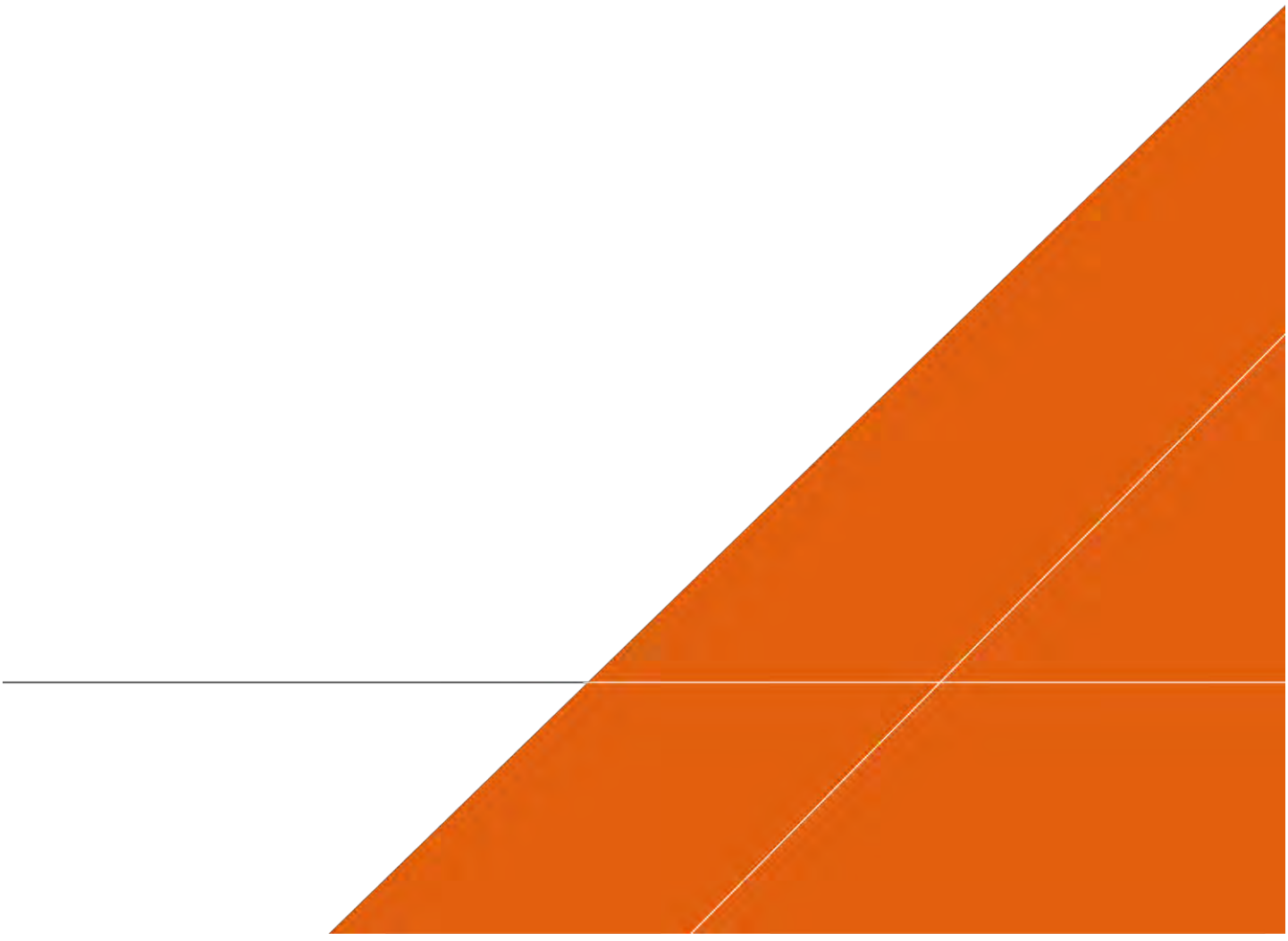
OTTERPOOL PARK

Environmental Statement (ES) Appendix 7.15: Breeding Bird and Barn Owl Survey Report – Update to include 2020 and 2021 Survey Data

