



# Longfield Solar Farm

Environmental Statement PINS Ref: EN010118

Volume 2

Appendix 8H: Breeding Birds Survey Report

Document Reference EN010118/APP/6.2

Revision Number: 1.0

February 2022

Longfield Solar Farm Ltd

APFP Regulation 5(2)(a)

Planning Act 2008

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

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# 1. Introduction

## 1.1 Background

- 1.1.1 AECOM was instructed by Longfield Solar Farm Ltd (hereafter referred to as 'the Applicant') to undertake a survey of breeding birds for the proposed Longfield Solar Farm (hereafter referred to as the 'Scheme'). The Preliminary Ecological Appraisal (PEA) (**Appendix 8B: PEA** of the Environmental Statement (ES) [EN010118/APP/6.2]), for the Scheme identified that the habitat within the Scheme boundary (hereafter referred to as the 'Order limits') was suitable to support birds during the breeding season and that surveys were required to determine the presence and any assemblages of protected or notable<sup>1</sup> breeding bird species within the Order limits. Therefore, AECOM was instructed to undertake surveys of breeding birds within the Order limits and an appropriate survey buffer to record the species, distributions and numbers of breeding birds within the Order limits and adjacent habitat.
- 1.1.2 This report contains confidential information regarding the locations of sensitive breeding species, included on Schedule 1 of the Wildlife and Countryside Act (1981, as amended) (Ref 2).

## 1.2 Order limits Description

- 1.2.1 The Scheme is located within the administrative areas of Braintree District Council and Chelmsford City Council. The Order limits is approximately centred on National Grid Reference (NGR) TL 74179 14620 and located approximately 1.1km to the West of the village of Terling (see **Figure 1-1: Scheme Location** of the ES [EN010118/APP/6.3]). The Order limits, approximately 453ha in size, comprising several parcels of land separated by several areas of woodland.
- 1.2.2 The landscape features within the Order limits consist of agricultural fields mainly under arable production, with some small parcels of pasture, interspersed with individual trees, hedgerows, tree belts (linear) small woodland blocks and farm access tracks. The hedgerows within the Order limits range between lengths of dense tall vegetation (shrub and tree species) and thin lines of vegetation with sporadic trees present, although the former is a dominant feature. The arable fields are of small to moderate size, some of which are of irregular shape.
- 1.2.3 The landscape features immediately surrounding the Order limits comprise a number of villages, including Fuller Street approximately 300m to the north, Gamble's Green and Terling 500m and 1.1km to the east, Boreham 500m to the south-west, Hatfield Peverel 1.5km to the south-east and the large city of Chelmsford 5.7km to the south-west. Boreham Road runs north to south along the western edge of the Order limits, with the A12 carriageway abutting and bounding the southern edge of the Order limits.
- 1.2.4 The northern part of the Order limits and surrounding area consists of undulating and relatively elevated landform, as part of the River Ter valley. The landform rises steeply northwards from the river and Terling Spring, between 35 metres (m) Above Ordnance Datum (AOD) to 50m AOD along parts of Braintree Road. It culminates at a ridgeline at 70m AOD at Rank's Green, in

<sup>1</sup> A notable species is a species with a conservation designation, but no legal protection.

the northern part of the study area. To the south of the River Ter, the landform also rises steeply, across Sandy Wood, to a ridgeline at 55m AOD.

- 1.2.5 To the west of the Order limits, the landscape consists of a varied pattern of landform, reflecting past sand and gravel extraction and engineered flat terrain across Boreham airfield, which is situated at 55m AOD approximately 800m to the west of the Order limits. From the airfield, the landform falls very gradually eastwards to the River Ter, which flows southwards between Terling and the northern part of Hatfield Peverel, at approximately 20m AOD.
- 1.2.6 The River Chelmer flows 2.5km to the south of the Order limits, at approximately 15m AOD. There are several large-scale reservoirs and lakes adjacent to the river. From the river, the landform rises consistently northwards, to form a ridgeline around 40m AOD at Boreham, and southwards, across Little Baddow, to an elevated ridgeline at 100m AOD, approximately 3km from the Order limits.
- 1.2.7 Most of the southern and central part of the Order limits is located across flat and low-lying landform at approximately 45m AOD, between Waltham Road / Boreham Road and Terling Road. The northern part of the Order limits is located within part of the River Ter valley, where there is rising land to the north and south of Terling Spring and adjacent to Braintree Road.
- 1.2.8 A detailed description of the habitats on Order limits is provided in the PEA report for the Scheme (Ref 1).

### 1.3 Description of the Scheme

- 1.3.1 Longfield Solar Farm is a new solar farm scheme that would connect to the national electricity transmission network. Longfield will use ground mounted solar photovoltaic (PV) panel arrays to generate electricity energy from the sun and combine these with a Battery Energy Storage System (BESS). The Scheme will be connected to the national electricity transmission network by an underground cable. The Scheme will be located within the Order limits boundary as shown on **Figure 1-1: Scheme Location** of the ES [EN010118/APP/6.3].
- 1.3.2 The principal infrastructure will be located within the Order limits and will include:
- a. Solar PV modules;
  - b. PV module mounting structures;
  - c. Inverters;
  - d. Transformers;
  - e. Switchgears (housed inside a building);
  - f. On-site cabling;
  - g. One or more BESS (expected to be formed of lithium ion batteries storing electrical energy);
  - h. An electrical compound comprising a substation and control building;
  - i. Fencing and security measures; and
  - j. Access tracks.

1.3.3 During the construction phase, one or more temporary construction compound(s) will be required as well as temporary roadways to facilitate access to all land within the Order limits.

1.3.4 Further information on the Scheme is provided in **Chapter 2: The Scheme** of the ES [EN010118/APP/6.1].

## 1.4 Scope of this Report

1.4.1 The objective of the breeding bird survey, reported in this document, is to determine the presence, assemblage and distribution of breeding bird species, including notable species, within the Order limits and identify any potential impacts of the Scheme on breeding birds.

1.4.2 This report includes the following information:

- a. Relevant legislation and policy;
- b. Methods for desk and field-based assessment, undertaken in 2020;
- c. Limitations to the surveys undertaken;
- d. Survey results;
- e. The approach for determining the nature conservation importance of breeding bird populations recorded during the assessments; and
- f. Conclusions.

1.4.3 The majority of ecological data is valid only for short periods due to the inherently transient nature of the subject (CIEEM, 2019<sup>2</sup>). On this basis, it is recommended that the surveys for breeding birds will need repeating in two years (*i.e.*, in 2022).

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<sup>2</sup> CIEEM: Advice Note on the lifespan of ecological surveys and reports (Accessed January 2021)

## 2. Relevant Legislation and Policy

### 2.1 Legislation

#### *Wildlife and Countryside Act*

- 2.1.1 The legislative provisions for the protection of wild birds in the UK are contained primarily in Sections 1-7 of the Wildlife and Countryside Act (WCA) 1981 (as amended) (Ref 2). Under the WCA, a wild bird is defined as any bird of a species that occurs in a wild state as a resident or a visitor to the European Territory of any member state.
- 2.1.2 When breeding, all birds, their nest, eggs and nestlings are afforded protection under the Wildlife and Countryside Act 1981, as updated by the 'Countryside Right of Way Act 2000' (Ref 3). Therefore, during the bird breeding season (typically March-August inclusive) it is an offence to:
- Intentionally kill, injure or take any wild bird;
  - Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
  - Intentionally take or destroy the eggs of any wild bird.
- 2.1.3 Additionally, special penalties exist for offences related to species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) (Ref 2), for which there are additional offences for disturbing these birds at their nest, or their dependent young. Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. No licences are available for disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

#### *Directive of the Conservation of Wild Birds*

- 2.1.4 A number of bird species recorded within the UK (including those that are resident, overwintering and migratory) are protected under European legislation under the Directive of the Conservation of Wild Birds (EU Birds Directive) (Ref 4), which lists 193 species, or sub-species, of birds in Annex 1 which are:
- In danger of extinction;
  - Are rare, or have restricted local distribution;
  - Are vulnerable to specific changes in their habitat; or
  - Require particular attention for reasons of the specific nature of habitat.
- 2.1.5 These species are afforded enhanced legal protection and EU member states have a responsibility to maintain the populations of these species at a level that corresponds to their ecological, scientific and cultural requirements (Article 2). This Directive is transposed into English law through the 'Conservation of Habitats and Species Regulations 2017 (as amended)' (Ref 5).
- 2.1.6 Species listed on Annex 1 of the Wild Birds Directive are those for which the UK Government are also required to take special measures, including the

designation of Special Protection Areas, to ensure the survival and reproduction of these species throughout their area of distribution. These sites are then automatically included within the Natura 2000, which is a network of core breeding and resting sites that are protected for rare and threatened species.

### **Priority Species**

- 2.1.7 In addition to the above legislation, 49 bird species are listed as being Species of Principal Importance for conservation in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Ref 6). These species are of material consideration during the planning process. Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act, to have regard to the conservation of biodiversity in England when carrying out their normal functions.
- 2.1.8 The Joint Nature Conservation Committee (JNCC) UK Biodiversity Action Plan (UKBAP) (Ref 7) was launched in 1994 and identified UK BAP priority species of conservation concern that are the most threatened in the UK and requiring action under the UKBAP and for which action plans have been published. However, the work undertaken for the UKBAP is now focussed at a country level, rather than UK level, and the UKBAP has subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) (Ref 8). However, the UK list of priority species remains an important reference source and has been used to help draw up statutory lists of priority species in England, Scotland, Wales and Northern Ireland. For the purpose of this assessment, the UK BAP is still used as one of the criteria to assist in assigning national value to any given ecological receptor.

## **2.2 Planning Policy**

- 2.2.1 National and local planning policy relevant to nature conservation is provided in detail in the PEA report for the Scheme (Ref 1) and included as Appendix 8B of the ES.

## **2.3 Local Biodiversity Action Plan Species**

- 2.3.1 The Essex Biodiversity Action Plan (2011) (Ref 9) sets out species action plans within Essex and provides the local nature conservation strategy for identifying threats to species within this county and sets out the actions necessary to conserve them. The Essex Biodiversity Action Plan (EBAP) provides context to inform the identification of threatened and, or uncommon species within the district and, or county. The EBAP also identify priorities for conservation and enhancement but confers no particular legislative or policy protection to the species identified, however in some cases this is provided through related legislation and local planning policy.
- 2.3.2 The Essex Biodiversity Action Plan includes five bird species. These are:
- a. Bittern *Botaurus stellaris*;



- b. Grey Partridge *Perdix perdix*;
- c. Skylark *Alauda arvensis*;
- d. Song Thrush *Turdus philomelos*; and
- e. Stone-curlew *Burhinus oedicnemus*.

## 2.4 Birds of Conservation Concern

- 2.4.1 The Birds of Conservation Concern (BoCC) (Ref 10) is an assessment of the conservation status of all regularly occurring British birds. The lists (Red, Amber and Green), that indicate the level of conservation importance for each species, are derived from quantitative assessments from standardised criteria. The assessment is based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. The lists are drawn together by the UK's leading bird conservation organisations, including the Royal Society for the Protection of Birds (RSPB) and British Trust for Ornithology (BTO).
- 2.4.2 Although the BoCC lists confer no legal status in themselves, they are useful in evaluating the conservation significance of bird assemblages, and for assessing the potential significance of impacts and informing appropriate levels of mitigation with respect to bird populations.
- 2.4.3 The criteria for birds being included in the BoCC lists are as follows.

### **Red List:**

- a. Globally threatened;
- b. Historical population decline in UK during 1800–1995; and
- c. Severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969). Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period.

### **Amber List:**

- a. Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern);
- b. Historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years;
- c. Moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period;
- d. Moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period;
- e. Moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period;
- f. Rare breeder; 1–300 breeding pairs in UK;
- g. Rare non-breeders; less than 900 individuals;

- h. Localised; at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders; and
- i. Internationally important; at least 20% of European breeding or non-breeding population in UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively).

**Green List:**

- a. Species that occur regularly in the UK but do not qualify under any of the above criteria.

## 3. Methods

### 3.1 Desk Study

- 3.1.1 A desk study was undertaken in July 2020 through The Essex Biological Records Centre (EBRC) and this produced only a small number of bird records. Consequently, a further desk study was undertaken through the Essex Field Club in January 2021.
- 3.1.2 A 2km radius of the Order limits was used for bird records although the Essex Field club provided data up to 3km.
- 3.1.3 Only records up to ten years old were considered within the assessment, as any records older than ten years are unlikely to be still representative of bird species in the local area.

### 3.2 Field Survey

#### Survey Area

- 3.2.1 The survey area included all habitat within the Order limits and, where access allowed, a 50m survey buffer. Standardised survey buffers for assessing the impacts of development on bird populations do not exist, however, the survey area used provides information on the breeding birds within the area immediately surrounding the Order limits and includes areas contiguous with the Order limits, where birds may potentially be adversely affected. Depending on the sensitivity of the species, birds occurring outside of the survey area may also be adversely affected. The survey area is sufficient to determine the likely impacts of the Scheme on the breeding bird species occurring or likely to occur in the area.
- 3.2.2 Modifications to the Scheme extent through the survey period resulted in minor modifications to the survey area used during the course of the breeding bird survey and therefore, the methods that were used within each survey area reflected the extent of access at the time. However, the survey covered the Order limits and provides a robust baseline of the breeding bird community present within the Order limits and allows determination of the presence of any protected or sensitive ornithological receptors

#### Territory Mapping Survey – General Breeding Bird Assemblage

- 3.2.3 The survey was undertaken based on a standard territory mapping methodology for surveying breeding birds as detailed in Bibby *et al.* (2000) (Ref 11) and Gilbert *et al.* (1998) (Ref 12). This method is based on the principle that many species during the breeding season are territorial. This is found particularly amongst passerines, where territories are often marked by conspicuous song, display and periodic disputes with neighbouring individuals.
- 3.2.4 Survey routes followed the majority of hedgerows, fence-lines and field margins (including paths, tracks and roads). Deviations into areas of set-aside, stubble fields, scrub, woodland and other uncultivated habitats were made, where possible. The routes did not include ploughed or cultivated fields, due to the possibility of trampling and damaging crops. Fields containing livestock were avoided for safety reasons.

