arable field	Intensively managed arable field.	N/A	No, field margins, yes.	Managed as arable field.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
145	Scattered trees	<p>A number of Oak trees interspersed with small sections of hedgerow.</p> 	Oak, Hawthorn, Elder.	No	Interspersed between the trees were small sections of hedgerow which were flailed.
146	Defunct species poor hedgerow	A defunct species poor hedgerow is present.	Hawthorn, Elder, Hazel, Blackthorn.	Yes	Hedge is flailed.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
147	Building (bunker)	<p>A military bunker made from concrete.</p> 	N/A	No	N/A
148	Scattered trees	Scattered Oak trees	Oak	No	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
149	Species poor hedgerow	<p>A species poor hedge (intact) along a roadside.</p> 	Hawthorn, Elder, Field Maple.	Yes	Hedge is heavily managed – flailed.
150	Avenue of scattered trees (Horse-Chestnut)	<p>Either side of this access road was a number of trees</p> 	Horse-Chestnut	No	Evidence of pruning
151	Arable field		N/A	No, field margins, yes.	Manged as arable field.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
152	Improved grassland	<p>An area of mown improved grassland.</p> 	Perennial Rye-grass, Red Fescue	No	Mown grassland.
153	Neutral semi-improved grassland, buildings (bunkers), scattered scrub.	<p>An area of rough grassland around a number of bunkers and buildings.</p> 	False Oat-grass, Bramble, Maple.	No	No apparent management



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
154	Buildings	<p>A number of old military building surrounded by bunkers.</p> 	N/A	No	Very delapidated – no apparent management.
155	Buildings, Neutral SI grassland, scattered trees	<p>An area of neutral SI grassland interspersed with scrub and small trees.</p> 	False Oat-grass, Cock's-foot, Common Nettle, Creeping Buttercup, Hogweed, Maple, Bramble.	No	Some areas show evidence of cutting or flailing.
156	Buildings – industrial estate	<p>Area not directly accessed - private land. An area of largely industrial and distribution buildings surrounded by landscaping, bunds and trees.</p>	N/A	No	Managed as an active industrial site.






Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
157	Species rich hedgerow, ditch	<p>A damp ditch surrounded by hedgerow and semi-improved grass and field boundaries.</p> 	<p>Ditch supports Square-stalked St John's-wort, Redshank, Common Fleabane, Hard Rush, Creeping Buttercup, Jointed Rush, Horsetail species, Greater Bird's-foot-trefoil, Corn Mint.</p> <p>Species rich intact hedgerow</p>	Yes	Field boundary and hedge appears to be cut / flailed.


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>contains Hazel, Beech, Dogwood, Wayfaring-tree, Blackthorn, Hawthorn, Field Maple, Ash.</p>		
158	Ditch, defunct species poor hedge.	<p>A ditch adjacent to a defunct species poor hedge. The plant community present is indicative of a damp area.</p> 	<p>Hard Rush, Fool's-water-cress, Pendulous Sedge.</p> <p>Hedgerow / scattered scrub is dominated by Hawthorn.</p>	Hedgerow - yes	Area is heavily grazed by sheep.
159	Improved grassland, bare ground,	An improved grassland field which also contains a motor bike track.	Dominated by Perennial Rye-grass, with Thistles, Wild	No	Grazed with sheep. Managed as a motor cross track.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Teasel, Greater Burdock.		
160	Ancient woodland	<p>An ancient woodland on the AWI (Ancient Woodland Inventory). Also a Local Wildlife Site (LWS). Supports areas of Hazel coppice and unmanaged woodland.</p>  	<p>Canopy is dominated by Oak, Field Maple, Hornbeam, Ash and Sweet Chestnut.</p> <p>Understorey is Hazel and Hornbeam coppice with Bramble.</p> <p>Ground flora is rich, including Bluebell, Wood Aven, Wood Sedge, Dog's Mercury, Wood Spurge, Enchanter's-nightshade.</p>	Yes	<p>Managed as a hazel coppice with evidence of management for game birds.</p> <p>Some areas are operated associated with fishing lakes.</p>

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
161	Defunct native hedgerow, with a large tree (oak)	<p>Connected to the woodland, a defunct native species poor hedgerow.</p> 	<p>Hawthorn, Ash, Dog-rose, Oak.</p> <p>Ditch supports Fools-water-cress, Large Yellow-sedge, Brooklime, Wood Rush.</p>	Yes	Grazed by sheep.
162	Improved Grassland, tall ruderal, fence.	<p>A field of grazed improved grassland. Some areas of tall ruderal are also present. Stock fence is also present around this field.</p> 	<p>Nettle, Perennial Rye-grass, Common Bent.</p>	No	Grazed by sheep and cattle.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
163	Mixed plantation woodland	<p>An area of Mixed plantation woodland planted on top of a landscaping mound.</p> 	<p>Scots Pine, Field Maple, Oak, Elder, Hazel, White Poplar, Silver Birch.</p> <p>Minimal ground flora, Common Ivy, Bramble.</p>	No	No apparent management.
164	Semi improved neutral grassland, scattered scrub.	<p>This area was an area of SI grassland with scattered scrub. Some large mounds of rubble are also present in this area.</p> 	<p>False Oat-grass, Yarrow, Sorrel, Cock's-foot, Common Knapweed, Common Bird's-foot-trefoil.</p>	No	Evidence of mowing.
165	Scattered scrub and semi-improved grassland on a Bund	<p>A bund supporting unmanaged grassland and scrub.</p> <p>No photograph.</p>	<p>False Oat-grass, Cocks'-foot, Common Bent, Prickly Sow-thistle, Common Nettle, Creeping Thistle, Common</p>	No	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Ragwort, Selfheal. Areas of Bramble, Gorse.		
166	Hardstanding, amenity grassland, introduced shrub	<p>An access road to a proposed logistics park. Surrounded by amenity grassland verge and ornamental shrub hedges and trees.</p> 	Cherry Laurel, Dogwood, a Maple.	No	Heavily managed with neatly trimmed hedges.
167	Neutral semi improved grassland, scrub, bare ground, scattered trees, scrub.	A large area of neutral semi-improved neutral grassland with cleared areas and piles of rubble.	False Oat-Grass, Yarrow, Sorrel, Cock's-foot, Common Knapweed, Common Bird's-foot-trefoil, Creeping Cinquefoil, Thyme-leaved Speedwell, Cut-leaved Crane's-bill, Crested	No	Evidence of mowing.

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Dogs-tail,          Meadow Foxtail,          Cock's Foot,          Creeping Thistle,          White Clover,          Black Medick,          Ribwort Plantain.</p> <p>Elder scrub present.</p>		
168	Bund, semi improved grassland, tall ruderal, scrub.	<p>A landscape bund planted with scrub and trees, extensively covered with tall ruderal species. surrounded by semi improved grassland.</p> 	<p>Dominated by Common Nettle with False Oat-grass, Wild Teasel, Cocks'-foot, Common Bent, Prickly Sow-thistle, Creeping Thistle, Mugwort, Broad-leaved Dock, Greater Burdock, Dog-rose. Scrub contains Bramble, Gorse, Elder.</p> <p>Adjacent neutral semi-improved grassland supports Common Field Speedwell, Grass Vetchling,</p>	No	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Charlock, Field Forget-me-not, Lesser Stitchwort.		
169	Dense scrub, tall ruderal.	<p>An area of scrub and tall ruderal containing a number of mounds.</p> 	Hawthorn, Elder, Bramble, Rosebay Willowherb, Common Nettle, Traveller's-joy. Trees include Sycamore, and Ash.	No	No apparent management.
170	Scattered trees, amenity grassland, semi improved grassland, ornamental planting, buildings.	<p>A large and gardens, containing a number of buildings, scattered trees, ornamental planting, hedgerows.</p> 	<p>Trees within the area include Oak, Cherry, Apple, Horse-Chestnut, Hawthorn, Scots Pine, Silver Birch, Willow, Field Maple, Plum, Pear, Ash, Hazel, Fig.</p> <p>A beech hedge is present within the property grounds.</p> <p>Within the property there is a range of ornamental planting including Box,</p>	No	Some areas of the gardens are heavily managed with evidence of cutting. Towards the south there is less management, with a rougher grassland sward.





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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Foxglove, Geranium.</p> <p>Non-native invasive plant species present include Wall Cotoneaster and Virginia-creeper.</p>		
171	Pond	<p>A small, lined ornamental pond heavily overgrown with ornamental planting.</p> 	N/A	No	No apparent management
172	Running water (spring)	<p>A small spring adjacent to a man-made cutting. To the north there are areas of scattered and dense scrub. Within a SSSI designated for geological features.</p>	<p>Hard Rush, Sweet Vernal-grass, Hawthorn, Grey Willow, Fool's-water-cress, Watercress, Common Duckweed, Soft-rush.</p>	No	Grazed with sheep.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
173	Semi-improved neutral grassland, scattered tree.	<p>A grazed field of semi-improved grassland This area is also a SSSI designated for geological features.</p> 	Dominated by Common Bent. An Oak tree is also present within this area.	No	Grazed by sheep
174	Native species poor hedgerows	A native species poor intact hedge.	Hawthorn, Elder, Field Maple.	Yes	Flailed.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
175	Pond	<p>A small shallow pond.</p> 	<p>Dominated by Bulrush and Common Reed. To the south surrounded by Hawthorn and Grey Willow.</p>	Yes	Surrounding area grazed
176	Largely dry ditches	<p>A number of largely dry ditches around an active farm.</p>	<p>Hard Rush, soft-rush, Perennial Rye-grass.</p>	No	<p>Areas appears to be cut.</p>

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
177	Pond, scattered trees.	<p>A pond adjacent to an active farm. Surrounded by hardstanding and bare ground farm tracks.</p> 	Common Duckweed, Yellow Iris, Bittersweet. Surrounded by Common Nettle and trees including Ash.	Yes	Area around pond is cut / flailed.
178	Buildings	A collection of farm buildings including a farmhouse, stone storage barns and agricultural sheds.	N/A	No	Buildings are all in use.





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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
179	Improved grassland, bare ground	<p>A grazed area of improved grassland.</p> 	Common Bent, Perennial Rye-grass.	No	Grazed with horses.
180	Bare ground, semi-improved grassland, scrub, tall ruderal, broadleaf woodland, introduced shrub	<p>A disused lorry park containing a range of habitats. The largest area is bare ground, with areas of scattered scrub, introduced shrub, ephemeral short perennial vegetation, species poor semi-improved grassland, tall ruderal habitats and small areas of Broad-leaved woodland around the periphery.</p> 	<p>The dense scrub is dominated by Blackthorn, Elder and Bramble.</p> <p>The ephemeral short perennial vegetation is dominated by a bird's-foot-trefoil, Feverfew and Creeping Cinquefoil.</p> <p>The species poor semi-improved</p>	Yes – some areas are open mosaic habitats on previously developed land	No apparent management.