MARCH 2022



CONTENTS

TABLES

FIGURES

APPENDICES

APPENDIX A : BREEDING BIRD SURVEY VISIT META DATA

APPENDIX B : BREEDING BIRD SURVEY VISIT TOTAL OF ALL BIRDS RECORDED PER SURVEY 'VISIT'

APPENDIX C : BARN OWL BUILDING INSPECTION SURVEY RESULTS

APPENDIX D : BTO SPECIES CODES UTILISED IN THE MAPPING

APPENDIX E : PEN PORTRAITS OF SURVEYORS

Executive Summary

Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake breeding bird surveys to inform an Environmental Impact Assessment (EIA) for the proposed Development and accompany an amended 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. 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 area encompasses the proposed Otterpool Park Area Development application site which is 589 ha.

This report presents the results of habitat assessments conducted in 2016, 2018, 2019, 2020 and 2021 and breeding bird surveys undertaken by Arcadis during the 2017 breeding season, with additional visits in April 2020 and April 2021. Barn owl suitability surveys took place in 2017 and 2018 with update surveys carried out in 2021.

The surveys conducted for breeding birds and barn owl were conducted to inform the Framework Masterplan design in order to:

- Inform design so that impacts to birds could be minimised;
- Inform the requirement for habitats and features specifically required for birds to be incorporated within the Framework Masterplan; and
- Allow suitable buffer areas to be identified within the Framework Masterplan .

In addition, the surveys were conducted to inform the EIA (Environmental Impact Assessment) for the project. The surveys were designed to:

- Allow the value of the bird assemblage on site and associated with the site to be assessed;
- Determine the requirement for mitigation to be specified with the EIA;
- Determine the likely impact upon the bird assemblage and population (once the mitigation proposed is applied);
- Determine the likelihood of the site being associated as 'functionally linked land' with designated sites; and
- Calculate any requirement for off-site mitigation / offsetting.

As would be expected with a heterogeneous site of this nature, activity levels varied across the site, dependent upon the habitats present and the species which utilise these habitats. The first survey undertaken in March 2017 was typical of a wintering assemblage, the results are presented here but omitted from overall analysis, they were incorporated into the wintering bird report for analysis and discussion. Overall, the following qualitative observations were made:

- A high density of birds was recorded in the north-east of the site: the surrounds of Folkestone Racecourse Lake. This is likely due to the variety of habitats present in this area, including grassland, hedgerows, urban areas, ponds and scrub/trees;
- The woodlands to the west of the site, namely Harringe Brooks Wood (immediately adjacent to the site) and Park Wood (in the west of the site), had a high number of records, both within the woods and foraging adjacent to the woods;

- Along the East Stour River corridor, a significant number of birds were recorded, including some more notable species such as kingfisher. This area is likely to be of value because of the variety of feeding resources available, and the nesting opportunities offered by the dese habitats along the river corridor; and
- The records returned from within the arable and pastureland within the site were variable, with significant groups of farmland birds being recorded on some occasions, and low numbers being recorded within other surveys.

In total 85 bird species were recorded during the 2017 field surveys. Of these 85, 31 are considered notable.

The assemblage was typical of the habitats present within the site, with a few exceptions. It was noted that the incidental breeding record of black redstart was unusual as this species is usually associated with less vegetated areas within its limited UK range, particularly large urban developments with large areas of bare earth adjacent to water. Black redstart were confirmed to be breeding on site, but is unlikely to be a significant constraint to the Framework Masterplan or the development (as this species is urban adapted and can be accommodated within a mixed use development as proposed).

An assemblage of 'farmland'; bird species was recorded. Of the 'farmland bird assemblage' species list species identified, all were confirmed, probably or possibly breeding species within the site. In total during the surveys, 3264 'farmland birds' were recorded, with an average number of records of 466 birds per survey recorded. This is a recorded average of less than 1 bird per hectare of survey area, per survey. In addition, it was noted that the number of each farmland bird species recorded during the surveys differed greatly between surveys. This suggests that the species recorded utilise a larger area which includes the site. For example, goldfinch numbers recorded varied between 8 and 49, linnet between 1 and 47, starling between 11 and 412 and yellowhammer between 13 and 95.