- 3.2.5 Regular stopping points were included along the survey route to record any species that may be passing through the survey area. Survey routes were mapped, and the direction walked alternated on each visit, to ensure that all areas were covered at various times of day across the duration of the survey.
- 3.2.6 Surveys for the general breeding bird assemblage were undertaken between April and June 2020, with a total of five survey visits taking place. Owing to the size of the Order limits, each survey was split over two-three days. The survey dates were:
- Visit 1 - 15<sup>th</sup> and 16<sup>th</sup> April 2020;
  - Visit 2 – 28<sup>th</sup> -30<sup>th</sup> April 2020;
  - Visit 3 – 10<sup>th</sup> to 12<sup>th</sup> May 2020;
  - Visit 4 – 26<sup>th</sup> and 27<sup>th</sup> May 2020; and
  - Visit 5 -10<sup>th</sup> and 11<sup>th</sup> June 2020.
- 3.2.7 Each survey was undertaken during appropriate weather conditions for survey when the weather was dry, warm and with little to no wind. Surveys were undertaken early in the morning, commencing just after sunrise and finishing before midday. During these times, breeding birds are more active and can be detected in song more frequently.
- 3.2.8 All bird species were recorded and mapped across the survey area. Registrations of birds were recorded using two letter species codes. Specific codes were used to record bird behaviour, including: singing, calling, flights and movements between areas, carrying food, nest building, aggressive encounters and other bird behaviour.
- 3.2.9 The expected outcome from the surveys is that mapped registrations fall into clusters, approximately coinciding with territories. A cluster is generally a spatially distinct group of registrations that represent the activity of not more than one pair. Ideally, clusters include registrations of territorial behaviour across all visits and are clearly demarcated from adjacent clusters by simultaneous recording of neighbouring birds. Where a species has closely packed territories, the mapping of simultaneously singing birds becomes essential. Territory boundaries are assumed to be between such birds.
- 3.2.10 Territory mapping methods produce analysis maps of non-overlapping ellipses encircling clusters of records thought to relate to separate pairs of breeding birds. These ellipses may not show the entire extent of the pairs' actual breeding territory which may be significantly larger; however, they are likely to show those areas in which the pair is most active.
- 3.2.11 On completion of the surveys, analysis maps were produced for each species. From these species maps, the number of territories was calculated by identifying the number of clusters present. Any duplicated territories, where the survey areas overlapped between years, are discounted.
- 3.2.12 For late-arriving (to the UK) trans-Saharan migrants, e.g. Spotted Flycatcher *Muscicapa striata*, for which fewer potential contacts are possible, only one registration is required to form a territory cluster. A number of species are not territorial and are dealt with appropriately, e.g. Linnet *Linaria cannabina*, where data represent aggregations or loose colonies.

3.2.13 Standard registration mapping techniques were also used to record non-breeding species. The following definitions were used to identify the breeding territory status of each species recorded:

- a. Confirmed: includes species for which territories were positively identified as a result of the number of registrations recorded; the location of an active nest; or the presence of recently fledged young / downy young;
- b. Probable: includes a species pair observed in suitable nesting habitat during surveys; or agitated behaviour / anxiety calls from adults (suggesting the presence of a nest or young nearby). Behaviour was observed on insufficient occasions to confirm the presence of a territory;
- c. Possible: includes species observed during surveys in suitable nesting habitat; or a singing male present (or breeding calls heard) in suitable breeding habitat; or
- d. Non-breeding: species-specific information was used to determine fly-over species, or species suspected to be summering non-breeder.

### **Hobby**

3.2.14 A walkover survey, specifically to look for breeding Hobby *Falco subbuteo* was undertaken in late August and early September 2020, comprising of two days of survey to cover the Order limits. The methodology involved walking the periphery of woodland blocks and hedgerows with an emphasis on listening for the begging calls of the young.

### **Barn Owl**

3.2.15 Surveys for Barn Owl *Tyto alba*, to determine nesting and roosting sites for Barn Owl, was undertaken based on the guidance by Shawyer '*Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment*' (Ref 13).

3.2.16 Surveys for Barn Owl were conducted in July 2020 and this involved visiting all of the farm building complexes within the Order limits and upto 200m from the Order limits (where access allowed). These were then inspected for signs of Barn Owl occupancy such as pellets and splashings. In addition, the results of the Potential Roost Assessment survey for bats were evaluated for any trees that might have cavities suitable for nesting Barn Owls. These trees were then visited and checked for signs of Barn Owl occupancy.

3.2.17 All surveys were undertaken by an appropriately licensed ecologist, holding a CL29 class licence.

## **3.3 Assessment of Ornithological Importance**

3.3.1 The assessment of the ornithological importance of the survey area during the breeding season was made by evaluating any species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest, as detailed in 2 of this report. These include:

- a. species listed on Annex 1 of the EU Birds Directive (Ref 4);
- b. species listed on Schedule 1 of the WCA, 1981 (as amended) (Ref 2);

- c. priority bird species in the UK (Ref 6);
- d. species listed as priority species on the Essex BAP (Ref 9); and
- e. species included in the Birds of Conservation Concern (BoCC) Red and Amber Lists (Ref 10).

### Species Abundance

3.3.2 In addition to evaluating a site based on its populations of birds in relation to legal status, rarity and biodiversity importance, consideration has to be given to the value of the survey area for the population of individual species that it supports. This can be done by comparing the population present within the survey area with the national and county breeding population for certain species. National estimates for non-breeding birds are published in a paper: *'Population estimates of birds in Great Britain and the United Kingdom'* (Ref 14). The BTO Bird Atlas 2007-2011 (Ref 15) was also reviewed for species information on a national level.

3.3.3 County-level estimates on the breeding bird populations of the majority of species in Essex were also obtained from county avifauna reports, where this information was available.

### Species Diversity

3.3.4 The number of species recorded in an area is a simple measure of diversity that can indicate its importance at each season of the year. **Table 1** shows the breeding species diversity criteria as outlined in Fuller, *'A method for assessing the ornithological interest of sites for conservation'* (Ref 16), which provides a method for assessing the ornithological interest of sites for conservation.

**Table 1: Breeding species diversity criteria (Fuller, 1980)**

Local	County	Regional	National
25-49	50-69	70-84	85+

3.3.5 However, it should be noted that Fuller's analysis was developed in the 1970s and, since then, species diversity has declined significantly. As a result, Fuller's thresholds are, in most circumstances, too high for today's breeding bird populations. However, it is not considered that the differences would be sufficient to increase the geographical scale at which the assemblages are considered to have value.

3.3.6 Local Wildlife Sites (LWS) (or County Wildlife Sites (CWS)) are among the most important places for wildlife in Essex, together with legally protected land such as Sites of Special Scientific Interest (SSSIs).

3.3.7 In Essex: *"the value of site designation for important bird species and assemblages should be decided using the best available information and expert opinion. Such judgements should be typically based on five-year averages rather than ad hoc sightings or single year peaks that may not represent the general picture"* (Ref 17). These guidelines also state that the criterion for selection of Local Wildlife Sites applies to (where relevant to the Scheme):

- a. Species Criterion 5 (SC5) – Notable Bird Species: “*Discrete habitat areas known to support significant populations of notable bird species, whether breeding or over-wintering, will be eligible for selection*”; and
- b. Species Criterion 6 (SC6) – Exceptional Populations of Common Bird Species: “*Discrete habitat areas that regularly support exceptional breeding, feeding, roosting/resting or over-wintering populations of relatively commonplace species will be considered for selection*”.

### Importance of the Breeding Bird Population

3.3.8 To support a focussed assessment of the population of breeding birds within the Order limits, their biodiversity value was defined with reference to the geographical level at which it matters. The frames of reference used in this report were made using the values presented in the ‘*Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater, Coastal and Marine*’ (Ref 18) (hereafter referred to as the CIEEM Guidelines); and professional judgement.

3.3.9 The evaluation uses a framework linked to a geographical scale at which the receptor has been valued (*i.e.* international, national, regional, county or local) and this method represents best practice guidance. These assessment criteria, set out in **Table 2**, have been used in conjunction with species rarity, abundance and diversity within the survey area to assess the biodiversity importance of the breeding bird populations recorded during the field surveys.

**Table 2: Importance of Ornithological Features**

Importance of Ornithological Features	Descriptors and Examples of Criteria
International or European	<p>Resident or regularly occurring populations of species which may be considered of value at an international or European level<sup>1</sup> where:</p> <p>the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale;</p> <p>the population forms a critical part<sup>2</sup> of a wider population at this scale; or</p> <p>the species is at a critical phase<sup>3</sup> of its life cycle at this scale.</p>
UK or National	<p>Areas of habitats with priority species identified in the UK Post-2010 Biodiversity Framework <i>i.e.</i> UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the Natural Environment and Rural Communities Act (2006) and those considered to be of principal importance for the conservation of biodiversity.</p> <p>Resident or regularly occurring populations of species which may be considered of value at a UK or a national level<sup>4</sup> where:</p> <p>the loss of these populations would adversely affect the conservation status or</p>

Importance of Ornithological Features	Descriptors and Examples of Criteria
	<p>distribution of the species at this geographic scale;</p> <p>the population forms a critical part of a wider population at this scale; or</p> <p>the species is at a critical phase of its life cycle at this scale.</p>
Regional	<p>Populations of species of value at a regional level (<i>i.e.</i> East England).</p> <p>Resident or regularly occurring populations of species which may be considered of value at a regional level<sup>5</sup> where:</p> <p>the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale;</p> <p>the population forms a critical part of a wider population at this scale; or</p> <p>the species is at a critical phase of its life cycle at this scale.</p>
County or Unitary Authority or District	<p>Populations of species of value at a County (<i>i.e.</i> Essex) level or District (<i>e.g.</i> Chelmsford).</p> <p>Resident or regularly occurring populations of species which may be considered of value at a County (or District)<sup>6</sup> level where:</p> <p>the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale;</p> <p>the population forms a critical part of a wider population at this scale; or,</p> <p>the species is at a critical phase of its life cycle at this scale.</p>
Local	<p>Species populations of value in a local (<i>i.e.</i> within ~ 2 km of the site) context.</p> <p>Populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.</p>
Site**	<p>Habitats and associated species that are of value in the context of the site only.</p> <p>Populations of common and widespread species.</p>

<sup>1</sup> Such species include those listed within the Directive 2009/147/EC on the Conservation of Wild Birds (*i.e.* EC Birds Directive) (codified version of Council Directive 79/409/EEC as amended) or animal or plant species listed within Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (*i.e.* Habitats Directive).



## Importance of Ornithological Features      Descriptors and Examples of Criteria

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<sup>2</sup> Such populations include sub-populations that are essential to maintenance of metapopulation dynamics, *e.g.* critical emigration and, or immigration links between otherwise discrete populations.

<sup>3</sup> Seasonal activity or behaviour upon which survival or reproduction depends.

<sup>4</sup> Species which may be considered at the UK or national level mean: birds, other animals and plants which receive legal protection on the basis of their conservation interest (those listed within the Wildlife and Countryside Act 1981 (as amended) Schedule 1, 5 and 8); species listed for their principal importance for biodiversity (in accordance with the Natural Environment and Communities Act 2006 Section 41 England), priority species listed within the UK Post 2010 Biodiversity Framework (*i.e.* UK Biodiversity Action Plan (UKBAP)), or species listed within the Red Data Book.

<sup>5</sup> Such species include those listed in the appropriate Natural Character Area description.

<sup>6</sup> Such species include those at county level (*i.e.* Essex) including unitary authority area *i.e.* District level (*i.e.* East of England); as listed on the LBAPs; and listed as a county designated site.

\*As well as assigning importance there is also a need to identify all legally protected species that could be affected by the proposed Scheme in order that measures can be taken to ensure that adherence to the relevant legislation is observed. This may include the adoption of mitigation and appropriate licensing which are acceptable to Natural England.

\*\* Site is not included within the CIEEM guidelines, but is included hereafter in this report

### 3.4 Assumptions and Limitations

3.4.1 Five full breeding bird survey visits were undertaken with bird territories derived from these visits along with additional observations from species-specific surveys for Barn Owl and Hobby. Records of potential breeding species observed during the wintering bird survey in March 2020 and casual records made during other ecological surveys were also included, where relevant. It is believed that no breeding bird species was missed during the breeding bird surveys.

3.4.2 The position of the bird territories marked in the accompanying figures is not the exact location of the birds' nest, but instead an approximate location of the mid-point of each breeding territory.

3.4.3 It is important to note that the analysis and assessment of bird species was undertaken prior to the publication of the BoCC 5 (Ref 19). Therefore, some species status's have changed and species that were green-listed within BoCC4 are now included on the Amber or Red Lists in BoCC5 and similarly some species have changed between Red and Amber lists. However, any such changes to species placement on either of the BoCC lists has not materially altered the assessment within the ES of the importance of the Order limits for breeding birds.

## 4. Results

### 4.1 Desk Study

- 4.1.1 The Essex Field Club returned records of 95 specially protected and, or notable species, approximately 2 km from the Order limits. A list of the 95 protected and, or notable species recorded during the desk study is included in **Annex B**.
- 4.1.2 Essex Biological records centre returned 52 bird records of specially protected or notable species, including one of each of Barn Owl, Red Kite *Milvus milvus* and two records of Cuckoo *Cuculus canorus* and Turtle Dove *Streptopelia turtur*.

### 4.2 Field Survey

- 4.2.1 A total of 66 species (including species on Schedule 1 of the WCA and Annex 1 of the EU Birds Directive) were recorded within the survey area (see **Section 3.2.1**) during the surveys for breeding birds undertaken for the Scheme between April and September 2020.
- 4.2.2 Of the 66 species recorded within the survey area, territories of 53 species were confirmed with one species (Lesser-spotted Woodpecker *Dryobates minor*) probably breeding within the survey area, resulting in a breeding bird assemblage of 54 species. Records relating to the remaining 12 species were of non-breeding species.
- 4.2.3 A summary of the breeding and conservation status of the 66 species recorded for the Scheme during the surveys, with the numbers of territories identified (or thought likely in the case of probable and possible records) is provided in **Table 3**.
- 4.2.4 Territories of Woodpigeon (*Columba palumbus*), a species which is widespread throughout the survey area, common within Essex and the UK and not of conservation concern (*i.e.* not listed on one or more of the lists of conservation concern as detailed in this report), have not been calculated and these are referred to in **Table 3** as being present (P).