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>grassland is dominated by False Oat-grass.</p> <p>The Broad-leaved woodland is predominantly Sycamore and Poplar, with Hawthorn.</p> <p>Tall ruderal species present include Common Nettle, Rosebay Willowherb and Wild Teasel.</p> <p>The scattered scrub in this area is dominated by Bramble.</p> <p>Introduced Scrub present includes Butterfly-bush.</p>		
181	Defunct hedgerow (native species poor), dense scrub.	<p>An overgrown defunct hedgerow.</p> 	Dominated by Hawthorn.	Yes	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
182	Coniferous hedge	<p>A large hedge of Leylandii.</p> 	Leyland Cypress	No	No apparent Management.
183	Species poor semi - improved neutral grassland		<p>Dominated by Common Bent, with Yorkshire-fog, Red Fescue, Crested Dog's-tail, Common Vetch, Creeping Buttercup, Sweet Vernal- grass, Grass Vetchling, Rough Meadow-grass, Creeping Bent, White Clover, Black Medick.</p>	No	Grazed with sheep.
184	Arable field	<p>A large arable field.          The first photograph shows the field viewed form the A20 in the south.</p>	N/A	No, field margins yes.	Managed as an arable field. Prior to cropping the area is grazed with sheep.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
185	Running water (stream) scattered trees, dense scrub.	A running stream which flows into the East Stour. Largely shallow (<50cm deep and narrow (<1m wide). Steep banks overgrown with Broad-leaved trees.	<p>Alder, Ash, Oak, Grew Willow, Hawthorn, Elder.</p> <p>Banks dominated by Common Nettle, Perennial Rye-grass.</p> <p>Emergent plants are largely limited, in less shaded areas Common Reed present.</p>	No but adjacent areas of wet woodland where present are S41 habitats.	No apparent management. The stream is largely cropped / grazed close to the edge with limited field margins.





Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
186	Pond, species poor semi improved grassland.	<p>A large ornamental pond with an island stocked with fish. Surrounded by species poor semi improved grassland beyond which lie hedgerows to the north, trees and scrub along a running stream to the east and trees to the west and south.</p> 	<p>Pond contains limited emergent vegetation, mainly Common Reed, Bulrush and Water- lily. Pond is surrounded by Pond-sedge with Yellow-sedge.</p> <p>Surrounding species poor semi improved grassland contains Lesser Stitchwort, False Oat- grass, Great Bird's-foot-trefoil, Lesser Pond-sedge,</p>	Yes	Sections of the grass are flailed regularly whilst other areas are not managed.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Meadow Buttercup, Yorkshire-fog, Broad-leaved Dock, Crisped Dock, Rough Meadow grass, soft Rush, Hard Rush, Perennial Rye-grass.</p> <p>On the island there is the non-native invasive plant species Giant- rhubarb.</p>		
187	Defunct species poor hedge, ditch.		Defunct species poor hedge contains Hawthorn, Elder, Willow. Understorey is dominated by Common Nettle, Bramble.	Yes	No apparent management
188	Broad-leaved woodland, dense scrub	In the southeast corner of the pond area is a small area of woodland.	Dominated by Willow.	Yes, wet woodland.	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
189	Arable	<p>Arable land laid to cereal crop.            No Photograph.</p>	N/A	No, field margins, yes	Managed as arable land. Subsequent to cropping the area is grazed with sheep.
190	Improved Grassland	<p>A large area of improved grassland.</p> 	Perennial Rye-grass.	No	The grassland appears to be regularly cut, and certain areas appear to be sprayed with herbicide.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
191	Improved grassland, dense scrub.	<p>An improved grassland field. To the south this borders a Broad-leaved woodland. Between the woodland lies areas of scattered scrub.</p> <p>There are no significant field margins around this field with the exception of the areas of scattered scrub.</p> 	Perennial Rye-grass, Hawthorn, Bramble.	No	Grazed with sheep.
192	Broadleaf plantation woodland	<p>A small Broad-leaved plantation woodland. To the north are areas of derelict military installations.</p> 	Woodland dominated by Sycamore and Hawthorn with an understorey of Ivy and Bramble.	No	No apparent management. Evidence of impacts from nearby residential area (footpaths, fly tipped waste).
193	Neutral species poor and neutral semi improved grassland	Areas of the field, especially the central runway and margins support a more diverse sward. The main area of the airfield supports species poor semi improved grassland.	False Oat-grass, Timothy, Yorkshire-fog, Red Fescue, Upright Brome, Meadow Foxtail, Meadow Vetchling, a	No	Mown at approximately monthly intervals.  The periphery of the field and an area around the central runway are not mown



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			bird's-foot-trefoil, Common Mallow, Yarrow, Creeping Buttercup, Black Medick, Common Ragwort, Prickly Sow- thistle, Selfheal, Hogweed, Creeping Bent, Spotted Medick, Creeping Cinquefoil, Field Forget-me-not, Cock's-foot.		and support a longer, rougher sward.
194	Scattered trees along runway. The grassland along this section is neural semi-improved grassland.	A number of scattered trees along the line of an airfield. 	Willow trees. Neutral semi-improved grassland contains Black Medick, Grass Vetchling, White Clover, False Oat- grass, Yorkshire-fog, Plantain, Spotted Medick, Soft-brome, Yarrow, Creeping Cinquefoil, Hogweed, mouse ear, cut leaved geranium, Smooth Tare,	No	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Redd Clover, Hairy Tare, Spear Thistle, Cock's-foot, a bird's-foot-trefoil.		
195	Scattered trees	<p>A number of scattered trees along the length of a disused partially removed runway</p> 	Willow	No	No apparent management
196	Mixed woodland	<p>Behind the landscape bund, a mixed plantation woodland is present.</p> 	White Poplar, Sycamore, Ash, Cherry, Willow, Oak, Scots Pine.	No	No apparent management
197	Neutral semi-improved grassland, woodland	<p>On bund, habitat is woodland with an edge habitat of neutral semi improved grassland.</p>	Where grass habitat is present, species include: False Oat-grass, Timothy, Common Bent Grass, Yorkshire-fog, Red Fescue,	No	No apparent management

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Upright Brome, Meadow Foxtail, Meadow Vetchling, Bird's-foot-trefoil, Common Mallow, Yarrow, Creeping Buttercup, Black Medick, Common Ragwort, Pricky Sow-thistle, Selfheal, Smooth Meadow-grass, Sweet-briar, Lucerne.</p> <p>This is interspersed with tall ruderal species and scrub, including Bramble, Common Nettle, Creeping Thistle, Mugwort, Dock, Burdock, Dog-rose, Scots Pine, Gorse.</p> <p>Woodland contained Field Maple, Ash, Scots Pine, White Poplar, Willow, Hawthorn.</p>		



Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
198	Semi improved grassland, scattered trees, scattered scrub (on bund)		<p>Planted with a number of small trees including Scots Pine, Gorse, Hawthorn, Cherry, Ash.</p> <p>Where grass habitat is present, species include:          Yorkshire-fog, Red Fescue, Upright Brome, Meadow Foxtail, St John's-wort, Field Bindweed, Meadow Vetchling, Bird's-foot-trefoil, Common Mallow, Yarrow, Creeping Buttercup, Black Medick, Common Ragwort, Pricky Sow-thistle, Selfheal.</p> <p>This is interspersed with tall ruderal species and scrub, including Bramble, Common Nettle, Creeping Thistle,</p>	No	No apparent management.





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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Mugwort, a dock, Smooth Sow-thistle, a burdock, Dog-rose, Scots Pine, Gorse.		
199	Broad-leaved woodland, Scattered scrub	<p>A small copse of woodland surrounded by dense scrub.</p> 	Sycamore, Elder, Ivy, Common Nettle.	No	No apparent management
200	Improved grassland, bare ground.	<p>A heavily grazed improved grassland field. Adjacent to accesses there are areas of bare ground.</p> 	Perennial Rye-Grass, Creeping Thistle, Common Ragwort.	No	Grazed with cows and sheep.
201	Pond, scattered trees	<p>A deep agricultural pond. Minimal emergent vegetation away from the pond edges.</p>	Trees to the southwest of the pond are Hawthorn and Blackthorn.	Yes	No apparent management. The pond is surrounded by a fence.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Common Reed around periphery of the pond. 'Blanketweed' covers areas of the pond.</p>		
202	Arable field	<p>Large arable field.</p> 	N/A	No. Margins - yes	Managed as an arable field.
203	Defunct species poor hedge	<p>A defunct species poor hedgerow. Ground flora minimal due to grazing.</p>	<p>Dominated by Hawthorn, Elder.</p>	Yes	Appears to be flailed.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Some Ash at Northern end.		
204	Improved grassland, defunct species poor hedges	<p>This area was largely uniform improved grassland pasture surrounded by defunct native species poor hedgerows.</p> 	<p>Grassland dominated by Perennial Rye-grass</p> <p>Hedgerows largely Hawthorn.</p>	Hedgerows - yes	Heavily Grazed with sheep and / or cattle.
205	Pond (Area not accessed)	No Photograph – access to area denied	N/A	Unknown	Unknown
206	Improved grassland	Large improved grassland field.	Grassland dominated by	No	Grazed with sheep.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Perennial Rye-grass.            Hedgerows largely Hawthorn.</p>		
207	Broadleaf plantation woodland, dense scrub	<p>A young plantation woodland with minimal understorey or ground flora.</p> 	<p>Dominated by Hawthorn, with an understorey of Common Nettle, with Lords-and-Ladies also present.</p>	No	No apparent management.
208	Improved grassland, scattered trees.		<p>Improved grassland field dominated by Perennial Rye-grass with Creeping Thistle, Meadow Buttercup and Yorkshire-fog.            To the south was a line of scattered trees dominated by Grey Alder.</p>	No	Appears to be cut / flailed.





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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
209	Broadleaf woodland, dense scrub		Dominated by Hawthorn, Blackthorn with an understorey of Common Nettle, with Lords-and-Ladies.	No	No apparent management.
210	Buildings, gardens including improved grassland, hardstanding, scrub, scattered trees and ornamental shrubs.	<p>A number of light industrial buildings within a business park. To the east is a residential property with associated gardens.</p>  	N/A	No	Managed as an active business park. House and gardens are well managed.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
211	Orchard (area not accessed) with ground flora of species poor semi improved grassland.	<p>A small orchard. Access to this area was not obtained.</p> 	<p>Not Accessed. Ground flora varied from public right of way was species poor semi improved grassland. Ground flora constrained Perennial Rye-grass, Crested Dog's- tail, Common Nettle, Creeping Thistle, Meadow Buttercup, Ground Ivy, False Oat-grass, Yorkshire-fog, Yarrow, Creeping Bent.</p>	Yes	Grazed.
212	Pond	A pond largely overgrown with shrubs. Surrounded by Nettle.	<p>Hawthorn, Common Nettle. No apparent emergent species.</p>	No	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
213	Improved grassland	<p>A large improved grassland field.</p> 	<p>Dominated by Perennial Rye-grass with Creeping Thistle, False- Oat-grass, Mayweed. Around the periphery of the field are species including Spear Thistle, Meadow Vetchling, Common Field-speedwell, Common Vetch, Field Forget-me-not.</p>	No	Hay cut

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
214	Building	<p>A semi-detached property Cobtree cottage</p> 	Garden species including small fruit trees present.	No	Garden and property well maintained.
215	Building, scattered trees introduced shrub,	A residential property to the north of the A20.	Scattered trees include Hazel,	N/A	Garden and property well maintained.





Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
		 	<p>Plum, Pear, Norway Maple and Dogwood. Introduced shrubs present including Smoke-tree, Ornamental species were also present including Montbretia, Cherry Laurel, Geranium.</p>		
216	Lypne village, area not accessed. Large range of habitats present including	Largely formed of private residential dwelling which were not accessed and associated hardstanding, road, paths etc.	N/A – access to the sea areas not permitted.	No	N/A

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
	trees, hedgerows, gardens, hardstanding.				
217	Pond (off-site)	<p>A woodland pond. Completely shaded with no emergent vegetation.</p> 	Woodland contains Sycamore, Silver Birch.	No	N/A
218	Species poor-semi-improved grassland	An area of species poor semi improved grassland.	Common Bent, Sweet Vernal-grass, Timothy Grass, False Oat-grass, Red Fescue, Yorkshire-fog, Spear Thistle, Sorrel.	No	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
219	Defunct species poor hedgerow	<p>A defunct species poor hedgerow.</p> 	Dominated by Hawthorn. Field boundary is largely narrow (c.1m).	Yes	Appears to be flailed.

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
220	Improved grassland, scattered trees.	<p>A large improved grassland field. Along the southern boundary, particularly to the east was a row of scattered trees formed of Grey Alder.</p>  	<p>Yorkshire-fog, Perennial Rye-grass, False Oat- grass, Creeping Thistle, Spear Thistle, Common Nettle, Meadow Buttercup.</p> <p>Trees Grey Alder.</p>	No	<p>Appeared to be mown, frequency of mowing indeterminate.</p> <p>At time of second survey, it appeared that the grass had been sprayed with herbicide.</p>



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
221	Broad-leaved Woodland	Adjacent to the River 	Ash, Sweet Chestnut, Hawthorn, Bramble, Elder, Larch. Common Nettle. Undergrowth Common Ivy.	No	No apparent management.
223	Scattered trees	Line of mature oak trees	Oak	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
224	Woodland	<p>Corner of Ash woodland, cut to achieve clearance from overhead lines.</p> 	Ash	Yes	Cut
225	Area of native species rich hedge with trees	A large oak tree is present to the north of the hedgerow.	Hawthorn, Alder, Blackthorn, Oak, Ash. Ground flora of Bramble,	Yes	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
	adjacent to a watercourse.		Common Nettle, Meadow Buttercup, Hedge Woundwort, False-brome.		
226	Arable field	Arable field with species poor semi-improved grassland buffer to east (adjacent to stream and trees).	Perennial Ryegrass, Poppy, Tall Fescue, Herb-Robert, Sorrel, cut-leaved geranium, Wood	Field margins, yes	Agricultural field. Known to be included in higher level stewardship scheme. Field margin is

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Avens, Great Willowherb, Cleavers, Cow Parsley.</p>		<p>retained but flailed throughout the year.</p>
227	Broad- leaved woodland	<p>A section of Broad-leaved wet woodland along a running water course.</p> 	<p>Willow, including Crack and White Willow, Hawthorn, Elder.</p>	<p>Yes – hedgerow</p>	<p>No apparent management</p>
228	Species poor semi-improved grassland	<p>An area of species poor semi-improved grassland.</p>	<p>Cut-leaved Crane's-bill, Common Nettle, False Oat-grass, Cock's-foot, Spear Thistle, Meadow Buttercup, Lesser Stitchwort, Field Forget-me-not,</p>	<p>No</p>	<p>Grazed with sheep.</p>



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Creeping Cinquefoil.		
229	A defunct species poor hedgerow behind which is an area of scattered Broad-leaf trees	Some of the trees in this area may be worthy of retention particularly old Hawthorns and some large standard trees which may predate the racecourse development.	Hedgerow is dominated by Hawthorn with a number of tree species including Hawthorn, Sycamore,	Yes	Evidence of tree care and pruning in line with usage of area as a wedding venue.

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
		 	Laburnum, Evergreen Oak.		
230	Species poor semi-improved grassland.	An area of species poor semi-improved grassland bordered by tall ruderal	Meadow Buttercup, Perennial Rye-grass, Yorkshire-fog, Common Nettle, Redshank, Meadow Foxtail,	No	Hay cut / mow in summer.

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Meadow Barley, False Oat-grass, Hogweed, Cleavers, Red Fescue, Broad-leaved Dock.</p>		
231	<p>Residential property with buildings, hardstanding, scattered trees, scrub, intact species rich hedgerow.</p>	<p>A residential property and associated garden areas. The property was largely well maintained with recently replaced roof and soffits / fascias. Hardstanding patio and driveway was present immediately around the property.</p> <p>Dense scrub to west to stream corridor, within the scrub area was two small 'nissen' huts. North of the property was a species poor hedge. To the west of the property was a garden containing amenity grassland, introduced shrubs and hardstanding.</p> 	<p>Scrub to west of property contained Bramble, Elder, Hazel, Russian-vine, Yarrow, Bugle, Blackthorn, Mugwort, Hop, Ragwort, Common Mallow, Ribwort Plantain.</p> <p>The hedgerow to the north of the property contained Field Maple, Dog-rose, Hawthorn, Hedge Bindweed, Plum, Elder, Holly, Bramble.</p> <p>One large Scots Pine was</p>	No	<p>Managed as a residential property and garden. Scrub area to the west received no management.</p>



Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>present within the garden., and Rowan trees. Oregon-grape, and Russian-vine were also present.</p>		
232	<p>Improved grassland, bordered to the south by an intact species poor hedge, to the west by an introduced shrub hedge, to the north / east by a fence beyond which lies a larger improved grassland field.</p>	<p>A small patch of improved grassland to the south-west of a larger grassland area.</p>	<p>Yorkshire-fog, Spear Thistle, Lesser Stitchwort, Perennial Rye-grass, Meadow Buttercup.</p>	<p>No</p>	<p>Evidence of hay cutting.</p>



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
233	A small area of scattered trees and scrub around a ditch (dry at the time of the survey forming a small wet woodland	<p>Some larger trees, majority of trees small. May have formed form a defunct hedgerow. The ditch was dry at the time of the survey.</p> 	Trees present included Grey Willow, Elder, Alder, Grey Alder, Hawthorn. Ground flora of Ground-ivy, Common Reed, Lords- and- Ladies, Hogweed.	No	No apparent management
234	Native species rich hedge, scattered trees to west.	A native species rich hedge with 3 large Ash trees to the western end.	Hazel, Alder, Field Maple, Hawthorn, Sycamore, Ash. Ground flora dominated by Common Nettle and Bramble.	Yes	No apparent management.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
235	Scattered trees within dense scrub along running water course.	<p>A large Alder and significant Oak within the vegetation along the watercourse.</p> 	Oak, Alder.	Yes - hedgerow	No apparent management
236	Scattered tree within dense scrub along running water course.	Large ivy covered ash tree within vegetation along a watercourse	Ash	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
237	Scattered trees within a native species poor intact hedge.	<p>Large Oak trees within a native species rich intact hedge.</p> 	Oak	No	No apparent management
238	Broad-leaved woodland	<p>A small roadside area of Broad-leaved woodland. Predominantly Sycamore, with one large Oak, grading to Ash trees in the north. Understorey of Bramble, ground flora dominated by Common Nettle.</p>	Oak, Sycamore, Ash, Bramble, Blackthorn, Elder.	No	None

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
239	Species poor semi-improved grassland and tall ruderal	A roadside area of grassland and tall ruderal. No photograph.	Mugwort, Cinquefoil, Lesser Burdock, Common Poppy, Spear Thistle, Common Chickweed, Herb-Robert, Wild Teasel, Strawberry, Curled Dock, Teasel, False Oat-grass, Meadow Buttercup, Cock's-foot, White Dead-nettle, Hogweed, Cleavers, Garlic	No	N/A





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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Mustard, Common Knapweed, Cut-leaved Crane's-bill, Cow Parsley, Ground-elder, Yarrow, Red Campion, Common Mallow.		
240	Scattered trees	A number of large trees along the river corridor of significant size and stature. No photograph	Pedunculate Oak, Alder, Ash.	No	No apparent management
241	Scattered trees	A number of scattered trees of significant size around residential and commercial buildings. 	Copper Beech, Pedunculate Oak, Walnut, Willow.	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
242	Scattered Scrub	<p>A small area of scattered scrub and saplings.            No photograph</p>	Dominated by Oak and Birch.	No	Appear to have been recently planted.
243	Scattered tree	<p>A significant large Ash tree with a wound on one side.</p>	Ash	No	Maintained tree.


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
244	Ditch, damp neutral grassland.	<p>A short ditch draining to a pond in Harringe Brooks Wood.</p> 	<p>Bittersweet,          Two-flowered          Rush, Nettle,          Sharp- flowered          Rush, Ragwort,          Water Mint,          Wood Millet,          Pendulous          Sedge, Sweet          Vernal-grass,          Water Figwort,</p>	No	Dredged
245	Scattered trees	Two field boundary trees	Ash	No	No apparent management

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
246	Species poor SI grassland and tall ruderal	<p>This area supported a habitat of tall ruderal and species poor SI grassland 1 – 2 m wide along edge</p> 	<p>Lesser Burdock,                      Horse-radish,                      Common Sorrel,                      Wild Teasel,                      Mugwort,                      Meadow Buttercup,                      Tufted Hair-grass, False Oat-grass,                      Hogweed, Great Willowherb,                      Common Nettle,                      Horsetail,                      Yorkshire-fog,                      Soft-brome,                      Barren Brome,                      Meadow Foxtail,                      Colt's- foot,                      Timothy grass,                      Curled Dock,</p>	Yes	Flailed throughout the year.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Clustered Dock, Ragwort.		
247	Scattered trees, scrub	A row of scattered trees and scrub along an embankment. No photograph	Oak, Elder, Ash. Common Nettle ground flora.	No	No apparent management
248	An off-site pond surrounded by improved grassland. Two trees adjacent to the pond (willow)	A pond surrounded by grazed grassland (off-site but with good connectivity to the site habitats) 	Hard-rush, Soft-rush, Common Reed, Common Nettle. Trees are Willow.	Yes	Grazed surroundings
249	Semi-improved neutral grassland grading towards tall ruderal on the embankments	The edge of the old airfield is less intensively managed than the main body of the airfield and supports a more diverse grassland community indicative of neutral semi-improved grassland. On the adjacent embankments the habitat is dominated by tall ruderal with patches of scrub.	Black Medick, Spotted Medick, Hairy Tare, Spear Thistle, Cock's-foot, False Oat-grass, Grass Vetchling, Ribwort Plantain, False-brome, Yarrow, Creeping Cinquefoil, Hogweed, Common Mouse-ear, Cut-	No	Hay cut likely to be taken.