**Table 3: Breeding territory status, number of territories and conservation status of birds recorded within the Order limits**

Species English name and (scientific name)	Breeding territory status	Number of breeding territories (if applicable)	Conservation Status				
			Annex 1 EU Birds Directive	WCA Schedule 1	BoCC Red or Amber?	Priority Species	LBAP Species
Barn Owl ( <i>Tyto alba</i> )	Confirmed	6	-	✓	Amber	-	-
Blackbird ( <i>Turdus merula</i> )	Confirmed	126	-	-	-	-	-
Blackcap ( <i>Sylvia atricapilla</i> )	Confirmed	79	-	-	-	-	-

Species English name and (scientific name)	Breeding territory status	Number of breeding territories (if applicable)	Conservation Status				
			Annex 1 EU Birds Directive	WCA Schedule 1	BoCC Red or Amber?	Priority Species	LBAP Species
Black-headed Gull ( <i>Chroicocephalus ridibundus</i> )	Non-breeding	0	-	-	Amber	-	-
Blue Tit ( <i>Cyanistes caeruleus</i> )	Confirmed	119	-	-	-	-	-
Buzzard ( <i>Buteo buteo</i> )	Confirmed	10	-	-	-	-	-
Canada Goose ( <i>Branta canadensis</i> )	Non-breeding	0	-	-	-	-	-
Carrion Crow ( <i>Corvus corone</i> )	Confirmed	13	-	-	-	-	-
Chaffinch ( <i>Fringilla coelebs</i> )	Confirmed	167	-	-	-	-	-
Chiffchaff ( <i>Phylloscopus collybita</i> )	Confirmed	29	-	-	-	-	-
Coal Tit ( <i>Parus ater</i> )	Confirmed	1	-	-	-	-	-
Collared Dove ( <i>Streptopelia decaocto</i> )	Confirmed	1	-	-	-	-	-
Cormorant ( <i>Phalacrocorax carbo</i> )	Non-breeding	0	-	-	-	-	-
Cuckoo ( <i>Cuculus canorus</i> )	Confirmed	2	-	-	Red	✓	-
Dunnock ( <i>Prunella modularis</i> )	Confirmed	56	-	-	Amber	✓	-
Gadwall ( <i>Mareca strepera</i> )	Confirmed	1	-	-	Amber	-	-
Garden Warbler ( <i>Sylvia borin</i> )	Confirmed	2	-	-	-	-	-
Goldcrest ( <i>Regulus regulus</i> )	Confirmed	7	-	-	-	-	-
Goldfinch ( <i>Carduelis carduelis</i> )	Confirmed	13	-	-	-	-	-
Great Tit ( <i>Parus major</i> )	Confirmed	72	-	-	-	-	-
Great-spotted Woodpecker	Confirmed	8	-	-	-	-	-

Species English name and (scientific name)	Breeding territory status	Number of breeding territories (if applicable)	Conservation Status					
			Annex 1 EU Birds Directive	WCA Schedule 1	BoCC Red or Amber?	Priority Species	LBAP Species	
<i>(Dendrocopos major)</i>								
Green Woodpecker <i>(Picus viridis)</i>	Confirmed	5	-	-	-	-	-	
Greenfinch <i>(Chloris chloris)</i>	Confirmed	4	-	-	-	-	-	
Grey Heron <i>(Ardea cinerea)</i>	Non-breeding	0	-	-	-	-	-	
Grey Partridge <i>(Perdix perdix)</i>	Confirmed	4	-	-	Red	✓	✓	
Grey Wagtail <i>(Motacilla cinerea)</i>	Non-breeding	0	-	-	Red	-	-	
Greylag Goose <i>(Anser anser)</i> (feral)	Non-breeding	0	-	-	Amber	-	-	
Herring Gull <i>(Larus argentatus)</i>	Non-breeding	0	-	-	Red	✓	-	
Hobby <i>(Falco subbuteo)</i>	Confirmed	1	-	✓	-	-	-	
House Sparrow <i>(Passer domesticus)</i>	Confirmed	8	-	-	Red	✓	-	
Jackdaw <i>(Coloeus monedula)</i>	Confirmed	16	-	-	-	-	-	
Jay <i>(Garrulus glandarius)</i>	Confirmed	10	-	-	-	-	-	
Kestrel <i>(Falco tinnunculus)</i>	Confirmed	4	-	-	Amber	-	-	
Lapwing <i>(Vanellus vanellus)</i>	Confirmed	5	-	-	Red	✓	-	
Lesser Black-backed gull <i>(Larus fuscus)</i>	Non-breeding	0	-	-	Amber	-	-	
Lesser Whitethroat <i>(Curruca curruca)</i>	Confirmed	12	-	-	-	-	-	
Lesser-spotted Woodpecker <i>(Dryobates minor)</i>	Probable	(1)	-	-	Red	✓	-	
Linnet <i>(Linaria cannabina)</i>	Confirmed	6	-	-	Red	✓	-	

Species English name and (scientific name)	Breeding territory status	Number of breeding territories (if applicable)	Conservation Status				
			Annex 1 EU Birds Directive	WCA Schedule 1	BoCC Red or Amber?	Priority Species	LBAP Species
Little Egret ( <i>Egretta garzetta</i> )	Non-breeding	0	✓	-	-	-	-
Little Owl ( <i>Athene noctua</i> )	Confirmed	2	-	-	-	-	-
Long-tailed Tit ( <i>Aegithalos caudatus</i> )	Confirmed	9	-	-	-	-	-
Magpie ( <i>Pica pica</i> )	Confirmed	7	-	-	-	-	-
Mallard ( <i>Anas platyrhynchos</i> )	Confirmed	5	-	-	Amber	-	-
Marsh Harrier ( <i>Circus aeruginosus</i> )	Non-breeding	0	✓	✓	-	-	-
Mistle Thrush ( <i>Turdus viscivorus</i> )	Confirmed	7	-	-	Red	-	-
Moorhen ( <i>Gallinula chloropus</i> )	Confirmed	4	-	-	-	-	-
Nuthatch ( <i>Sitta europaea</i> )	Confirmed	1	-	-	-	-	-
Peregrine ( <i>Falco peregrinus</i> )	Non-breeding	0	✓	✓	-	-	-
Pheasant ( <i>Phasianus colchicus</i> )	Confirmed	44	-	-	-	-	-
Pied Wagtail ( <i>Motacilla alba</i> )	Confirmed	2	-	-	-	-	-
Raven ( <i>Corvus corax</i> )	Non-breeding	0	-	-	-	-	-
Red Kite ( <i>Milvus milvus</i> )	Confirmed	2	✓	✓	-	-	-
Red-legged Partridge ( <i>Alectoris rufa</i> )	Confirmed	32	-	-	-	-	-
Robin ( <i>Erithacus rubecula</i> )	Confirmed	155	-	-	-	-	-
Skylark ( <i>Alauda arvensis</i> )	Confirmed	46	-	-	Red	✓	✓
Song Thrush ( <i>Turdus philomelos</i> )	Confirmed	16	-	-	Red	✓	✓
Stock Dove ( <i>Columba oenas</i> )	Confirmed	45	-	-	Amber	-	-
Swallow	Confirmed	10	-	-	-	-	-

Species English name and (scientific name)	Breeding territory status	Number of breeding territories (if applicable)	Conservation Status					
			Annex 1 EU Birds Directive	WCA Schedule 1	BoCC Red or Amber?	Priority Species	LBAP Species	
<i>(Hirundo rustica)</i>								
Tawny Owl ( <i>Strix aluco</i> )	Confirmed	2	-	-	Amber	-	-	
Tree Sparrow ( <i>Passer montanus</i> )	Confirmed	3	-	-	Red	✓	-	
Treecreeper ( <i>Certhia familiaris</i> )	Confirmed	7	-	-	-	-	-	
Whitethroat ( <i>Sylvia communis</i> )	Confirmed	31	-	-	-	-	-	
Woodpigeon ( <i>Columba palumbus</i> )	Confirmed	P	-	-	-	-	-	
Wren ( <i>Troglodytes troglodytes</i> )	Confirmed	110	-	-	-	-	-	
Yellow Wagtail ( <i>Motacilla flava</i> )	Confirmed	3	-	-	Red	✓	-	
Yellowhammer ( <i>Emberiza citrinella</i> )	Confirmed	17	-	-	Red	✓	-	

## 5. Evaluation

### 5.1 Desk Study

- 5.1.1 Records of 95 specially protected and, or, notable species were returned from the Essex Field Club desk study. Of these 95 species:
- 23 are listed on Annex 1 of the EU Birds Directive;
  - 23 are listed as Priority Species;
  - 32 species are included on the BoCC Red List;
  - 48 species are included on the BoCC Amber List; and
  - four species are listed as Essex Biodiversity Action Plan species.
- 5.1.2 Of relevance to the Scheme, *i.e.* species that might breed within the Order limits, were as follows: Swift, Barn Owl, Hobby, Perergrine Falcon (*Falco peregrinus*), Red Kite, Kingfisher (*Alcedo atthis*), Cuckoo, Turtle Dove, Lapwing (*Vanellus vanellus*) and Yellowhammer (*Emberiza citrinella*). Of these only Swift, Kingfisher and Turtle Dove were not recorded during the surveys.

### 5.2 Field Survey

- 5.2.1 Breeding territories of 53 species were confirmed within the survey area during surveys for breeding birds in 2020 and one species was probably or possibly on breeding territories within the survey area, resulting in a breeding bird assemblage of 54 species.
- 5.2.2 From the breeding assemblage of 54 species, recorded during field surveys:
- one species is included on Annex 1 of the EU Birds Directive;
  - three species are included on Schedule 1 of the Wildlife and Countryside Act (1981, as amended);
  - 12 species are listed as a Priority Species in the UK;
  - 12 species are included on the BoCC Red List;
  - seven species are included on the BoCC Amber List; and
  - three species are included as a local biodiversity action plan species in Essex.

#### ***Specially protected species***

##### Annex 1 species

- 5.2.3 One species (Red Kite) listed on Annex 1 of the EU Birds Directive (Ref 4) was found to be holding territory (two territories) on the periphery of the Order limits, but no nesting was observed within the Order limits itself. Red Kite is also included on Schedule 1 of the WCA, 1981 (as amended) (Ref 2).
- 5.2.4 Little Egret, Peregrine and Marsh Harrier are also listed on Annex 1 of the EU Birds Directive, but none of these species were holding territory within the survey area. There is no habitat within the survey area to support breeding Little Egret (which rely on large waterbodies and their margins for breeding). Whilst the habitat within the survey area is potentially suitable for Marsh

Harrier (arable farmland) and Peregrine could nest on pylons within the survey area, these species were not observed on sufficient occasions and no breeding behaviour (such as display) within the survey area was noted. Peregrine and Marsh Harrier are also included on Schedule 1 of the WCA, 1981 (as amended).

#### Schedule 1 listed species

- 5.2.5 Three species included on Schedule 1 of the WCA, 1981 (as amended) were confirmed to be holding breeding territories within the survey area in 2020. These were: Barn Owl (six territories), Hobby (one territory) and Red Kite (two territories as described in **Section 5.2.3** of this report).
- 5.2.6 Six pairs of Barn Owl were observed within the survey area in 2020, of which five nests were recorded within the Order limits.
- 5.2.7 One pair of Hobby, observed with recently fledged juveniles, was recorded in Toppenhoe Hall Wood in September 2020.

#### **Species of Conservation Importance**

##### Priority Species

- 5.2.8 Eleven species (Cuckoo, Dunnock, Grey Partridge, House Sparrow, Lapwing, Linnet, Skylark, Song Thrush, Tree Sparrow, Yellow Wagtail and Yellowhammer) with breeding territories confirmed within the survey area are listed as Species of Principal Importance prepared under Section 41 of the Natural Environment and Rural Communities Act 2006.
- 5.2.9 Lesser-spotted Woodpecker was also heard singing during the late winter 2020 survey in the same location as late summer sightings and was probably breeding within the survey area.

##### Birds of Conservation Concern

- 5.2.10 Breeding territories were confirmed or thought probable, or possible for 12 species (Cuckoo, Grey Partridge, House Sparrow, Lapwing, Lesser-spotted Woodpecker, Linnet, Mistle Thrush, Skylark, Song Thrush, Tree Sparrow, Yellow Wagtail and Yellowhammer).
- 5.2.11 Breeding territories were confirmed, or thought probable, or possible for seven species (Barn Owl, Dunnock, Gadwall, Kestrel, Mallard, Stock Dove, Tawny Owl) within the survey area that are included on the BoCC Amber List.
- 5.2.12 Inclusion on the Birds of Conservation Concern Red or Amber list does not confer any statutory protection. However, the species concerned are all of conservation importance and considered to be under varying levels of threat in a UK context.

#### **Essex BAP**

- 5.2.13 Breeding territories were confirmed, or thought probable, or possible for three species (Grey Partridge, Skylark and Song Thrush), included on the Essex BAP.

### **5.3 Species Abundance**

- 5.3.1 In addition to evaluating a site based on its populations of breeding birds in relation to legal status, rarity and conservation value, consideration has to be



given to the value of the Order limits for the population of individual species that it supports. This can be done by comparing the population present within the Order limits with the national and county breeding population for certain species.

- 5.3.2 No species are present within the survey area in numbers of national significance when compared to national population estimates as given in a paper by Woodward *et al.* (2020) (Ref 14).
- 5.3.3 One Hobby territory was recorded within the survey area and would represent 50% of the county breeding population estimate in Essex (2), as reported by the most recently available report published by the RBBP (Ref 19). Hobby is a secretive breeder in hedgerows and woodland and is often only detected once breeding has completed and the young have fledged. Breeding is likely to occur in more inaccessible farmland areas around Essex than is reported by Hollings *et al.*, in the RBBP report (Ref 19) and therefore it is likely that the true population of Hobby in Essex is under-recorded and greater than that reported by the RBBP. The Essex Bird Report for 2019 (Ref 21) details 16 Hobby territories in the county, of which one territory within the Order limits would represent 6.25% of the reported county population. However, the breeding population of Hobby within the Order limits is of importance at a county level.
- 5.3.4 One probable Lesser-spotted Woodpecker territory was recorded within the survey area and would represent 25% of the county breeding population estimate in Essex (4), as reported by the most recently available report published by the RBBP (Ref 19). The Essex Bird Report for 2019 details no confirmed breeding in Essex but reports of this species at three locations during the breeding season. Lesser-spotted Woodpecker can be a secretive breeding species, however, this species is suffering a national decline in numbers. One Lesser-spotted Woodpecker territory within the survey area, on the periphery of the Order limits is considered important at county level.
- 5.3.5 The number of breeding Tree Sparrow recorded on Order limits is likely to be of county importance, as this species is a recent recoloniser of Essex.
- 5.3.6 No other species recorded in the survey area were recorded in a figure approaching 1% of the county breeding population estimates in Essex. As a result, excluding the species mentioned in this section, the majority of species populations within the Order limits are considered to be of no more than local importance.

## 5.4 Species Diversity

- 5.4.1 To measure species diversity, the breeding assemblage (54) recorded in the survey area was evaluated against the criteria developed by Fuller (Ref 16) with consideration that species diversity has declined significantly since the criteria were developed. The breeding assemblage score of 54 species would regard the value of the whole Scheme area, as being of county importance for breeding birds.
- 5.4.2 In Essex: *“the value of site designation for important bird species and assemblages should be decided using the best available information and expert opinion. Such judgements should be typically based on five-year averages rather than ad hoc sightings or single year peaks that may not*

*represent the general picture*” (Ref 17). These guidelines also state that the criterion for selection of LWS applies to (where relevant to the Scheme):

- 5.4.3 Species Criterion 5 (SC5) – Notable Bird Species: *“Discrete habitat areas known to support significant populations of notable bird species, whether breeding or over-wintering, will be eligible for selection”*; and
- 5.4.4 Species Criterion 6 (SC6) – Exceptional Populations of Common Bird Species: *“Discrete habitat areas that regularly support exceptional breeding, feeding, roosting/resting or over-wintering populations of relatively commonplace species will be considered for selection”*.
- 5.4.5 Evaluation of the breeding species assemblage and numbers recorded during surveys, using professional judgement as described in 3.3.6 and with respect to the criteria for selection of LWS in Essex, indicates that no discrete habitat areas supporting significant populations of notable or common bird species were found within the survey area.
- 5.4.6 This assessment further supports that the survey area is of no more than county importance for breeding birds.

## 5.5 Species Distribution

- 5.5.1 The location of Annex 1 species, Schedule 1 species, Priority species, BoCC Red and Amber-listed bird species, (see **Table 3**) are shown in **Figure 1, Annex A**. In general, concentrations of species were found within the most suitable habitats to support each individual species’ needs (*i.e.* species reliant on waterbodies were found within the Order limits close to water, species that require woodland habitat, were found within woodland habitat within the Order limits, etc).

## 5.6 Evaluation of key habitat types for breeding birds

- 5.6.1 A summary of the broad habitat types present in the survey area and their key ornithological features, are presented in **Table 4**.

**Table 4: Key Ornithological Features of Habitat within the Order limits**

Broad Habitat Type	Key Ornithological Features
<b>Waterbodies (ponds and agricultural reservoirs)</b>	Supports species associated with wetland features, such as Gadwall (and other waterfowl). Also support species associated with wetland margins, including Lapwing.
<b>Arable farmland</b>	The predominant habitat type occurring across the Order limits. Supports a number of notable breeding species of conservation concern.
<b>Scrub / hedgerows</b>	Scrub and hedgerows across the Order limits. Supports breeding species of conservation concern, such as Yellowhammer and Linnet.
<b>Mature trees / woodland</b>	Parcels of woodland and individual trees scattered throughout the Order limits. Supports species such as Lesser-spotted Woodpecker, as well as species often found in scrub / hedgerows.

## 6. Conclusions

6.1.1 The construction of the Scheme, in the absence of avoidance or mitigation, has the potential to affect the breeding bird assemblage recorded within the Order limits boundary. These potential effects include:

- a. Habitat loss and fragmentation;
- b. Displacement and/ or loss of breeding populations;
- c. Increase in noise, causing disturbance; and
- d. Visual disturbance.

6.1.2 A number of measures will be included within the design of the Scheme to mitigate for any potentially significant effects on the breeding bird assemblage recorded within the Order limits boundary.

### *Mitigation for Compliance with Legislation*

6.1.3 It is likely that the construction of the Scheme will be undertaken in a phased approach over many months. Where possible vegetation clearance works will be undertaken outside of the bird breeding season (*i.e.* between September and February) to avoid any additional constraints associated with this activity.

6.1.4 If it is not possible to undertake vegetation clearance outside of the typical bird breeding season (*i.e.* where works have to take place between March and August inclusive), then it will be necessary for a suitably qualified ornithologist, acting as an Ecological Clerk of Works (ECoW), to conduct a survey for nesting birds in advance of planned clearance works. Typically, this survey will be undertaken 24 hours ahead of any planned clearance works.

6.1.5 Should active bird nests be discovered by the ECoW, then appropriate measures will be put in place to ensure that any nest found is not disturbed. There is no licence available to damage or destroy an active nest of a breeding bird at any time of year.

6.1.6 Protective measures, on discovery of an active nest, will involve placing a buffer around the nest within which no works will be undertaken until the nest has been judged, by a suitably qualified ornithologist, to no longer be in use (*i.e.* fledged young have left the nest or the nesting attempt has failed).

6.1.7 The radius of the protective buffer and duration it is imposed will be dependent on the species present and stage of breeding (*i.e.* with eggs, chicks, etc.). For the majority of birds, this buffer could be in place for up to 30 days (on the assumption of a 'new' nest with recently laid eggs).

6.1.8 Where no active nests are identified, vegetation clearance will proceed immediately and will be completed within 24 hours of the inspection.

## 7. References

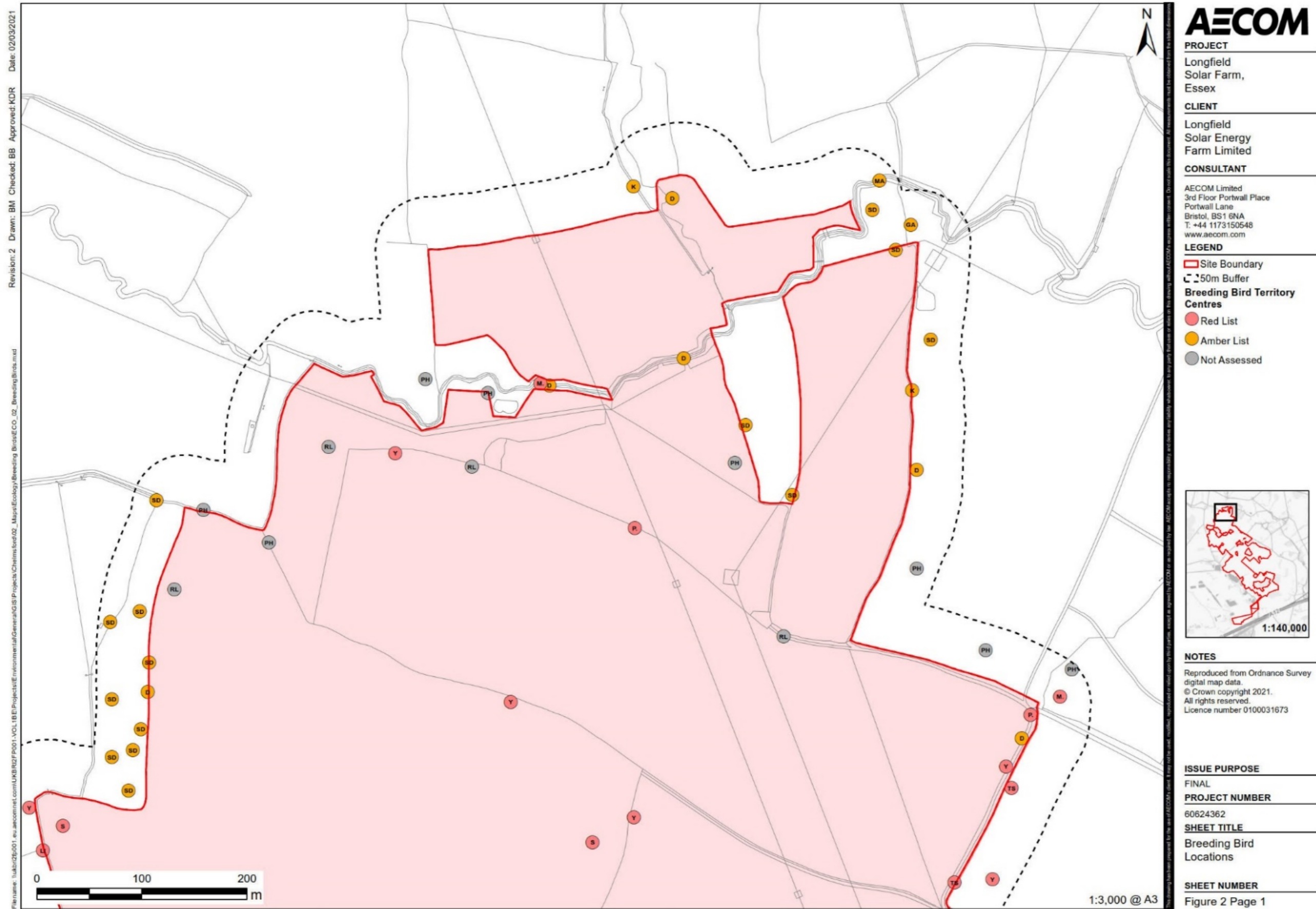
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- Ref 20 Hollings M. and the Rare Breeding Birds Panel (2020) Rare breeding birds in the United Kingdom in 2018. *British Birds*
- Ref 21 Essex Bird Report (2019).

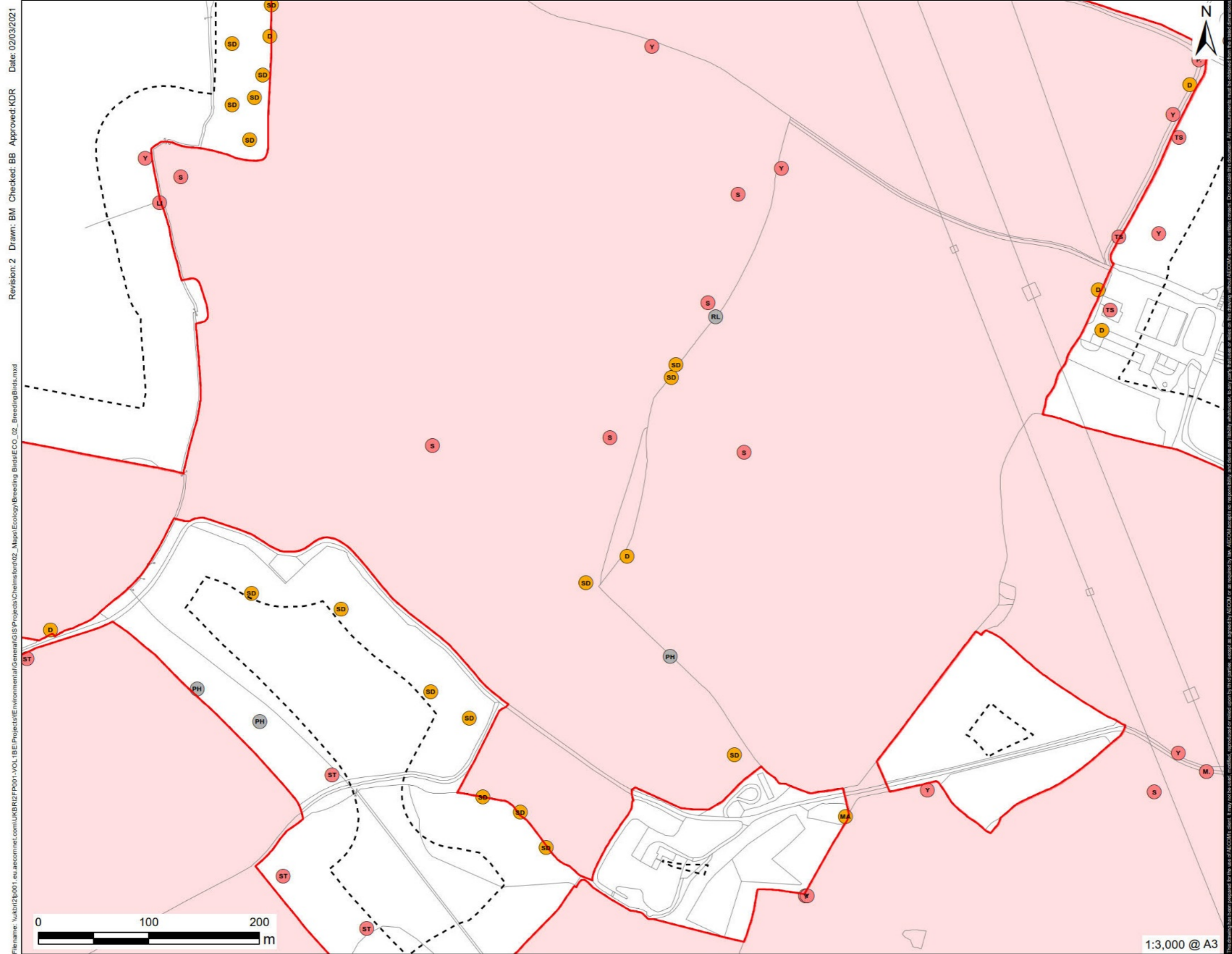
## 8. Annexes

### 8.1 Annex A - Figures

### Figure 1: Breeding Bird Survey Results

(Note: Figure is based on a previous iteration of the site boundary which was valid at the time of writing)