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			leaved Crane's-bill, Red Clover, a birds-foot-trefoil.		
250	An area of broad-leaved woodland surround in a residential property.	<p>A small woodland surrounding a residential property to the south and north-east.</p> 	Weeping Willow, Lombardy-poplar, Oak, Blackthorn, Elder, Leyland Cypress.	Yes	No apparent management.
251	Scattered mature trees.	Scattered mature trees adjacent to a defunct hedge and along a dry ditch. Tree species are mature.	Tree species present include Poplar, Ash, a maple, Hawthorn, Scots	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			Pine, Lime, Birch, Elder.		
252	Mature scattered trees	<p>A line of mature trees along a largely dry ditch.</p> 	Lime, Ash, Maple, Copper Beech, Oak, Sycamore.	No	No apparent management
253	Defunct species rich hedge	Overgrown species rich hedge.	Field Maple, Hawthorn, Wild Privet, Dog Rose, Bramble, Dogwood, Blackthorn.	Yes	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
254	Native species poor hedgerow	<p>Overgrown hedgerow around a disused area.</p> 	Wild Privet, Sycamore, Holly.	No	No apparent management
255	Earth Bund with scattered tall ruderal	An earth bund.	Nettle, Broad-leaved dock.	No	No apparent management




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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
256	Other	Non-native invasive species Garden Yellow-archangel No photograph	Garden Yellow-archangel	N/A	N/A
257	Dry ditch, species poor SI grassland	An area of rough grassland adjacent to a dry ditch.	Perennial Rye-grass, Timothy Grass, False Oat-grass, Common Reed, Bulrush, Soft-rush.	No	No apparent management

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
258	Residential properties (building), scattered scrub, species poor semi improved grassland, leylandii hedge, native species poor hedge, introduced shrub, amenity grassland, associated hard standing,	<p>Three adjacent residential properties, two of these houses (1 and 2 'Little Greys') were surveyed.</p> <p>The front of the properties and extending to the south was a box hedge becoming a leylandii hedge to the south. The properties were in good condition, with evidence of an extension being built at 1 Little Greys.</p> <p>The gardens of the two properties were hardstanding, amenity grassland, scattered trees, tall ruderal, introduced shrub. Two garage type structures were also present in the garden.</p>	Hedgerows were predominantly Box and Leyland Cypress. The tall ruderal species present included Common Nettle and Bramble. Trees present included Apple. The ornamental shrub present included tree of heaven and an ornamental Rose. The grassed areas of the site contained False	No	Managed as a residential garden.

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Oat- grass,                      Bristly Ox-                      tongue, Sow-                      thistle,                      Yorkshire-fog,                      Field Bindweed.</p>		

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
259	Scattered trees, scattered scrub, introduced shrub.	A row of scattered trees on a field edge and within adjacent residential properties. Introduced shrubs are also along the boundaries between the properties and the field.	Tree species include Pedunculate Oak, Field Maple, Ash, Sycamore.  Introduced shrub species included	No	No apparent management of trees.



Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>Cherry Laurel, Oregon-grape.</p>		



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
260	Arable field, species poor semi-improved grassland.	<p>An arable field with a boundary of species poor semi-improved grassland.</p> 	Field contained Wheat. Edge habitats supported species including Timothy grass, Common Nettle, Dock, Cock's-foot, Yorkshire-fog.	No	Managed as an arable field.
261	Scattered trees and scrub	Scattered scrub along the north of the field.	Hawthorn	No	Managed as an arable field.


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
262	Native species poor hedge, scattered trees, leylandii hedge.	<p>A native species poor hedge with a single large tree. Becomes a Leyland Cypress hedge to the north.</p> 	Leyland Cypress, Hawthorn, Weeping Willow.	Yes	Trimmed



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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
263	Residential property (buildings) hardstanding, scattered trees, introduced shrub.	<p>A large residential property with a separate garage set in a large garden. Garden contained species poor semi improved grassland with areas of introduced scrub. The property was bordered to the east by an area of tall ruderal species, and a Leyland Cypress hedge, to the west by a dense native species rich hedge with trees and to the west. Within this area there were a number of significant trees including Poplars and Willows and Apple trees.</p> 	<p>Trees and scrub in the west of the property included Leyland Cypress, Apple trees, Cherry trees, Dogwood, Poplar, Gorse, Willow, Blackthorn and Hawthorn.</p> <p>Ornamental shrub present included Cherry Laurel, Bamboo, an ornamental Honeysuckle.</p> <p>Grass land contained Timothy, Yorkshire-fog, False Oat-</p>	No, hedgerow, Yes	Managed as a residential property.





Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
			<p>grass, Red Fescue.</p> <p>Areas of tall ruderal species included Common Nettle, Bramble, Common Mallow, Hogweed.</p>		

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
264	Residential properties (buildings), hard standing, amenity grassland, introduced shrub, coniferous hedge.	<p>Two residential properties north of the A20 (Whiteways and Boleh). Both properties were occupied at the time of the survey and were in good general condition. Other habitats present included amenity grassland, hardstanding, and introduced scrub.</p> 	<p>Within the amenity grassland, Oxeye Daisy, Creeping Thistle, Black Medick, Selfheal, Dandelion, Red Fescue were present. Introduced shrub present included Oregon-grape, Garden Lavender, Almond, an ornamental Forget-me-not, ornamental Rose.</p> <p>To the north of the properties was a hedge of Leyland Cypress.</p>	No	Managed as residential properties.

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
		 <p>The 'Description/location' cell contains three photographs. The top photo shows a grassy lawn next to a well-maintained hedge and a black bin. The middle photo shows a garden enclosed by a fence with a greenhouse in the background. The bottom photo shows the exterior of a two-story brick house with a bay window.</p>			


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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					
265	Stream bank	Giant-rhubarb ( <i>Gunnera</i> ) (Schedule 9 W&CA) No photograph.	Giant-rhubarb (Schedule 9 W&CA)	NA	NA
266	Grassland	Grass mounds 	Dandelion, Cow Parsley	No	Unknown




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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
267	Building	Partly demolished structure; negligible bat potential 	NA	No	None
268	Other	Invasive non-native species (Indian Balsam <i>Impatiens glandulifera</i> ) present within a compost heap (no photograph)	Indian Balsam	N/A	N/A

Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
269	Species-poor semi-improved grassland		Grass land contained Timothy, Yorkshire-fog, False Oat-grass, Red Fescue.		
270	Standing water	<p>A small wet area is present within the grassland, likely to be ephemerally wet.</p> 	Common reed, water mint.		

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
271	Scattered Trees, introduced shrub.	<p>Scattered trees are present in this areas. Some have bat potential. Trees are apple. A compost pile had small Himalayan balsam plants growing within it.</p>  	Himalayan balsam, apple.		
272	Species poor hedgerow, scattered trees	A species poor hedgerow with privet and hawthorn is present in this location. Scattered trees are present adjacent to the hedgerow, including a cherry tree with bat roost potential.	Cherry, hawthorn, privet	No	Cut as a residential hedge. No apparent management of trees.

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Target Note	Habitat type	Description/location	Species found	S41 habitat?	Current Management
					



## APPENDIX B: Hedgerow assessment results full

Table 9: Hedgerow assessment results (Part 1)

N.B. Species codes utilised in this table follow those defined in the JNCC Phase 1 Survey Handbook Appendix 3, presented in Image 3.

Hedge No.	OT01	OT02	OT03	OT04	OT05	OT06	OT07	OT08	OT09	OT10
Important	✓	x	x	x	x	x	✓	x	x	x
Bridleway/path	✓	x	x	x	x	x	✓	x	x	x
Pn/Sot/Tic/Tip	x	x	x	x	x	x	x	x	x	x
No. woody species/30m	5	3	4	2	4	3	5	5	3	5
Bank/wall	x	x	x	x	x	x	x	x	x	x
Intact	✓	✓	✓	✓	x	✓	✓	✓	✓	✓
Trees	✓	x	✓	✓	✓	x	✓	x	✓	✓
3 flora species	x	x	✓	x	x	x	x	x	x	x
Ditch	✓	✓	✓	✓	x	x	x	✓	x	x
Connect >4 points	x	x	x	x	x	✓	x	x	x	x
Parallel hedge	x	x	✓	✓	x	x	x	x	x	x
Woody species present	Sn	Ca	Ps	Cm	Ps	Ps	Sn	Ca	Sx	Bpe
	Cm	Sn	Sn	Fe	Sn	Sn	Cm	La	Cm	Cm
	Ps	Cm	Cm		Cm	Cm	PS	Ps	Ps	Ac
	Ca		Ros		Jr		Fe	Sn		Sn
	Ag						Qr	Cm		Fs
Ground flora (dominant)	Ud	Ud, Rf.	Rf, Ud, Ae.	Ae, Lp.	Lp	Lp, Ud, Rf	Lp	Lp, Ud	Lp, Ae	Ud, Rf.
Other ground flora (including notable species)	Amac, Gro, Asy, Ae	Hard Rush, Soft rush, Cleavers, Gap, Ae.	Bs, Gu, Gro, Hlup	Amac, Gro, Hlup		Amac	Amac, Ud, Rf	Amac	Amac	
Notes										

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 Table 10: Hedgerow assessment results (Part 2)