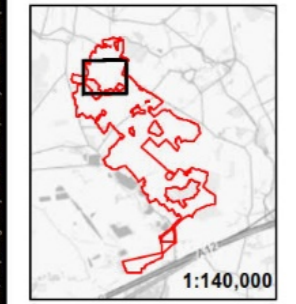
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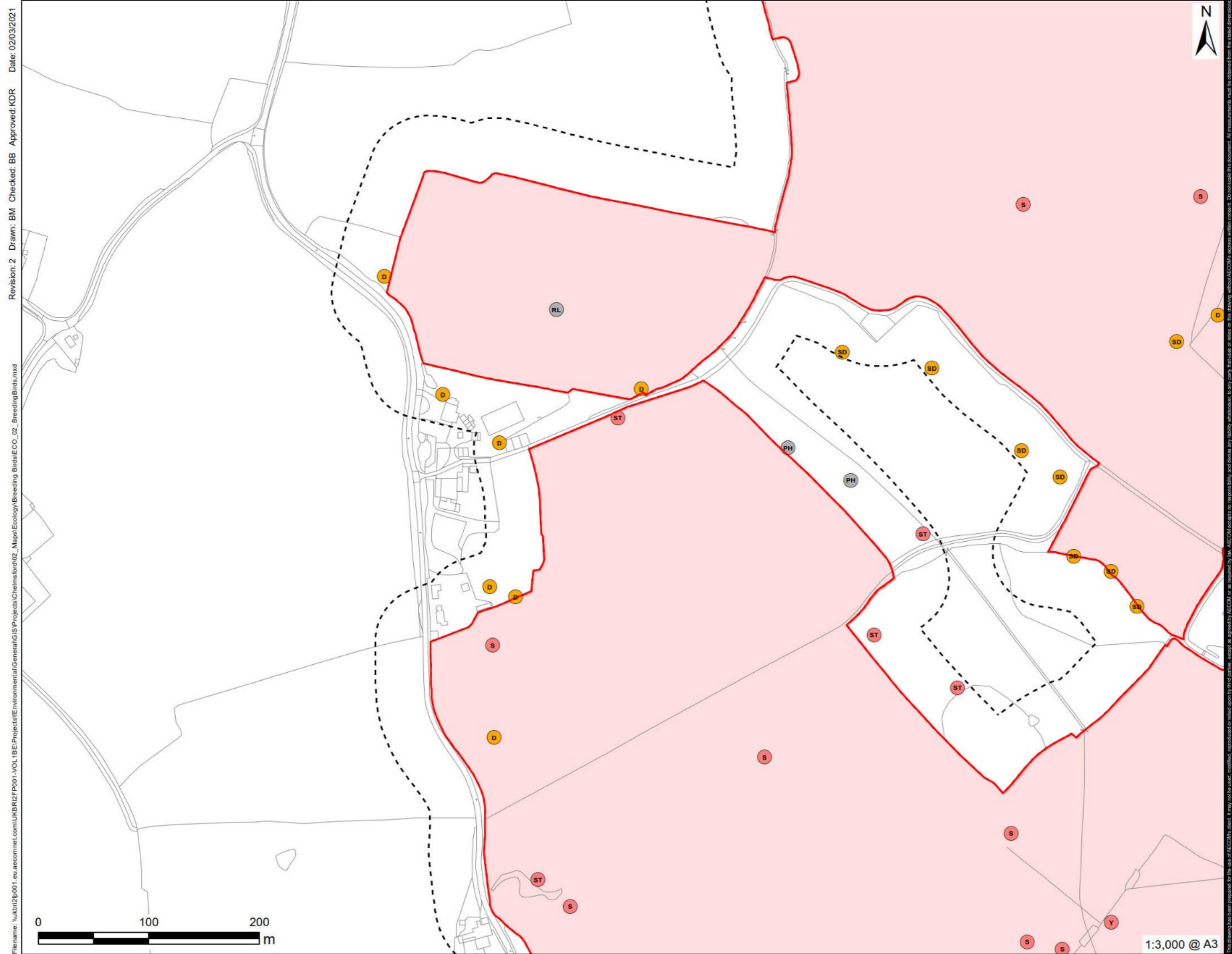
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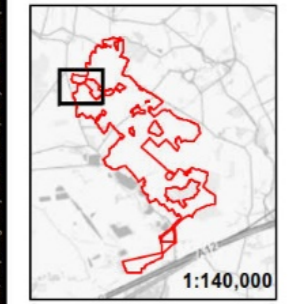
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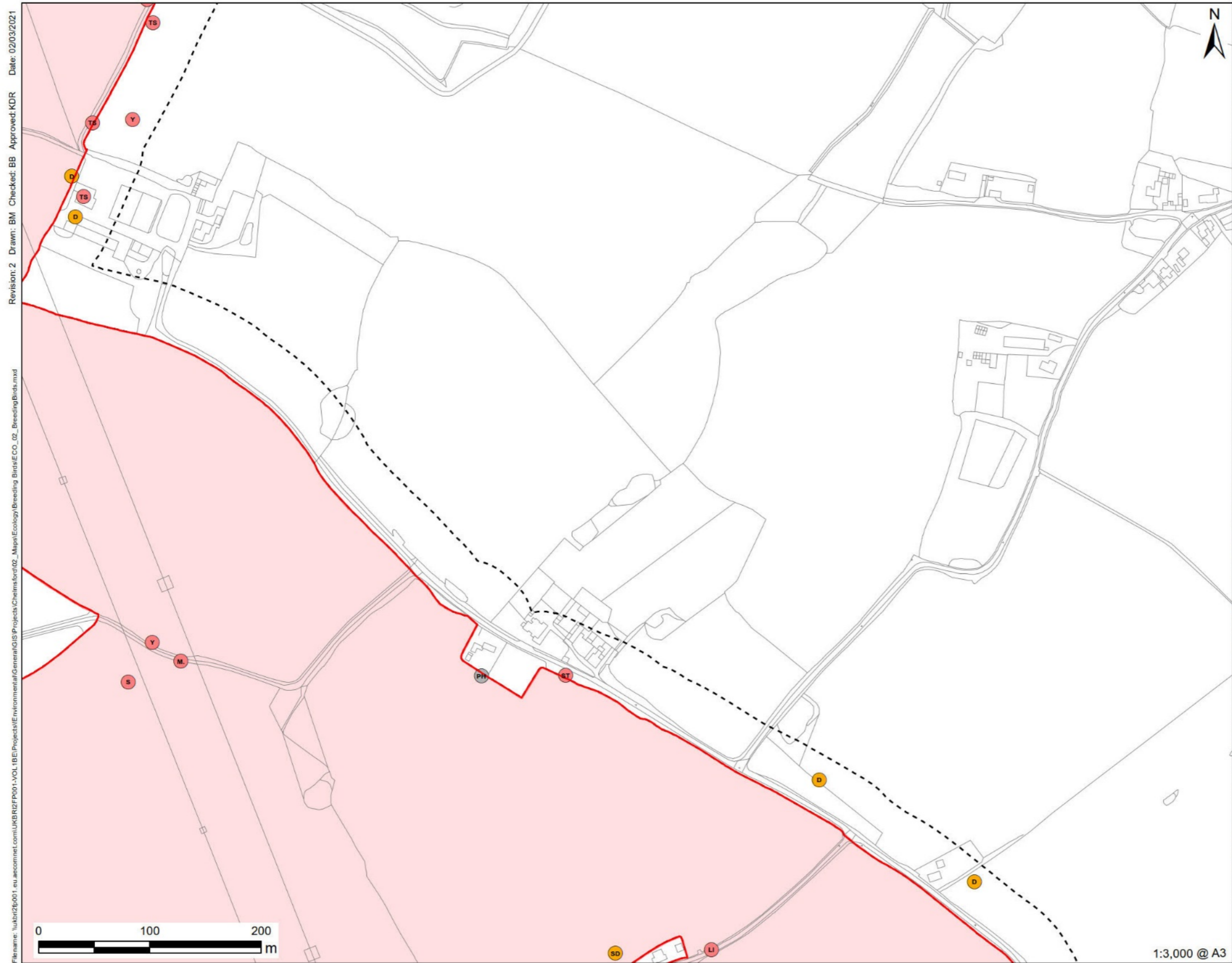
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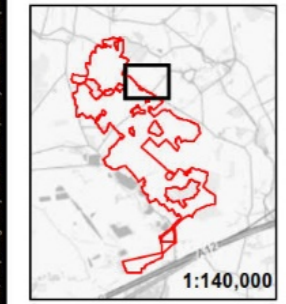
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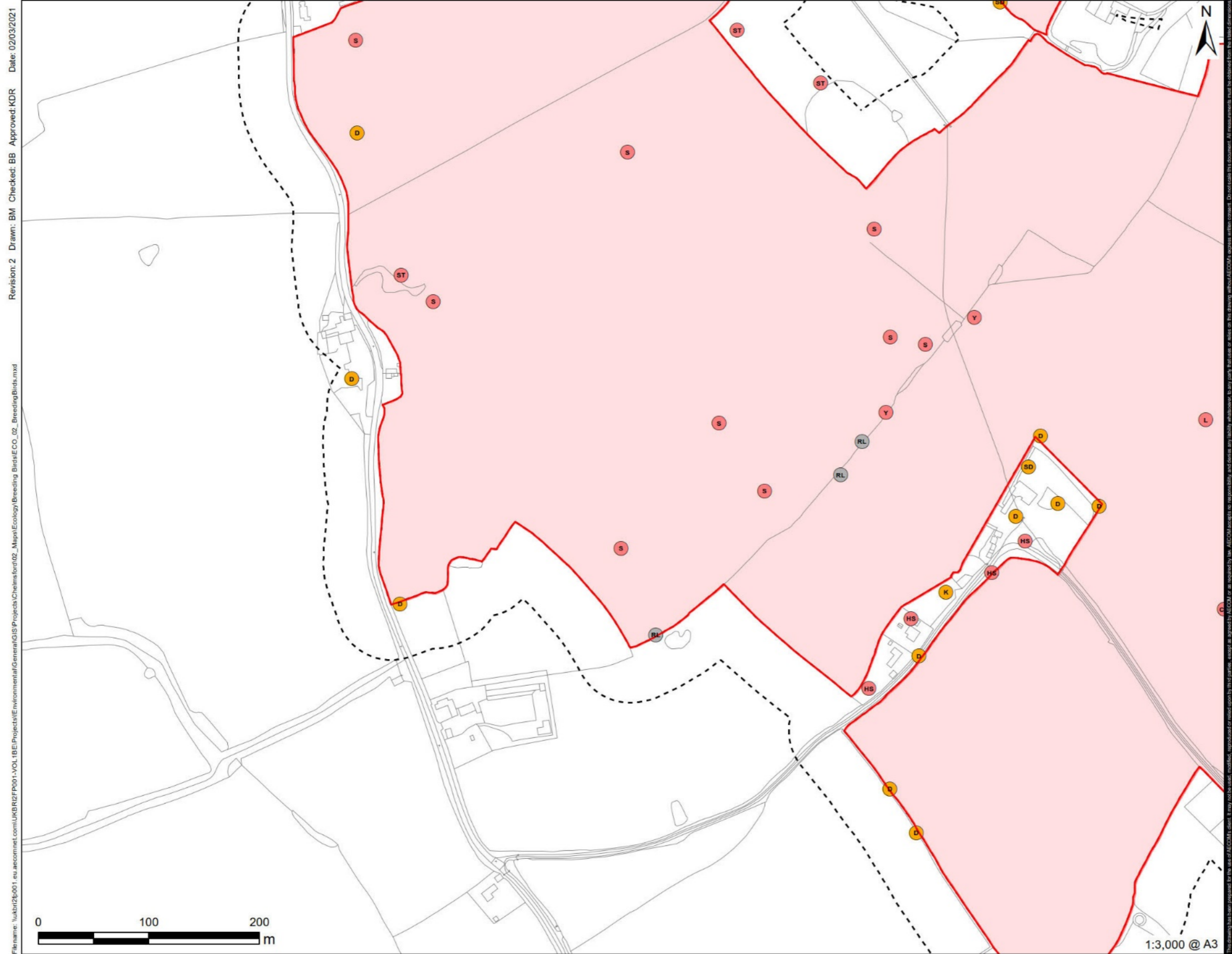
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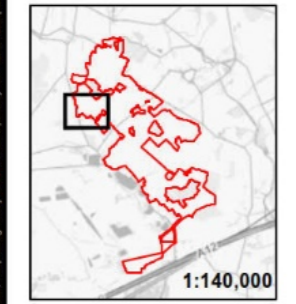
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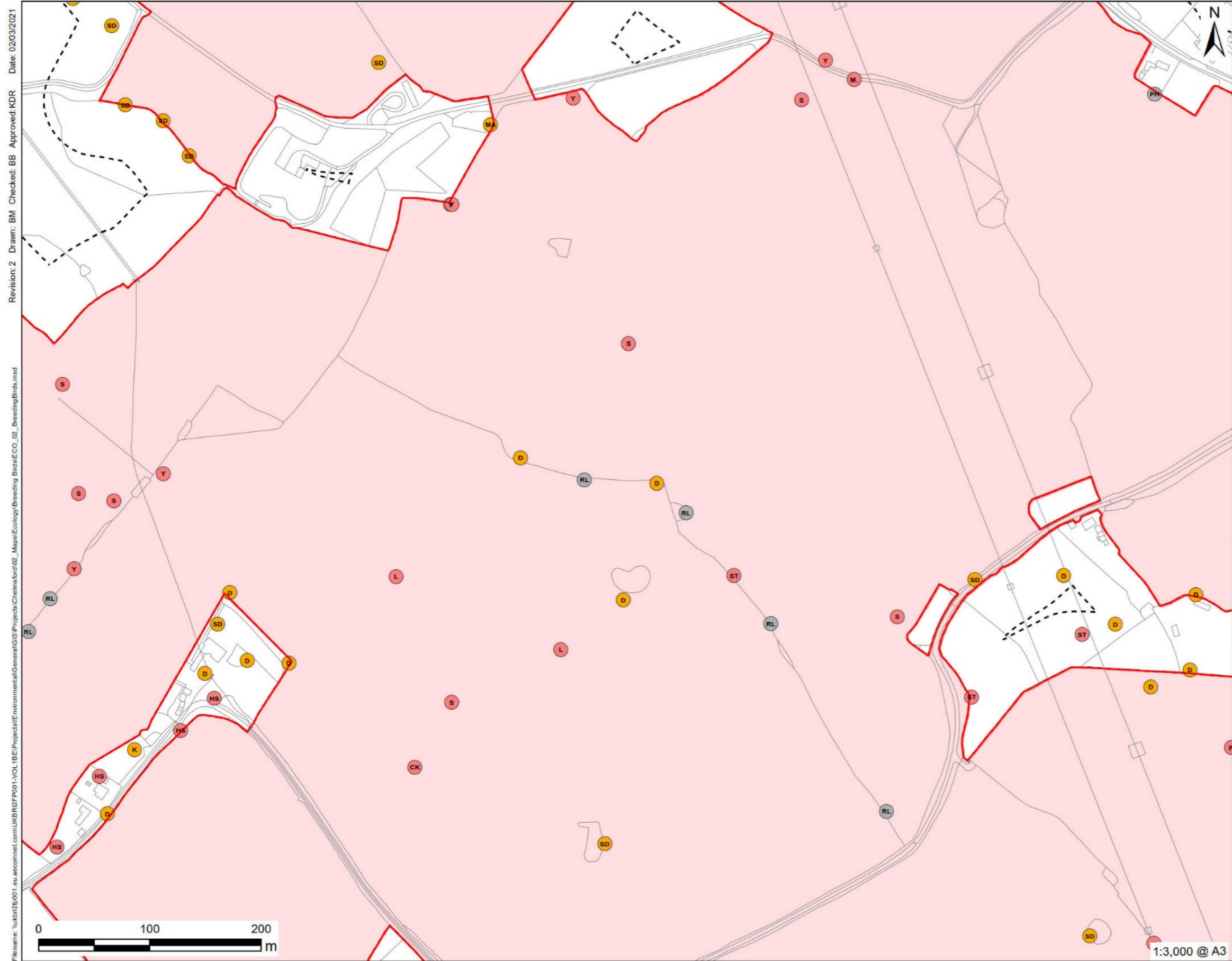
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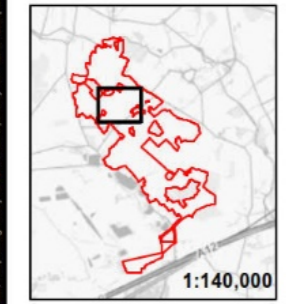
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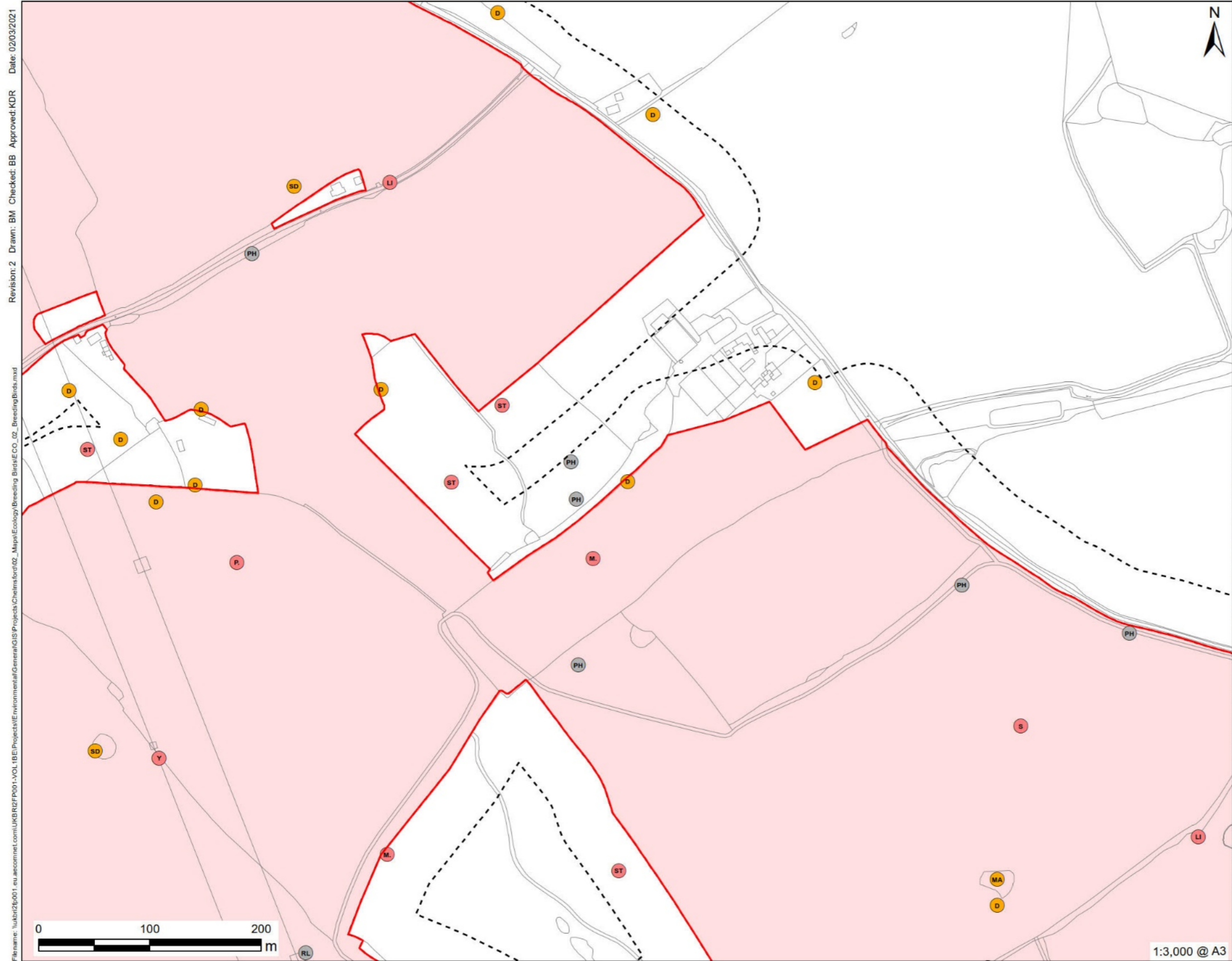
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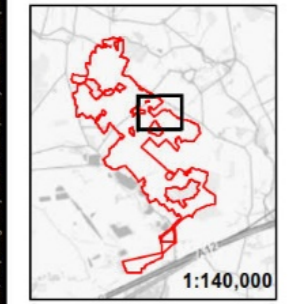
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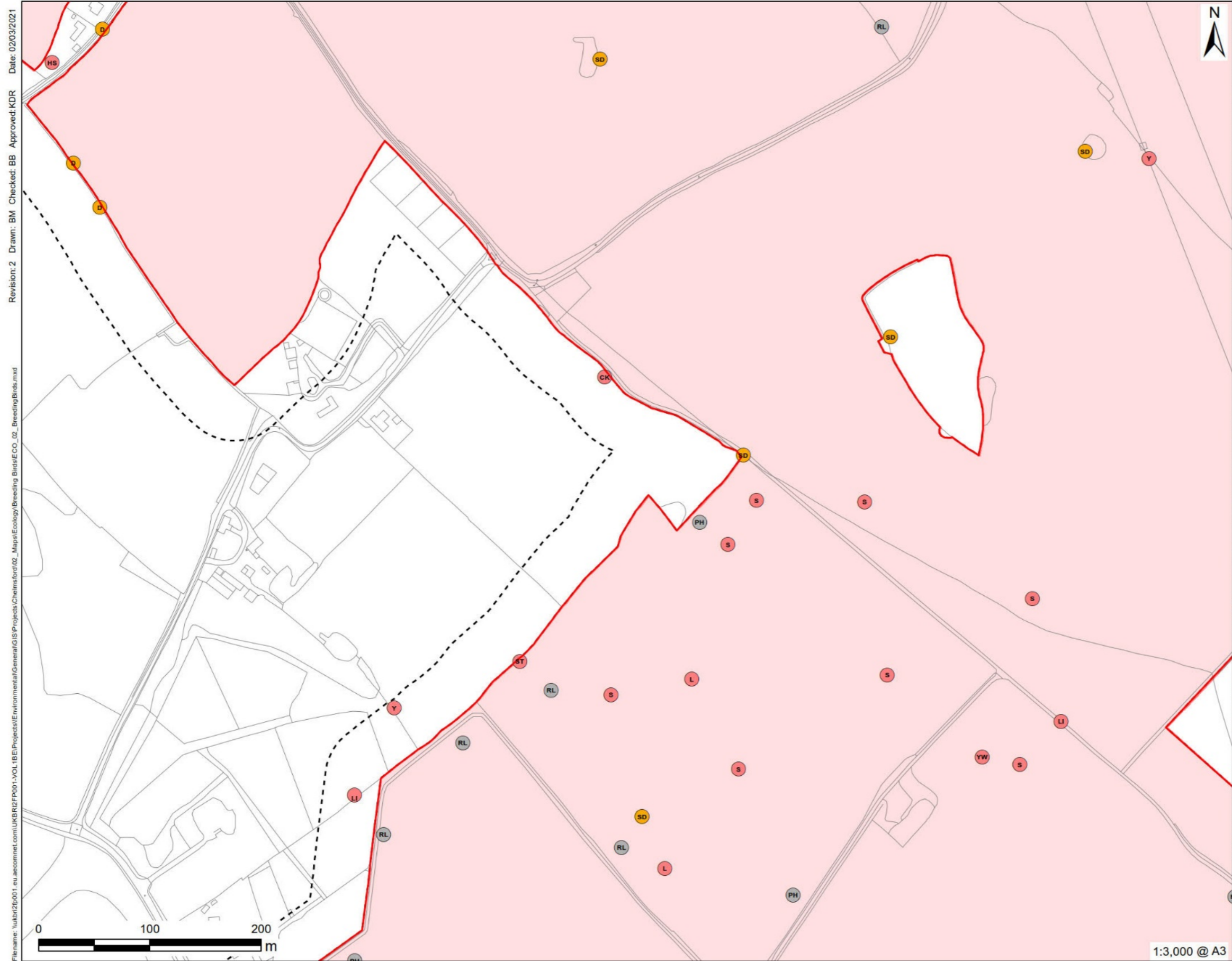
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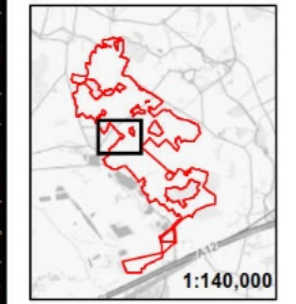
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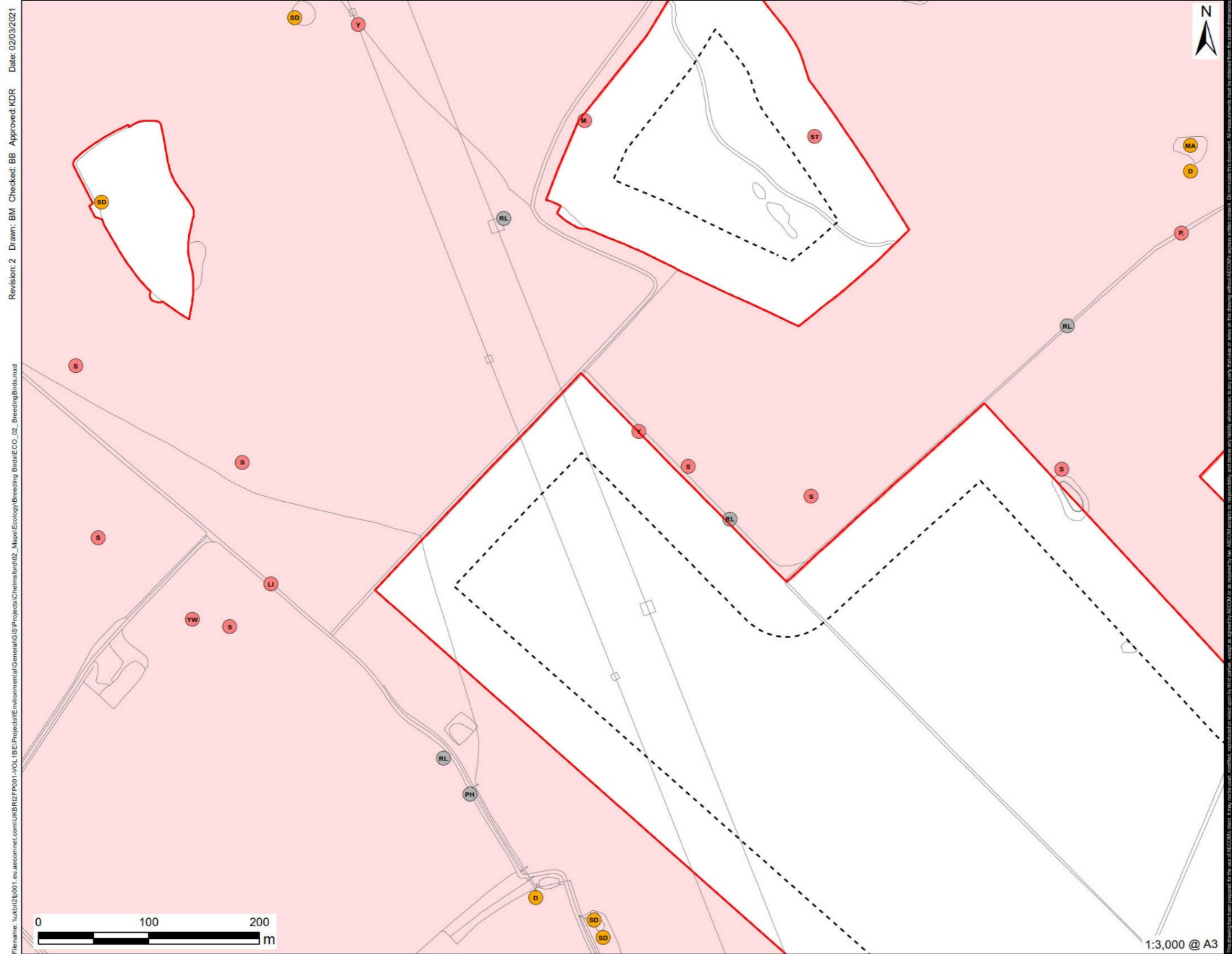
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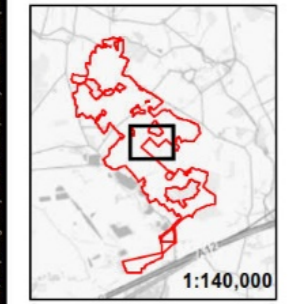
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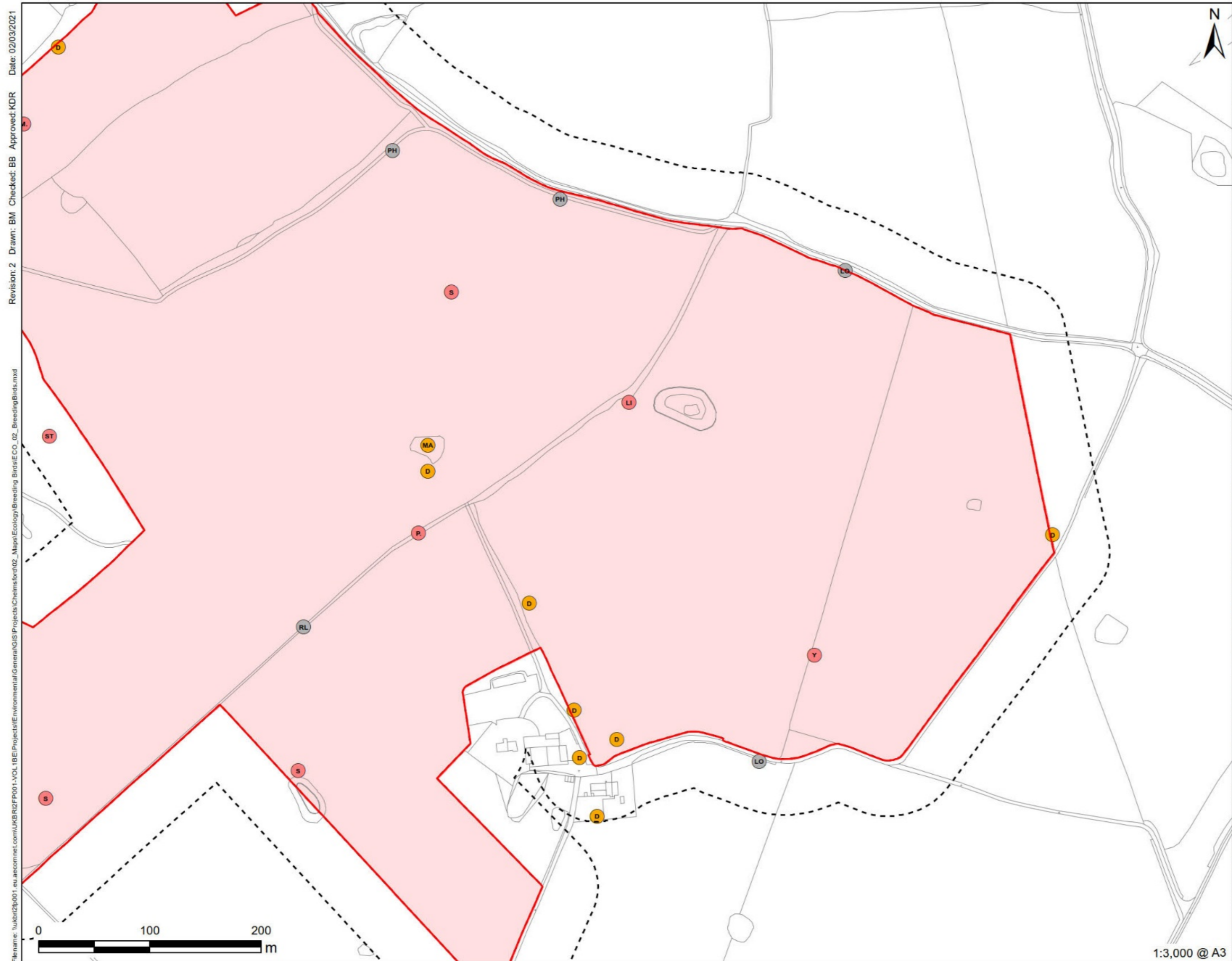
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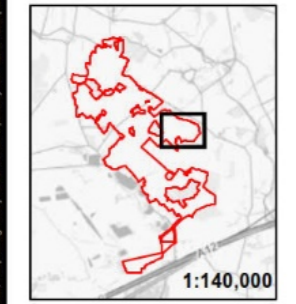
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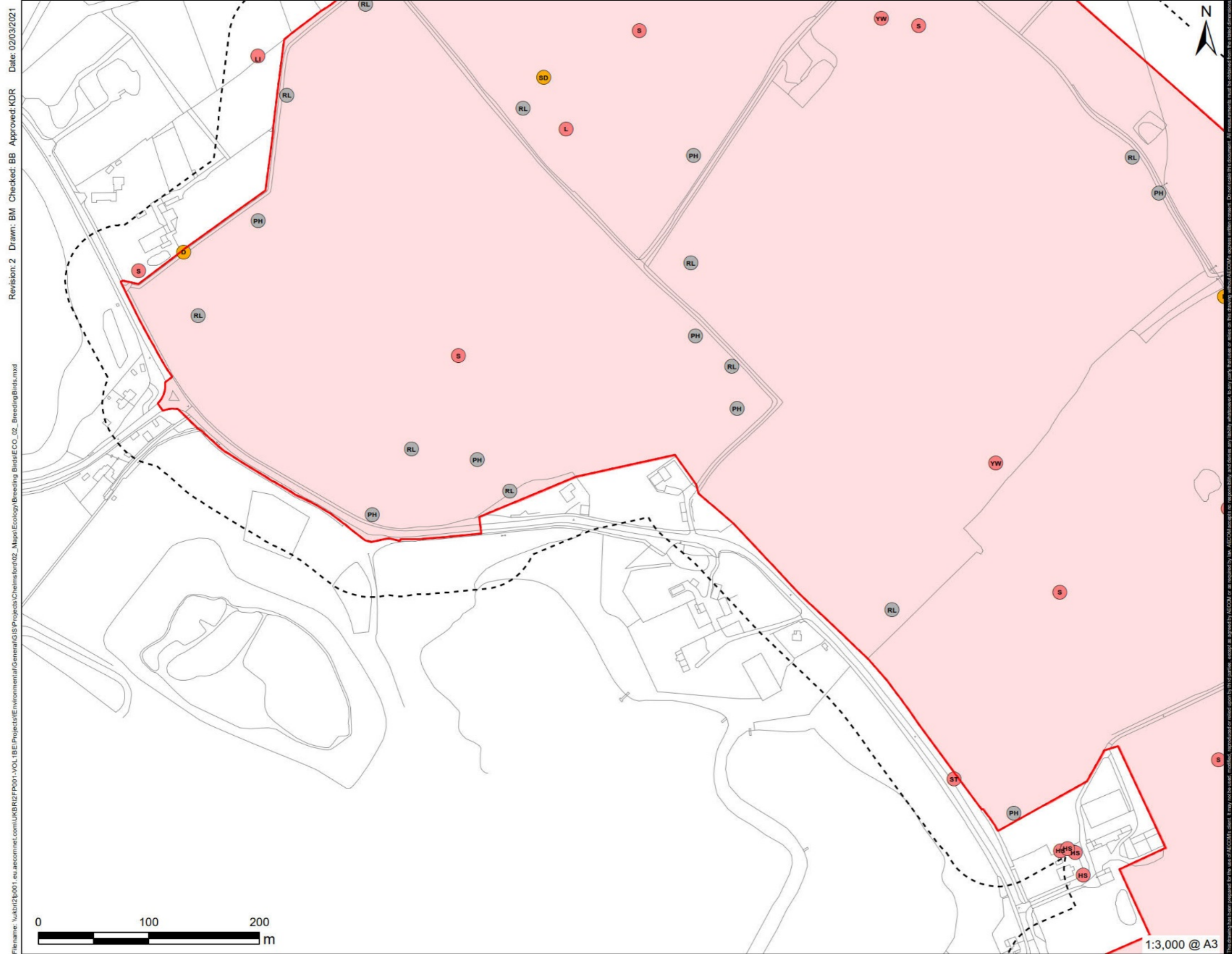
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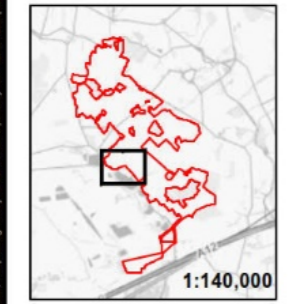
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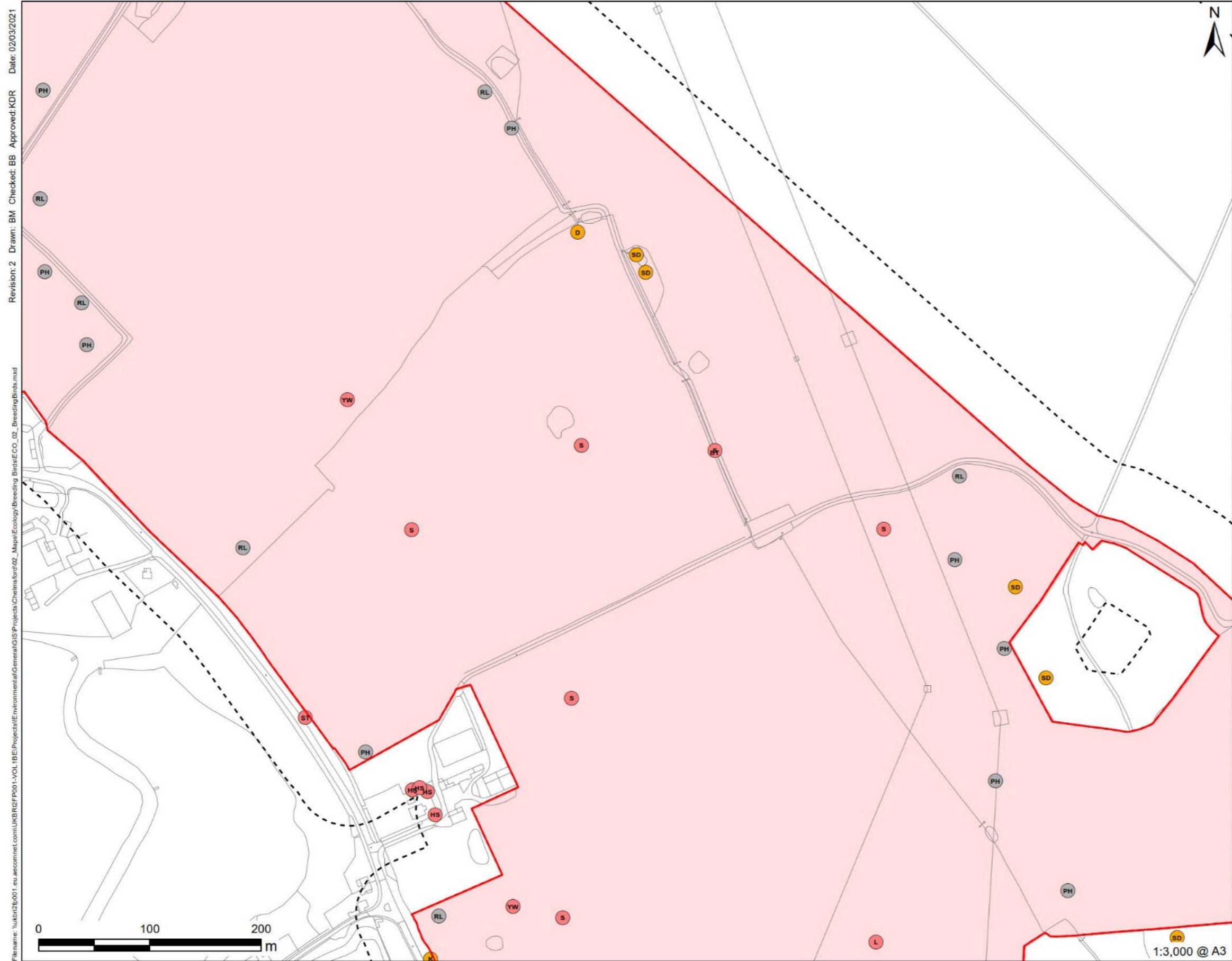
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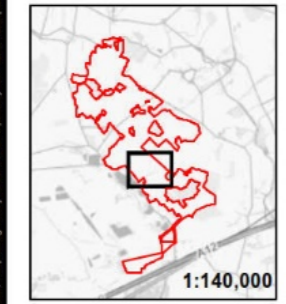
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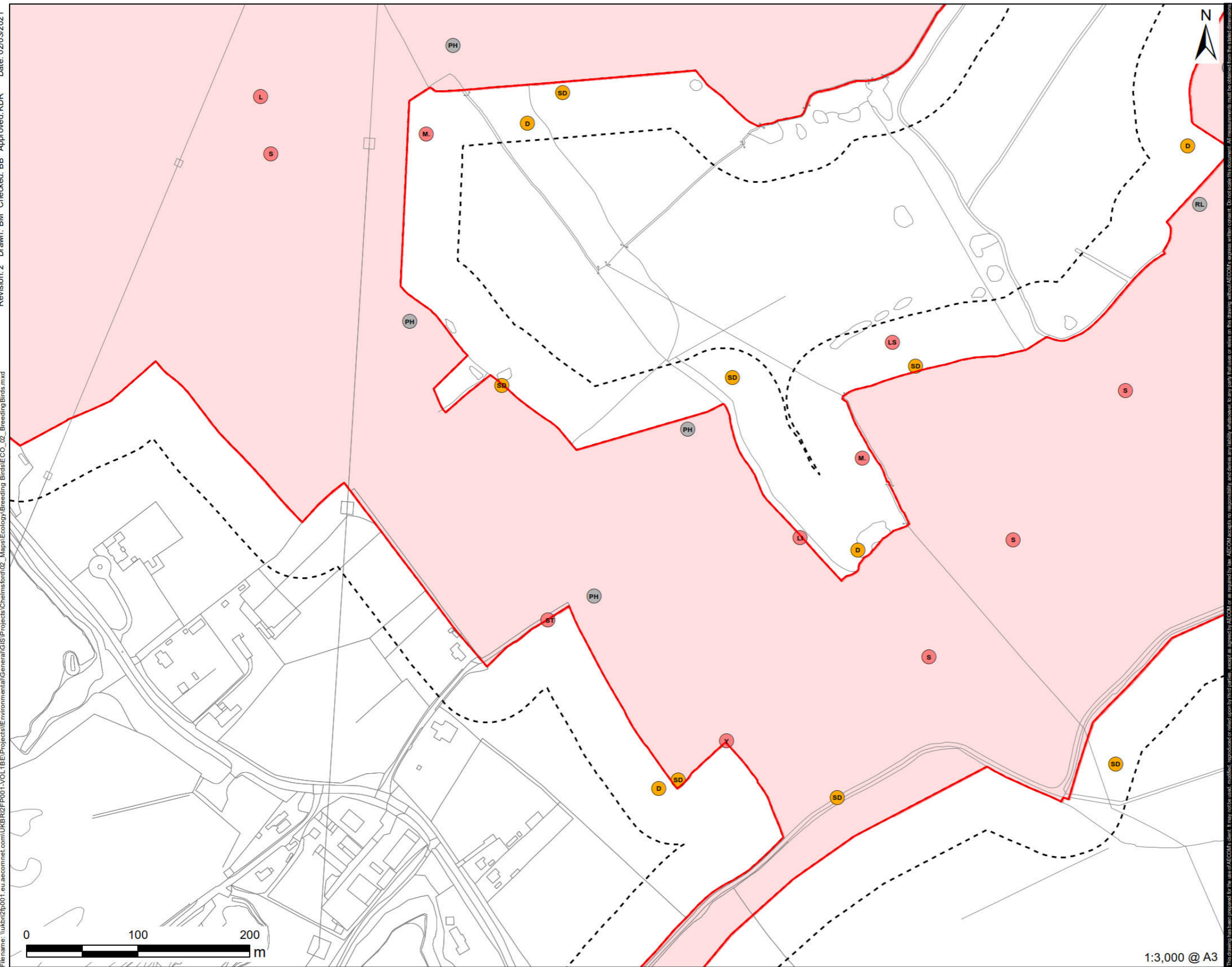
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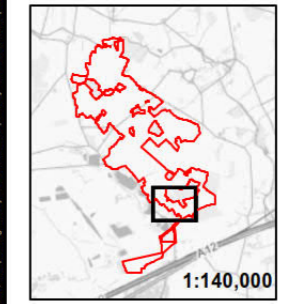
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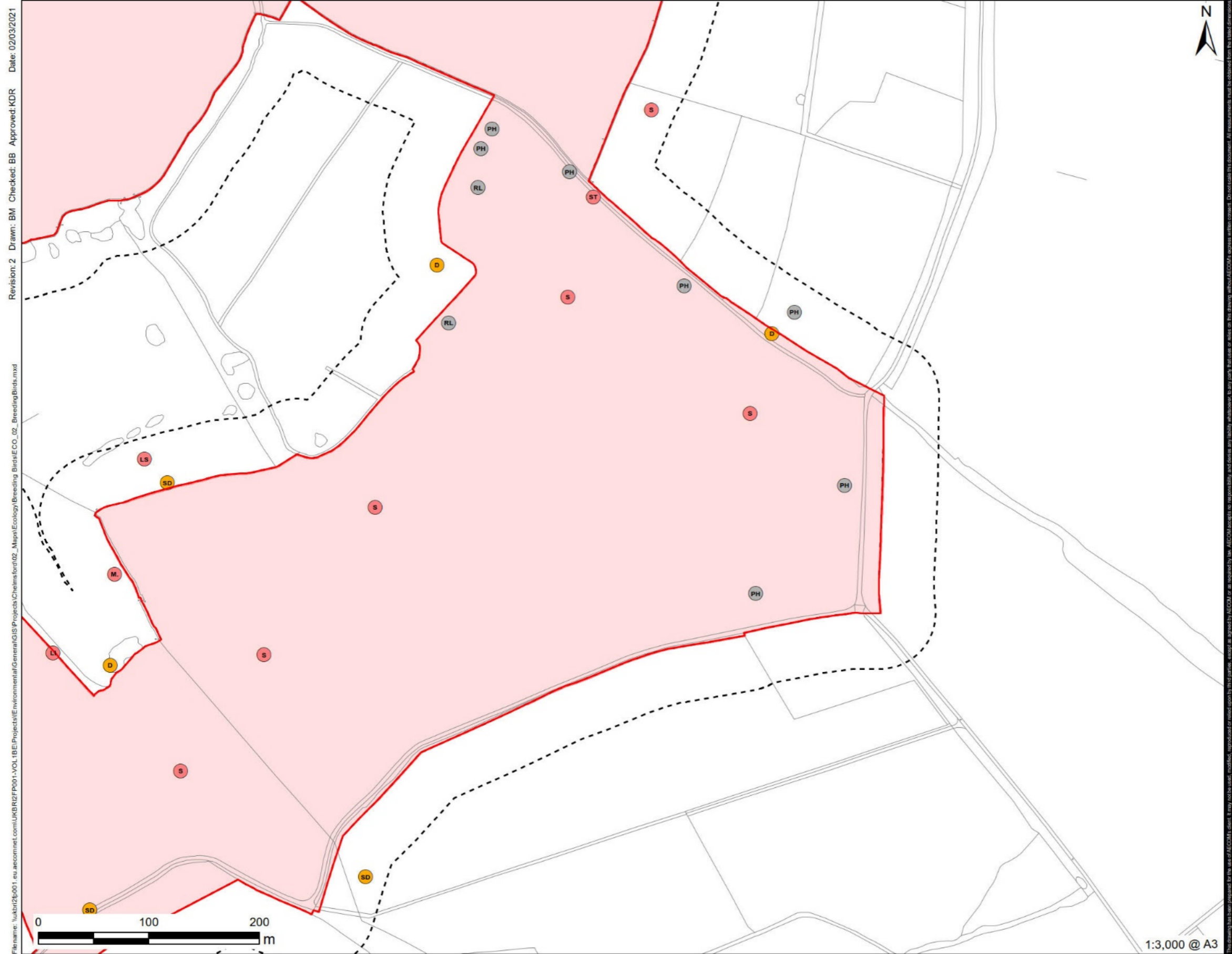
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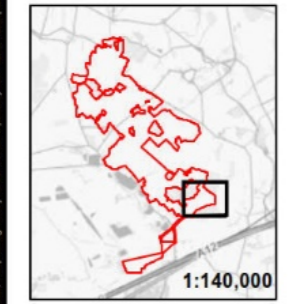
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## 8.2 Annex B – Records of Protected and Notable Species

**Table 5: Records of protected or notable species returned from the Essex Field Club desk study**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Designation</b>
<b>Arctic Tern</b>	<i>Sterna paradisaea</i>	BD1, BAmb
<b>Avocet</b>	<i>Recurvirostra avosetta</i>	BD1, WCA1i, BAmb
<b>Barn Owl</b>	<i>Tyto alba</i>	WCA1i
<b>Bar-tailed Godwit</b>	<i>Limosa lapponica</i>	BD1, BAmb
<b>Bewick's Swan</b>	<i>Cygnus columbianus</i>	BD1, UKBAP, WCA1i, BAmb
<b>Black Redstart</b>	<i>Phoenicurus ochruros</i>	BRed, WCA1i
<b>Black Tern</b>	<i>Chlidonias niger</i>	BD1, WCA1i
<b>Black-tailed Godwit</b>	<i>Limosa limosa</i>	WCA1i, BRed
<b>Brambling</b>	<i>Fringilla montifringilla</i>	WCA1i
<b>Bullfinch</b>	<i>Pyrrhula pyrrhula</i>	Sect.41, UKBAP, BAmb
<b>Cetti's Warbler</b>	<i>Cettia cetti</i>	WCA1i
<b>Common Gull</b>	<i>Larus canus</i>	BAmb
<b>Common Sandpiper</b>	<i>Actitis hypoleucos</i>	BAmb
<b>Common Scoter</b>	<i>Melanitta nigra</i>	Sect.41, UKBAP, WCA1i, BRed
<b>Common Tern</b>	<i>Sterna hirundo</i>	BD1, BAmb
<b>Cuckoo</b>	<i>Cuculus canorus</i>	Sect.41, UKBAP, BRed
<b>Curlew</b>	<i>Numenius arquata</i>	Sect.41, UKBAP, BRed
<b>Dunlin</b>	<i>Calidris alpina</i>	BAmb
<b>Duncock</b>	<i>Prunella modularis</i>	Sect.41, UKBAP, BAmb
<b>Fieldfare</b>	<i>Turdus pilaris</i>	WCA1i, BRed
<b>Gadwall</b>	<i>Anas strepera</i>	BAmb
<b>Garganey</b>	<i>Anas querquedula</i>	WCA1i, BAmb
<b>Golden Plover</b>	<i>Pluvialis apricaria</i>	BD1