Hedge No.	OT11	OT12	OT13	OT14	OT15	OT16	OT17	OT18	OT19
Important	✓	✓	x	x	x	x	x	x	✓
Bridleway/path	✓	✓	x	x	x	x	x	x	x
Pn/Sot/Tic/Tip	x	x	x	x	x	x	x	x	x
No. woody species/30m	5	7	2	1	2	5	1	3	8
Bank/wall	x	x	x	x	x	✓	✓	✓	✓
Intact	✓	✓	✓	✓	✓	✓	x	✓	✓
Trees	✓	✓	x	x	✓	✓	x	✓	✓
3 flora species	x	x	x	x	x	x	x	x	✓
Ditch	x	x	x	x	x	x	x	x	✓
Connect >4 points	✓	x	x	x	x	x	x	x	✓
Parallel hedge	x	x	x	x	x	x	x	x	x
Woody species present	Sn	Cos	Cm	Liv	Cm	Ca	Cm	Sn	Ca
	Cm	Bpe	Sn		Qr	Ros		Ps	Sn
	Bpe	Liv				Cm		Ca	<b>Fs</b>
	Sx	Cm				Fe			Cos
	Cos	Sn				Cb			Cm
		Ac				Sn			VI tree
		Pp							Fe
									Ps
Ground flora (dominant)	Rf, Ud, Ae	Ud, Lp	Lp	Ae, Asy, Agt, Lp	Ae, Lp, Hl	Ae, Lp	Ud, Ae	Rf, Ud, Lp	Ud, Hl
Other ground flora (including notable species)		Amac, Gro*	Amac		Amac, Mp, Ud	Amac, Mp, Ud	Amac	Amac	Gro, Gu, Amac
Notes									

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 Table 11: Hedgerow assessment results (Part 3)

Hedge No.	OT20	OT21	OT22	OT23	OT24	OT25	OT26	OT27	OT28
Important	x	✓	x	x	x	x	x	x	✓
Bridleway/path	x	x	x	x	x	x	x	x	x
Pn/Sot/Tic/Tip	x	x	x	x	x	x	x	x	x
No. woody species/30m	5	6	5	3	3	3	4	5	7
Bank/wall	✓	✓	x	x	✓	x	✓	✓	✓
Intact	✓	✓	✓	x	✓	x	✓	✓	✓
Trees	x	x	x	x	x	x	✓	✓	x
3 flora species	x	✓	x	x	x	x	x	x	x
Ditch	x	x	✓	x	✓	✓	✓	x	x
Connect >4 points	x	x	x	x	x	x	x	x	x
Parallel hedge	x	x	x	x	x	x	x	x	x
Woody species present	Cm	Ca	Sn	Cm	Cm	Cm	Fe	Cos	Sn
	Sn	Sn	Ps	Ps	Sn	Sn	Cm	Ca	Cos
	Ca	Cm	Ca	Sn	Cos	Ps	Ros	Horse chestnut	Ros
	Ps	Ps	Ac				Qr	Ps	Ps
	Ac	Ac	Cm					Fe	Liv
		Ros							Cm
									Fe
Ground flora (dominant)	Ud, Ae	Ae, Ud	Ud	Ud, Rf	Ae, Lp	Ud	Lp, Ae	Rf, Lp, Ae	Lp, Ae
Other ground flora (including notable species)	Gro, Gu, Cyc	Gro, Gu, Meff	Gro Amac		Amac	Gu* Gro*	Cyc		
Notes									

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 Table 12: Hedgerow assessment results (Part 4)

Hedge No.	OT29	OT30	OT31	OT32	OT33	OT34	OT35	OT36	OT37
Important	X	X	X	✓	X	✓	x	x	x
Bridleway/path	x	x	x	x	x	x	x	x	x
Pn/Sot/Tic/Tip	x	x	x	x	x	x	x	x	x
No. woody species/30m	3	5	3	6	4	7	2	2	2
Bank/wall	x	✓	x	x	x	x	x	x	x
Intact	x	x	x	✓	x	✓	✓	x	x
Trees	x	✓	x	✓	x	✓	✓	x	x
3 flora species	X	X	X	✓	x	x	x	x	x
Ditch	x	x	✓	✓	✓	✓	✓	x	
Connect >4 points	✓	✓	✓	✓	✓	x	x	x	
Parallel hedge	x	x	x	x	x	x	x	x	
Woody species present	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm	Cm
	Ps	Ps	Cal	Ac	Ps	Ps	Ps	Ps	Fe
	Fm	Ca	Sn	Ps	Ac	Qr			
		Sx	Lpc	Qr	Ros	Ag			
		Fe		Fe	Ca	Dr			
				Ac		Sx			
						Ca			
Ground flora (dominant)	Lp	Lp	Fool's water cress	Rf* Ud* Buttercup	Hard Rush	Ud, Ae, Rf.	Hogweed, Ae		Gap
Other ground flora (including notable species)	Rough Meadow Grass	Cyc	Cyc, Water Cress, Upright brome, Black Medick, Selfheal, Distant sedge, Cut-Leaved Crane's - bill, Hard rush, Water figwort.	Bs, Gro, Amac, Ssyl	Cyc, Water Cress, Upright brome, Black Medick, Selfheal, Distant sedge, Cut-Leaved Crane's - bill, Hard rush, Water figwort	Tall Fescue, Ephir, Hemp agrimony, Rf, Gu, Gro,	Gu, Horsetail, Ephir, Hl, Asy, Gap	Hogweed, Germander, Speedwell, Cut-leaved Cranes-bill	Hogweed, Upright brome, Forget me not



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Notes

Table 13: Hedgerow assessment results (Part 5)

Hedge No.	OT38	OT39	OT40	OT41	OT42	OT43	OT44	OT45
Important	x	x	✓	x	x	x	x	x
Bridleway/path	x	x	x	x	x	✓	x	x
Pn/Sot/Tic/Tip	x	x	x	x	x	x	x	x
No. woody species/30m	2	4	9	4	2	4	2	3
Bank/wall	x	x	x	x	x	x	✓	✓
Intact	x	x	✓	x	x	x	x	x
Trees	x	x	✓	x	x	x	x	✓
3 flora species	x	X	✓	x	x	x	x	x
Ditch	x	x	x	x	x	x	x	x
Connect points >4	x	x	x	x	x	X	x	✓
Parallel hedge	x	x	x	✓	✓	x	x	x
Woody species present	Cm	Cm	Ros	Cm	Cm	Cm	Ps	Ca
	Ps	Sn	Ps	Ca	Sx	Ps	Sn	Qr
		Ps	Sn	Fe		Ca		Cm
			Qr	Ps		Sn		
			Sx					
			Ca					
			Fe					
			Cb					
			Ac					
Ground flora (dominant)	Chickweed, Rape, Car	Ud	Ud, Rf, Hlup	Hogweed, Rf, Uc, Ae	Ud	Ug	Ae	Lp
Other ground flora (including notable species)	Scarlett pimpernel		Lpc, Upright brome, Gro, Gmol, Meff, Godo, Cock's-foot, Lpc	Gro	Meadow vetchling, Fu, Hogweed, Creeping Buttercup, Cock's-foot	Gap, Gro, Hogweed, Tall brome, Red Dead-nettle		Cock's-foot, Gap
Notes		Not possible						

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		to fully access						
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Table 14: Hedgerow assessment results (Part 6)

Hedge No.	OT46	OT47	OT48	OT49	OT50	OT51	OT52	OT53	OT54
Important	ü	x	x	x	x	x	x	X	X
Bridleway/path	X	ü	ü	x	ü	x	x	x	x
Pn/Sot/Tic/Tip	x	x	x	x	x	x	x	x	x
No. woody species/30m	6	3	1	3	5	5	4	4	4
Bank/wall	x	x	x	ü	x	x	x	x	x
Intact	ü	ü	ü	x	x	x	ü	x	x
Trees	ü	x	x	x	x	x	ü	ü	x
3 flora species	x	x	x	x	x	x	X	X	x
Ditch	x	x	x	x	ü	x	x	ü	x
Connect >4 points	x	x	x	x	x	ü	x	x	x
Parallel hedge	ü	ü	ü	x	x	x	x	x	x
Woody species present	Cos	Cm	Cm	Ps	Cm	Cm	Cm	Cm	Cm
	Fm	Sn		Cm	Fe	Sn	Fe	Sn	la
	Cm	Fe		Sn	Cal	Ca	Ps	Fe	Fs
	Fe				Ac	Black Walnut	Ag	Ag	Ag
	Ros				Sn	Ps			
	Ca								
Ground flora (dominant)	Gap	Ud	Ud	Ae	U	Common mallow	Ud	Ud, Rf	Ud, Ae, Rf
Other ground flora (including notable species)	Cock's-foot	Amac, Apet, Hh	Hh, Amac	Cock's-foot, Hl,	Fools Watercress	Cock's-foot, Car, Dock, Meadow Buttercup, Creeping buttercup, Hemlock	Burdock, Ae, Lp, buttercup, Apet		Spearmint, Ae, Ud, Hedge parsley, Gh
Notes		I							

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 Table 15: Hedgerow assessment results (Part 7)

Hedge No.	OT55	OT56	OT57	OT58	OT59	OT60	OT61	OT62
Important	x	x	x	x	x	x	x	✓
Bridleway/path	x	x	x	x	x	x	x	x
Pn/Sot/Tic/Tip	x	x	x	x	x	x	x	x
No. woody species/30m	1	2	4	4	4	5	2	5
Bank/wall	✓	✓	x	✓	✓	✓	✓	x
Intact	✓	✓	✓	✓	✓	x	✓	✓
Trees	x	x	x	✓	✓	✓	x	✓
3 flora species	x	x	x	x	x	x	x	x
Ditch	x	x	x	x	x	x	x	✓
Connect >4 points	x	x	✓	x	x	x	x	x
Parallel hedge	x	x	x	✓	x	x	x	✓
Woody species present	Cm	Cm	Ps	Fe	Cm	Ac	Liv	Fe
	Ps	Ps	Cm	Cm	Sx	Cos	Ue	Ps
			Sn	Ros	Fe	Ps		Cm
			Ag	Sn	Ps	Fe		Ros
						Cm		Qr
Ground flora (dominant)	Lp, Ug	Lp, Ug	Ug	Rf Ae	Lp	Rf Ud	Rf, Ae	Rf
Other ground flora (including notable species)				Gro, Lp, Red campion	Buttercup, Gh		Ud Sycamore Ae	Ud Gro, Psc0
Notes								



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 Table 16: Hedgerow assessment results (Part 8)

Hedge No.	OT63	OT64	OT65	OT66
Important	x	x	x	x
Bridleway/path	x	x	x	x
Pn/Sot/Tic/Tip	x	x	x	x
No. woody species/30m	5	4	3	2
Bank/wall	x	✓	x	✓
Intact	✓	✓	x	✓
Trees	✓	✓	x	✓
3 flora species	x	X	X	x
Ditch	✓	x	x	x
Connect >4 points	x	x	✓	x
Parallel hedge	x	✓	x	✓
Woody species present	Cm	Ca	Cm	Cm
	Sx	Ros	Ps	
	Pal	Cm	Fm	
	Ag	Fe		
	Sn			
Ground flora (dominant)	Rf	Lp	Lp, Ud, Hogweed	
Other ground flora (including notable species)	Lp, Ud, Hogweed	Gro, Hogweed		
Notes				

Image 3: JNCC Phase 1 Habitat Survey Handbook Species Codes

## Appendix 3

### Dominant species codes

Ac	<i>Acer campestre</i>	Cm	<i>Crataegus monogyna</i>
Ap	<i>Acer pseudoplatanus</i>	Cic	<i>Crepis capillaris</i>
Ah	<i>Aesculus hippocastanum</i>	Cyc	<i>Cynosurus cristatus</i>
Aeu	<i>Agrimonia eupatoria</i>	Cys	<i>Cytisus scoparius (Sarothamnus scoparius)</i>
At	<i>Agrostis capillaris (A.tenuis)</i>	Dg	<i>Dactylis glomerata</i>
Agc	<i>Agrostis curtisii (A.setacea)</i>	Dd	<i>Danthonia decumbens</i>
Agt	<i>Agrostis stolonifera</i>	Dc	<i>Deschampsia cespitosa</i>
Ajp	<i>Aira praecox</i>	Df	<i>Deschampsia flexuosa</i>
Ajr	<i>Ajuga reptans</i>	Dp	<i>Digitalis purpurea</i>
Aa	<i>Alchemilla alpina</i>	Do	<i>Dryas octopetala</i>
Alu	<i>Allium ursinum</i>	Dr	<i>Dryopteris sp(p)</i>
Ag	<i>Alnus glutinosa</i>	Ddl	<i>Dryopteris dilatata</i>
Alg	<i>Alopecurus geniculatus</i>	El	<i>Elymus sp(p)</i>
Ama	<i>Ammophila arenaria</i>	Ef	<i>Elymus farctus (Agropyron junceiforme)</i>
An	<i>Anemone nemorosa</i>	En	<i>Empetrum nigrum</i>
As	<i>Angelica sylvestris</i>	Ep	<i>Epilobium sp(p)</i>
Ao	<i>Anthoxanthum odoratum</i>	Eq	<i>Equisetum sp(p)</i>
Asy	<i>Anthriscus sylvestris</i>	Egf	<i>Equisetum fluviatile</i>
Auu	<i>Arctostaphylos uva-ursi</i>	Eqs	<i>Equisetum sylvaticum</i>
Ae	<i>Arrhenatherum elatius</i>	Ec	<i>Erica cinerea</i>
Av	<i>Artemisia vulgaris</i>	Ei	<i>Erica tetralix</i>
Ast	<i>Aster tripolium</i>	Eno	<i>Eriophorum sp(p)</i>
Aff	<i>Athyrium filix-femina</i>	Era	<i>Eriophorum angustifolium</i>
Apr	<i>Avenula pratensis (Helictotrichon pratense)</i>	Ev	<i>Eriophorum vaginatum</i>
Apb	<i>Avenula pubescens (Helictotrichon pubescens)</i>	Ee	<i>Euonymus europaeus</i>
Bet	<i>Betula sp(p)</i>	Fs	<i>Fagus sylvatica</i>
Bpe	<i>Betula pendula</i>	Fo	<i>Festuca ovina</i>
Bpu	<i>Betula pubescens</i>	Fp	<i>Festuca pratensis</i>
Bsp	<i>Blechnum spicant</i>	Fr	<i>Festuca rubra</i>
Bp	<i>Brachypodium pinnatum</i>	Fu	<i>Filipendula ulmaria</i>
Bs	<i>Brachypodium sylvaticum</i>	Fv	<i>Fragaria vesca</i>
Bm	<i>Briza media</i>	Fa	<i>Frangula alnus</i>
Be	<i>Bromus erectus (Zerna erecta)</i>	Fe	<i>Fraxinus excelsior</i>
Bxs	<i>Buxus sempervirens</i>	Gll	<i>Galeobdolon luteum (Lamiatrum galeobdolon)</i>
Ce	<i>Calamagrostis epigejos</i>	Gap	<i>Galium aparine</i>
Cac	<i>Calamagrostis canescens</i>	Csx	<i>Galium saxatile</i>
Cv	<i>Calluna vulgaris</i>	Gp	<i>Geranium pratense</i>
Cup	<i>Caltha palustris</i>	Gro	<i>Geranium robertianum</i>
Cx	<i>Carex sp(p)</i>	Gs	<i>Geranium sylvaticum</i>
Cxaa	<i>Carex acuta</i>	Ga	<i>Geum urbanum</i>
Cxac	<i>Carex acutiformis</i>	Gh	<i>Glechoma hederacea</i>
Cxar	<i>Carex arenaria</i>	Gf	<i>Glyceria sp(p) (except maxima)</i>
Cxb	<i>Carex bigelowii</i>	Gm	<i>Glyceria maxima</i>
Cxe	<i>Carex elata</i>	Hp	<i>Halmione portulacoides</i>
Cxf	<i>Carex flacca</i>	Hh	<i>Hedera helix</i>
Cxl	<i>Carex laevigata</i>	Hc	<i>Helianthemum chamaecistus (H. nummularium)</i>
Cxn	<i>Carex nigra</i>	Hsp	<i>Heracleum sphondylium</i>
Cxo	<i>Carex otrubae</i>	Hr	<i>Hippophae rhamnoides</i>
Cxpa	<i>Carex paniculata</i>	Hx	<i>Holcus sp(p)</i>
Cxnn	<i>Carex remota</i>	Hi	<i>Holcus lanatus</i>
Cxri	<i>Carex riparia</i>	Hn	<i>Hyacinthoides non-scripta (Endymion non-scriptus)</i>
Cxro	<i>Carex rostrata</i>	Hyp	<i>Hyponicum perforatum</i>
Cxv	<i>Carex vesicaria</i>	la	<i>Ilex aquifolium</i>
Ch	<i>Carpinus betulus</i>	Ig	<i>Impatiens glandulifera</i>
Cs	<i>Castanea sativa</i>	Ip	<i>Iris pseudacorus</i>
Cn	<i>Centaurea nigra</i>	Ju	<i>Juncus sp(p)</i>
Cha	<i>Chamaenerion (Chamaenerion) angustifolium</i>	ja	<i>Juncus acutiflorus</i>
Cop	<i>Chrysosplenium oppositifolium</i>	jar	<i>Juncus articulatus</i>
Cl	<i>Circaea lutetiana</i>	je	<i>Juncus effusus</i>
Cirs	<i>Cirsium sp(p)</i>	ji	<i>Juncus inflexus</i>
Car	<i>Cirsium arvense</i>	Jm	<i>Juncus maritimus</i>
Ch	<i>Cirsium helenioides (C. heterophyllum)</i>	jsq	<i>Juncus squarrosus</i>
Cp	<i>Cirsium palustre</i>	js	<i>Juncus subnodulosus</i>
Civ	<i>Cirsium vulgare</i>	jt	<i>Juncus trifidus</i>
Cim	<i>Cladium mariscus</i>	Jc	<i>Juniperus communis</i>
Com	<i>Conium maculatum</i>	Lx	<i>Larix sp(p)</i>
Cva	<i>Clematis vitalba</i>	Lxd	<i>Larix decidua</i>
Cos	<i>Comus sanguinea (Thelycrania sanguinea)</i>	Le	<i>Lemna sp(p)</i>
Ca	<i>Corylus avellana</i>	Lv	<i>Leucanthemum vulgare (Chrysanthemum leucanthemum)</i>
Cot	<i>Coloneaster sp(p)</i>	Liv	<i>Ligustum vulgare</i>
		Lvu	<i>Limonium vulgare</i>

Lrv	<i>Linaria vulgaris</i>	Sxa	<i>Salix alba</i>
Lp	<i>Lolium perenne</i>	Sxar	<i>Salix arbuscula</i>
Lpc	<i>Lonicera periclymenum</i>	Sxau	<i>Salix aurita</i>
Lzp	<i>Luzula pilosa</i>	Sxc	<i>Salix caprea</i>
Ls	<i>Luzula sylvatica</i>	Sxci	<i>Salix cinerea</i>
Lmm	<i>Lysimachia nummularia</i>	Sxf	<i>Salix fragilis</i>
Md	<i>Malus domestica</i>	Sxh	<i>Salix herbacea</i>
Maq	<i>Mentha aquatica</i>	Sxl	<i>Salix lapponum</i>
Mp	<i>Mercurialis perennis</i>	Sxm	<i>Salix myrsinites</i>
Mc	<i>Molinia caerulea</i>	Sxp	<i>Salix pentandra</i>
Mym	<i>Mycelis muralis</i>	Sxpu	<i>Salix purpurea</i>
Mg	<i>Myrica gale</i>	Sxr	<i>Salix repens</i>
Ns	<i>Nardus stricta</i>	Sxt	<i>Salix triandra</i>
Nos	<i>Narthecium ossifragum</i>	Sxv	<i>Salix viminalis</i>
Noth	<i>Nothofagus</i> sp.	Sn	<i>Sambucus nigra</i>
NuN	<i>Nuphar/Nymphaea</i> sp(p)	Sang	<i>Sanguisorba officinalis</i>
Nl	<i>Nuphar lutea</i>	Sne	<i>Sanicula europaea</i>
Na	<i>Nymphaea alba</i>	Saa	<i>Saxifraga aizoides</i>
Odv	<i>Odontites verna</i>	Sit	<i>Schoenoplectus (Scirpus) lacustris</i>
Ol	<i>Oreopteris limbosperma</i>	Sl	ssp <i>lacustris</i>
Oxa	<i>Oxalis acetosella</i>	St	ssp <i>tabernaemontani</i>
Pas	<i>Pastinaca sativa</i>	Sc	<i>Schoenus nigricans</i>
Pet	<i>Petasites hybridus</i>	Sv	<i>Scilla verna</i>
Pha	<i>Phalaris arundinacea</i>	Sm	<i>Scirpus maritimus</i>
Phl	<i>Phleum pratense</i> agg.	Sno	<i>Scrophularia nodosa</i>
Pc	<i>Phragmites australis (P. communis)</i>	Sr	<i>Sedum rosea</i>
Px	<i>Picea</i> sp(p)	Sj	<i>Senecio jacobaea</i>
Pia	<i>Picea abies</i>	Sea	<i>Sesleria albicans (Sesleria caerulea)</i>
Pin	<i>Pinus</i> sp(p)	Sla	<i>Silene acaulis</i>
Psyl	<i>Pinus sylvestris</i>	Sdi	<i>Silene dioica</i>
Pl	<i>Plantago lanceolata</i>	Sd	<i>Solanum dulcamara</i>
Pm	<i>Plantago major</i>	Soa	<i>Sonchus arvensis</i>
Po	<i>Poa</i> sp(p)	Sa	<i>Sorbus aria</i>
Pbis	<i>Polygonum bistorta</i>	Sac	<i>Sorbus aucuparia</i>
Pop	<i>Populus</i> sp(p)	Se	<i>Sparganium erectum</i>
Pot	<i>Populus tremula</i>	Sp	<i>Spartina</i> sp(p)
Pom	<i>Potamogeton</i> sp(p)	Sph	<i>Sphagnum</i> sp(p)
Pans	<i>Potentilla anserina</i>	Srne	<i>Stellaria media</i>
Ppal	<i>Potentilla palustris</i>	Sf	<i>Suaeda fruticosa</i>
Psn	<i>Poterium sanguisorba (Sanguisorba minor)</i>	Sup	<i>Succisa pratensis</i>
Pv	<i>Prunella vulgaris</i>	Tb	<i>Taxus baccata</i>
Pa	<i>Prunus avium</i>	Tsn	<i>Teucrium scorodonia</i>
Pap	<i>Prunus avium/padus</i>	Til	<i>Tilia</i> sp(p)
Pnc	<i>Prunus cerasus</i> agg.	Tic	<i>Tilia cordata</i>
Pdn	<i>Prunus domestica</i>	Tip	<i>Tilia platyphyllos</i>
Pp	<i>Prunus padus</i>	Tiv	<i>Tilia vulgaris (Tilia europaea)</i>
Ps	<i>Prunus spinosa</i>	Tc	<i>Trichophorum cespitosum (Scirpus cespitosus)</i>
Pgm	<i>Pseudotsuga menziesii</i>	Tr	<i>Trifolium repens</i>
Pt	<i>Pteridium aquilinum</i>	Tff	<i>Tussilago farfara</i>
Puc	<i>Puccinellia</i> sp(p)	Ty	<i>Typha</i> sp(p)
Py	<i>Pyrus</i> sp(p)	Ta	<i>Typha angustifolia</i>
Qu	<i>Quercus</i> sp(p)	Tl	<i>Typha latifolia</i>
Qp	<i>Quercus petraea</i>	Ul	<i>Ulex</i> sp(p)
Qr	<i>Quercus robur</i>	Ue	<i>Ulex europaeus</i>
Rs	<i>Ranunculus</i> sp(p)	Ug	<i>Ulex gallii</i>
Rfm	<i>Ranunculus flammula</i>	Umi	<i>Ulex minor</i>
Rr	<i>Ranunculus repens</i>	Um	<i>Ulmus</i> sp(p)
Rll	<i>Reseda luteola</i>	Umq	<i>Ulmus glabra</i>
Rj	<i>Reynoutria japonica</i>	Ump	<i>Ulmus procera</i>
Rl	<i>Racomitrium lanuginosum</i>	Ud	<i>Urtica dioica</i>
Rc	<i>Rhamnus catharticus</i>	Vm	<i>Vaccinium myrtillus</i>
Rhin	<i>Rhinanthus minor</i> agg.	Vv	<i>Vaccinium vitis-idaea</i>
Rp	<i>Rhododendron ponticum</i>	Vd	<i>Valeriana dioica</i>
Ros	<i>Rosa</i> sp(p)	Vth	<i>Verbascum thapsus</i>
Rch	<i>Rubus chamaemorus</i>	Vi	<i>Viburnum lantana</i>
Rf	<i>Rubus fruticosus</i> agg.	Vop	<i>Viburnum opulus</i>
Ri	<i>Rubus idaeus</i>	Vh	<i>Viola hirta</i>
Rx	<i>Rumex</i> sp(p)	Vip	<i>Viola palustris</i>
Ra	<i>Rumex acetosella</i>	Zo	<i>Zostera</i> sp(p)
Sal	<i>Salicornia</i> sp(p)	Zoa	<i>Zostera angustifolia</i>
Sx	<i>Salix</i> sp(p)	Zon	<i>Zostera noltii</i>