<b>Common Name</b>	<b>Scientific Name</b>	<b>Designation</b>
<b>Goldeneye</b>	Bucephala clangula	BAmb
<b>Goshawk</b>	Accipiter gentilis	WCA1i
<b>Great Black-backed Gull</b>	Larus marinus	BAmb
<b>Green Sandpiper</b>	Tringa ochropus	WCA1i, BAmb
<b>Greenshank</b>	Tringa nebularia	WCA1i, BAmb
<b>Grey Partridge</b>	Perdix perdix	Sect.41, UKBAP, EBAP
<b>Grey Wagtail</b>	Motacilla cinerea	BRed
<b>Greylag Goose</b>	Anser anser	BAmb
<b>Hawfinch</b>	Coccothraustes coccothraustes	Sect.41, UKBAP, BRed
<b>Hen Harrier</b>	Circus cyaneus	BD1, Sect.41, WCA1i
<b>Herring Gull</b>	Larus argentatus	BRed
<b>Hobby</b>	Falco subbuteo	WCA1i
<b>Honey-buzzard</b>	Pernis apivorus	BD1, BAmb, WCA1i
<b>House Martin</b>	Delichon urbicum	BAmb
<b>House Sparrow</b>	Passer domesticus	Sect.41, UKBAP, BRed
<b>Kestrel</b>	Falco tinnunculus	BAmb
<b>Kingfisher</b>	Alcedo atthis	BD1, WCA1i
<b>Kittiwake</b>	Rissa tridactyla	BRed
<b>Lapwing</b>	Vanellus vanellus	Sect.41, UKBAP, BRed
<b>Lesser Black-backed Gull</b>	Larus fuscus	BAmb
<b>Little Egret</b>	Egretta garzetta	BD1
<b>Mallard</b>	Anas platyrhynchos	BAmb
<b>Marsh Harrier</b>	Circus aeruginosus	BD1, WCA1i, BAmb
<b>Marsh Tit</b>	Poecile palustris	Sect.41, UKBAP, BRed
<b>Meadow Pipit</b>	Anthus pratensis	BAmb