## APPENDIX C: Plant species list

Table 17: Plant species list (species recorded on site)

Common Name	Scientific Name
Alder	<i>Alnus glutinosa</i>
Almond	<i>Prunus dulcis</i>
Amphibious Bistort	<i>Persicaria amphibia</i>
Apple	<i>Malus</i> sp.
Ash	<i>Fraxinus excelsior</i>
Barren Brome	<i>Anisantha sterilis</i>
Beech	<i>Fagus sylvatica</i>
Bird's-foot-trefoil	<i>Lotus</i> sp.
Bittersweet	<i>Solanum dulcamara</i>
Black Medick	<i>Medicago lupulina</i>
Blackthorn	<i>Prunus spinosa</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Box	<i>Buxus sempervirens</i>
Bramble	<i>Rubus fruticosus</i> agg.
Branched Burr-reed	<i>Sparganium erectum</i>
Bristly Oxtongue	<i>Helminthotheca echioides</i>
Broad Buckler-fern	<i>Dryopteris dilatata</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Broad-leaved Pondweed	<i>Potamogeton natans</i>
Broad-leaved Willowherb	<i>Epilobium montanum</i>
Brooklime	<i>Veronica beccabunga</i>
Bugle	<i>Ajuga reptans</i>
Bulrush	<i>Typha latifolia</i>
Burdock	<i>Arctium</i> sp.
Butterfly-bush	<i>Buddleja davidii</i>
Canadian Waterweed	<i>Elodea canadensis</i>
Charlock	<i>Sinapis arvensis</i>

Common Name	Scientific Name
Cherry	<i>Prunus</i> sp.
Cherry Laurel	<i>Prunus laurocerasus</i>
Cleavers	<i>Galium aparine</i>
Clustered Dock	<i>Rumex conglomeratus</i>
Cock's-foot	<i>Dactylis glomerata</i>
Colt's-foot	<i>Tussilago farfara</i>
Common Bent	<i>Agrostis capillaris</i>
Common Bird's-foot-trefoil	<i>Lotus corniculatus</i>
Common Chickweed	<i>Stellaria media</i>
Common Duckweed	<i>Lemna minor</i>
Common Field-speedwell	<i>Veronica persica</i>
Common Fleabane	<i>Pulicaria dysenterica</i>
Common Ivy	<i>Hedera helix</i>
Common Knapweed	<i>Centaurea nigra</i>
Common Mallow	<i>Malva sylvestris</i>
Common Mouse-ear	<i>Cerastium fontanum</i>
Common Nettle	<i>Urtica dioica</i>
Common Poppy	<i>Papaver rhoeas</i>
Common Ragwort	<i>Senecio jacobaea</i>
Common Reed	<i>Phragmites australis</i>
Common Sorrel	<i>Rumex acetosa</i>
Common Spike-rush	<i>Eleocharis palustris</i>
Common Vetch	<i>Vicia sativa</i>
Common Yellow-sedge	<i>Carex demissa</i>
Copper Beech	<i>Fagus sylvatica</i> 'Purpurea'
Corn Mint	<i>Mentha arvensis</i>
Cow Parsley	<i>Anthriscus sylvestris</i>
Creeping Bent	<i>Agrostis stolonifera</i>
Creeping Buttercup	<i>Ranunculus repens</i>



Common Name	Scientific Name
Creeping Cinquefoil	Potentilla reptans
Creeping Thistle	Cirsium arvense
Crested Dog's-tail	Cynosurus cristatus
Curled Dock	Rumex crispus
Cut-leaved Crane's-bill	Geranium dissectum
Dandelion	Taraxacum officinale agg.
Dock	Rumex sp.
Dog-rose	Rosa canina
Dog's Mercury	Mercurialis perennis
Dogwood	Cornus sanguinea
Elder	Sambucus nigra
Enchanter's-nightshade	Circaea lutetiana
Evergreen Oak	Quercus Ilex
False Oat-Grass	Arrhenatherum elatius
False-brome	Brachypodium sylvaticum
Fan-leaved Water-crowfoot	Ranunculus circinatus
Feverfew	Tanacetum parthenium
Field Bindweed	Convolvulus arvensis
Field Forget-me-not	Myosotis arvensis
Field Maple	Acer campestre
Field Wood-rush	Luzula campestris
Fig	Ficus carica
Floating Sweet-grass	Glyceria fluitans
Fool's-water-cress	Apium nodiflorum
Foxglove	Digitalis purpurea
Garden Lavender	Lavandula angustifolia
Garden Yellow-archangel	Lamiaeum galeobdolon subsp. argentatum
Garlic Mustard	Alliaria petiolata
Geranium	Geranium sp.

Common Name	Scientific Name
Germander Speedwell	<i>Veronica chamaedrys</i>
Giant-rhubarb	<i>Gunnera tinctoria</i>
Glaucous Sedge	<i>Carex flacca</i>
Gorse	<i>Ulex europaeus</i>
Grass Vetchling	<i>Lathyrus nissolia</i>
Great Willowherb	<i>Epilobium hirsutum</i>
Greater Bird's-foot-trefoil	<i>Lotus pedunculatus</i>
Greater Burdock	<i>Arctium lappa</i>
Greater Plantain	<i>Plantago major</i>
Greater Pond-sedge	<i>Carex riparia</i>
Greater Stitchwort	<i>Stellaria holostea</i>
Grey Alder	<i>Alnus incana</i>
Grey Willow	<i>Salix cinerea</i>
Ground-elder	<i>Aegopodium podagraria</i>
Ground-ivy	<i>Glechoma hederacea</i>
Hairy Sedge	<i>Carex hirta</i>
Hairy Tare	<i>Vicia hirsuta</i>
Hard Rush	<i>Juncus inflexus</i>
Hart's-tongue	<i>Asplenium scolopendrium</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Hedge Bindweed	<i>Calystegia sepium</i>
Hedge Woundwort	<i>Stachys sylvatica</i>
Hemlock	<i>Conium maculatum</i>
Herb-Robert	<i>Geranium robertianum</i>
Hogweed	<i>Heracleum sphondylium</i>
Holly	<i>Ilex aquifolium</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Hop	<i>Humulus lupulus</i>

Common Name	Scientific Name
Hornbeam	<i>Carpinus betulus</i>
Horse-Chestnut	<i>Aesculus hippocastanum</i>
Horse-radish	<i>Armoracia rusticana</i>
Horsetail	<i>Equisetum</i> sp.
Ivy	<i>Hedera helix</i> agg.
Japanese Knotweed	<i>Fallopia japonica</i>
Jointed Rush	<i>Juncus articulatus</i>
Laburnum	<i>Laburnum anagyroides</i>
Larch	<i>Larix</i> sp.
Large Yellow-sedge	<i>Carex flava</i>
Lesser Burdock	<i>Arctium minus</i>
Lesser Stitchwort	<i>Stellaria graminea</i>
Leyland Cypress	X <i>Cuprocyparis leylandii</i>
Lime	<i>Tilia x europaea</i>
Lombardy-poplar	<i>Populus nigra</i> 'Italica'
Lords-and-Ladies	<i>Arum maculatum</i>
Lucerne	<i>Medicago sativa</i> subsp. <i>sativa</i>
Magnolia	<i>Magnolia</i> sp.
Many-seeded Goosefoot	<i>Chenopodium polyspermum</i>
Maple	<i>Acer</i> sp.
Marsh Ragwort	<i>Senecio aquaticus</i>
Marsh Woundwort	<i>Stachys palustris</i>
Marsh-bedstraw	<i>Galium palustre</i>
Meadow Barley	<i>Hordeum secalinum</i>
Meadow Buttercup	<i>Ranunculus acris</i>
Meadow Fescue	<i>Schedonorus pratensis</i>
Meadow Foxtail	<i>Alopecurus pratensis</i>
Meadow Vetchling	<i>Lathyrus pratensis</i>
Meadowsweet	<i>Filipendula ulmaria</i>