<b>Common Name</b>	<b>Scientific Name</b>	<b>Designation</b>
<b>Mediterranean Gull</b>	Ichthyaetus melanocephalus	BD1, WCA1i, BAmb
<b>Merlin</b>	Falco columbarius	BD1, WCA1i, BRed
<b>Mistle Thrush</b>	Turdus viscivorus	BRed
<b>Mute Swan</b>	Cygnus olor	BAmb
<b>Nightingale</b>	Luscinia megarhynchos	BRed
<b>Northern Shoveler</b>	Anas clypeata	BAmb
<b>Osprey</b>	Pandion haliaetus	BD1, WCA1i
<b>Oystercatcher</b>	Haematopus ostralegus	BAmb
<b>Peregrine</b>	Falco peregrinus	BD1, WCA1i
<b>Pintail</b>	Anas acuta	BAmb
<b>Pochard</b>	Aythya ferina	BRed
<b>Red Kite</b>	Milvus milvus	BD1, WCA1i
<b>Redshank</b>	Tringa totanus	BAmb
<b>Redstart</b>	Phoenicurus phoenicurus	BAmb
<b>Redwing</b>	Turdus iliacus	WCA1i, BRed
<b>Reed Bunting</b>	Emberiza schoeniclus	Sect.41, UKBAP, BAmb
<b>Ringed Plover</b>	Charadrius hiaticula	BRed
<b>Ruddy Shelduck</b>	Tadorna ferruginea	BD1
<b>Sandwich Tern</b>	Thalasseus sandvicensis	BD1, BAmb
<b>Shelduck</b>	Tadorna tadorna	BAmb
<b>Short-eared Owl</b>	Asio flammeus	BD1, BAmb
<b>Skylark</b>	Alauda arvensis	Sect.41, UKBAP, BRed, EBAP
<b>Snipe</b>	Gallinago gallinago	BAmb
<b>Song Thrush</b>	Turdus philomelos	Sect.41, UKBAP, BRed, EBAP
<b>Spotted Flycatcher</b>	Muscicapa striata	Sect.41, UKBAP, BRed
<b>Spotted Redshank</b>	Tringa erythropus	BAmb

<b>Common Name</b>	<b>Scientific Name</b>	<b>Designation</b>
<b>Starling</b>	<i>Sturnus vulgaris</i>	Sect.41, UKBAP, Bred
<b>Stock Dove</b>	<i>Columba oenas</i>	BAmb
<b>Stone-curlew</b>	<i>Burhinus oedicephalus</i>	BD1, Sect.41, UKBAP, WCA1i, BAmb, EBAP
<b>Swift</b>	<i>Apus apus</i>	CPASI, BAmb
<b>Tawny Owl</b>	<i>Strix aluco</i>	BAmb
<b>Teal</b>	<i>Anas crecca</i>	BAmb
<b>Tree Pipit</b>	<i>Anthus trivialis</i>	Sect.41, UKBAP, BRed
<b>Turtle Dove</b>	<i>Streptopelia turtur</i>	Sect.41, UKBAP, BRed
<b>Water Pipit</b>	<i>Anthus spinoletta</i>	BAmb
<b>Whimbrel</b>	<i>Numenius phaeopus</i>	WCA1i, BRed
<b>Whinchat</b>	<i>Saxicola rubetra</i>	BRed
<b>White-fronted Goose</b>	<i>Anser albifrons</i>	Sect.41, UKBAP, BRed
<b>Whooper Swan</b>	<i>Cygnus cygnus</i>	BD1, WCA1i, BAmb
<b>Wigeon</b>	<i>Anas penelope</i>	BAmb
<b>Willow Warbler</b>	<i>Phylloscopus trochilus</i>	BAmb
<b>Wood Sandpiper</b>	<i>Tringa glareola</i>	BD1, WCA1i, BAmb
<b>Wood Warbler</b>	<i>Phylloscopus sibilatrix</i>	Sect.41, UKBAP, BRed
<b>Woodcock</b>	<i>Scolopax rusticola</i>	BRed
<b>Yellow Wagtail</b>	<i>Motacilla flava</i>	Sect.41, UKBAP, BRed
<b>Yellowhammer</b>	<i>Emberiza citrinella</i>	Sect.41, UKBAP, BRed
<b>Yellow-legged Gull</b>	<i>Larus michahellis</i>	BAmb

**Key: BD1 - Annex 1 of the EU Birds Directive; WCA1i - Schedule 1 of the Wildlife and Countryside Act, 1981; Sect.41, UKBAP – a priority species on the UK Biodiversity Action Plan; BRed - Birds of Conservation Concern Red List; and BAmb - Birds of Conservation Concern Amber List.**