Common Name	Scientific Name
Montbretia	<i>Crococsmia x crocosmiiflora</i>
Mugwort	<i>Artemisia vulgaris</i>
New Zealand Pigmyweed	<i>Crassula helmsii</i>
Nipplewort	<i>Lapsana communis</i>
Norway Maple	<i>Acer platanoides</i>
Opposite-leaved Golden-saxifrage	<i>Chrysosplenium oppositifolium</i>
Oregon-grape	<i>Mahonia aquifolium</i>
Oxeye Daisy	<i>Leucanthemum vulgare</i>
Parrot's-feather	<i>Myriophyllum aquaticum</i>
Pear	<i>Pyrus sp.</i>
Pedunculate Oak	<i>Quercus robur</i>
Pendulous Sedge	<i>Carex pendula</i>
Perennial Rye-grass	<i>Lolium perenne</i>
Pine	<i>Pinus sp.</i>
Pink Purslane	<i>Claytonia sibirica</i>
Plum	<i>Prunus domestica subsp. domestica</i>
Poplar	<i>Populus nigra sensu. lato</i>
Prickly Sow-thistle	<i>Sonchus asper</i>
Primrose	<i>Primula vulgaris</i>
Purple-loosestrife	<i>Lythrum salicaria</i>
Rape	<i>Brassica napus</i>
Red Campion	<i>Silene dioica</i>
Red Clover	<i>Trifolium pratense</i>
Red Fescue	<i>Festuca rubra</i>
Redshank	<i>Persicaria maculosa</i>
Ribwort Plantain	<i>Plantago lanceolata</i>
Rosebay Willowherb	<i>Chamerion angustifolium</i>
Rough Meadow-grass	<i>Poa trivialis</i>
Rowan	<i>Sorbus aucuparia</i>

Common Name	Scientific Name
Russian-vine	Fallopia baldschuanica
Scarlet Pimpernel	Anagallis arvensis
Scots Pine	Pinus sylvestris
Selfheal	Prunella vulgaris
Sharp-flowered Rush	Juncus acutiflorus
Sheep's-fescue	Festuca ovina
Silver Birch	Betula pendula
Smoke-tree	Cotinus coggygria
Smooth Meadow-grass	Poa pratensis
Smooth Sow-thistle	Sonchus oleraceus
Smooth Tare	Vicia tetrasperma
Snowberry	Symphoricarpos albus
Soft-brome	Bromus hordeaceus
Soft-rush	Juncus effusus
Sorrel	Rumex sp.
Spear Thistle	Cirsium vulgare
Spotted Medick	Medicago arabica
Square-stalked St John's-wort	Hypericum tetrapterum
Sweet Chestnut	Castanea sativa
Sweet Vernal-grass	Anthoxanthum odoratum
Sweet-briar	Rosa rubiginosa
Sycamore	Acer pseudoplatanus
Tall Fescue	Schedonorus arundinaceus
Thyme-leaved Speedwell	Veronica serpyllifolia
Timothy	Phleum pratense
Traveller's-joy	Clematis vitalba
Tufted Hair-grass	Deschampsia cespitosa
Two-flowered Rush	Juncus biglumis
Upright Brome	Bromopsis erecta



Common Name	Scientific Name
Viper's-bugloss	Echium vulgare
Virginia-creeper	Parthenocissus quinquefolia
Wall Barley	Hordeum murinum
Wall Cotoneaster	Cotoneaster horizontalis
Walnut	Juglans regia
Water Figwort	Scrophularia auriculata
Water Forget-me-not	Myosotis scorpioides
Water Horsetail	Equisetum fluviatile
Water-lily	Nuphar sp.
Water Mint	Mentha aquatica
Water-plantain	Alisma plantago-aquatica
Water-starwort	Callitriche sp.
Wayfaring-tree	Viburnum lantana
Weeping Willow	Salix babylonica
Wheat	Triticum aestivum
Whitebeam	Sorbus aria
White Clover	Trifolium repens
White Dead-nettle	Lamium album
White Poplar	Populus alba
White Willow	Salix alba
Wild Angelica	Angelica sylvestris
Wild Cherry	Prunus avium
Wild Plum	Prunus domestica
Wild Privet	Ligustrum vulgare
Wild Strawberry	Fragaria vesca
Wild Teasel	Dipsacus fullonum
Willow	Salix sp.
Wood Avens	Geum urbanum
Wood Millet	Milium effusum

Common Name	Scientific Name
Wood Spurge	<i>Euphorbia amygdaloides</i>
Wood-rush	<i>Luzula</i> sp.
Wood-sedge	<i>Carex sylvatica</i>
Yarrow	<i>Achillea millefolium</i>
Yellow Iris	<i>Iris pseudacorus</i>
Yellow-sedge	<i>Carex demissa</i> agg.
Yew	<i>Taxus baccata</i>
Yorkshire-fog	<i>Holcus lanatus</i>

## APPENDIX D: Pen portraits of surveyors

Table 18: Surveyor pen portraits

Surveyor	CV details
<p>Guy Stone (Associate Technical Director) MSc (EIA) BSc (hons) Botany CEnv MCIEEM</p>	<p>Guy's position is Associate Technical Director for Ecology. He has over 15 years' experience working as an Ecologist, with a wide range of experience over many public and private sector projects. Much of Guy's day-to-day work includes managing and undertaking ecological baseline studies (specialising in botany) and designing ecological solutions to challenging project constraints.</p>
<p>Martina Girvan (Technical Director) BSc (hons) MSc PhD CEcol</p>	<p>A Chartered Ecologist with 20 years' experience in both the UK and overseas. Martina has been surveying for botanical interest for over 20 years including NVC surveys. Martina has undertaken over 30 major Ecological Impact Assessments (EclAs) and written the Ecological Chapters of Environmental Statements (ESs) and Environmental and Social Impact Assessments (ESIAs) for major infrastructure, energy, housing and commercial development projects in greenfield, brownfield and urban environments. She is the Arcadis Community of Practice Lead for Natural Capital and manages the arboricultural business.</p>
<p>Brandon Murray (Principal Ecological Consultant) BSc(hons) MCIEEM</p>	<p>Brandon has been a professional ecologist for over eleven years and has undertaken multiple Phase 1 habitat surveys. Brandon has planned and led surveys for many species including badgers, bats, GCN (Great Crested Newts) water voles and reptiles and is very confident in assessing habitats for their protected species suitability.</p>
<p>Ellen Poppleton (Assistant Ecologist) BSc (hons) GradCIEEM</p>	<p>Ellen Poppleton has been an ecologist for over two years. She has experience surveying for reptiles, bats, badgers, dormice amphibians and water voles. Ellen has received internal and on the job training to ensure that she can confidently conduct a range of protected species surveys under appropriately skilled supervision.</p>
<p>Rebecca Beale (Ecologist) BSc MSc MCIEEM</p>	<p>Rebecca Beale has been an ecologist for over 10 years. Rebecca is an ecologist with experience of a diverse variety of ecological survey and mitigation techniques. Rebecca has acquired sound experience of: undertaking protected species surveys; designing and implementing protected species mitigation; undertaking client liaison; contacting third parties for information; overseeing contactors (e.g. ecological supervision of site works); coordinating environmental desk studies and survey effort among a team of colleagues; and contributing to development licences for protected species and various types of ecological reports.</p>
<p>Alex Ward (Environmental Consultant) BSc (Hons) Affiliate IEMA</p>	<p>Alex is a graduate environmental consultant who predominately involved as the environment lead on a coastal defence construction scheme for the Environment Agency. This has led him to be experienced in the delivery of environmental mitigation, ecological surveying and national and international permitting requirements. Alex has received training in regard to the identification of both reptiles and bats during his time at Arcadis, including the usage of survey equipment.</p>

Surveyor	CV details
<p>Ewan Gibson, (Assistant Ecologist) BSc (hons)            GradCIEEM</p>	<p>Ewan Gibson is an ecologist with a broad range of ecological experience. Ewan has been a professional ecologist for 5 years and has conducted surveys for a range of species, including bats, badger, dormouse, amphibians and reptiles, as well as being licensed to survey for barn owl. Ewan strives to collect and collate data with accuracy and precision. He has received in-house 'on the job' training in order to understand the requirements of these surveys, including the usage of survey equipment and identification of field signs.</p>
<p>Rory Roche (Consultant Ecologist) BSc (Hons)</p>	<p>Rory has been a professional ecologist for over four years and has experience of a diverse range of ecological surveys including extended phase 1 habitat surveys, ecological clerk of works and targeted protected species surveys for badgers, bats, dormouse, great crested newt, reptiles, otter and water vole.</p> <p>Rory holds a CL08 great crested newt level 1 survey licence (licence number 2018-36684-CLS-CLS) and has led and completed numerous GCN surveys including HSI assessments, eDNA surveys, presence/ absence surveys and population size class surveys, in addition to assisting with the trapping and translocation of newts under licence.</p>
<p>Hannah Tracey, (Consultant Ecologist) MCIEEM BSc(hons)            MSc (hons)</p>	<p>Hannah has worked as a professional Ecologist with Arcadis for over five years. During this time, she has developed a wide range of experience in both the field and office-based environment.</p> <p>Hannah regularly undertakes targeted surveys for a range of protected species including great crested newt, dormouse, reptile, badger and bat activity and emergence/re-entry surveys. She has experience of undertaking site supervision activities and ecological clerk of works.</p>
<p>Jon Carter (Assistant Ecologist) BSc GradCIEEM</p>	<p>Jon Carter is an assistant ecologist with a broad range of ecological experience. Jon has been a professional ecologist for five years, during which he has conducted surveys for a range of species, particularly focussed on birds, reptiles and GCN, but also bats, dormice, badger, water vole and otter. Jon has carried out a number of bat emergence/re-entry and activity transect surveys and has undertaken in-house 'on the job' training on conducting bat surveys, which covered identification of bat calls in the field and the use of specific survey equipment to do so.</p>
<p>Mike Head (Principal Ecologist) BSc (Hons) DpS CEnv            MCIEEM</p>	<p>Mike has been an ecologist for over 20 years and specialises in surveys and fieldwork. He is a skilled botanist and can carry out National Vegetation Classification Surveys.</p>

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