An additional survey was undertaken in April 2020, to update the validity of the survey. This recorded 52 species, of which 17 were notable with three species (cuckoo, nightingale and sedge warbler) that had not been recorded in the previous surveys, bringing the total number of recorded species during all surveys to 88.

The habitat assessment conducted in 2019 identified no significant changes likely to greatly impact upon the populations of birds supported by the site (when compared to the 2017 assessments). This was supported by the results of the surveys, which did not identify any significant changes in the bird assemblage of the site. Of the newly recorded species in 2020, only cuckoo and nightingale were notable, but were both only single individuals.

The peak counts of three species were greater than the peaks recorded in 2017. Of these, only reed bunting and tawny owl were notable, but peak counts only increased by 1. None of the peak counts of any of the other species recorded was greater that the peak recorded in 2017.

Surveys undertaken in April 2021 recorded a total of 58 species, of which 25 were notable with two species (raven and wheatear) that had not been recorded in previous surveys, bring the total number of recorded species during all surveys to 90.

The 2021 surveys did not identify any significant changes in the bird assemblage. Wheatear, a newly recorded species in 2021, is a notable species, however, only a single individual was recorded. One notable species, greylag goose, had a peak count greater than 2017 peak counts. The peak count in this instance increased by five.

Overall, the results of the 2021 surveys resulted in the conclusion that:

- No further breeding bird surveys are required to inform a resubmission of the Environmental Statement (ES);

- The valuations utilised in the 2018 submission are considered to be valid, with no evidence of any species or groups increasing in value.

In line with the mitigation hierarchy, the Framework Masterplan has been designed to minimise impacts to breeding birds. In addition, it is proposed that offsite mitigation is conducted to mitigate for the remaining adverse effect on farmland birds, by funding habitat improvements. Funds would be provided to enhance local habitats for farmland birds through appropriate, proven management regimes to increase the carrying capacity of local habitats. It is considered that such enhancement measures would mitigate for the loss of habitat for farmland birds as a result of the proposed development. The payments are based on HLS (Higher Land Stewardship) / ELMS (Environmental Land Management Schemes) options.

In addition, enhancements within built parcels and operational mitigation will be employed to reduce impacts to breeding birds.

1 INTRODUCTION

1.1 Overview

1.1.1 Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake breeding bird surveys to inform an Environmental Impact Assessment (EIA) for the proposed new 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".

1.2 Site Location & 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. 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.

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 some 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 OSGR TR 111 363.

1.2.3 An aerial image illustrating the site surveyed is presented in Image 1.

Image 1: Aerial imagery of the site

1.3 Proposed Development

1.3.1 The proposed Otterpool Park Area Development is located on approximately 589 ha of land 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 use Class E, F, B2, C1, Sui Generis development, including use of retained buildings, with related highways, green and blue infrastructure (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 Overview of UK Bird Biology

1.4.1 It is estimated that 247 bird species are regularly recorded within the UK and these species are assessed within the BoCC (Birds of Conservation Concern) surveys and assessments. However, the lifecycles, resource requirements and biology of these species varies greatly, and these species can be split into four broad categories:

- Resident birds, which spend the entire year within the UK;
- Summer visitors who usually breed within the UK;
- Winter visitors, who breed elsewhere and migrate to the UK for winter;
- Passage migrants, which visit at certain times of year, particularly, spring and autumn.

1.4.2 However, it must be noted that the assemblage of birds within areas of the UK varies, dependent upon the habitats present and climate.

1.4.3 In addition, the habitats utilised by different bird species vary greatly, dependent upon the breeding habits, feeding resources utilised and lifecycle of each species. Considering the habitats present within the site, the key bird groups which were considered and surveyed to inform the development were:

- Breeding farmland birds;
- Breeding woodland birds;
- Breeding birds associated with the riparian and other aquatic areas of the site;
- Wintering birds foraging on the farmland and present within the woodland; and
- Wintering birds associated with the aquatic features on the site.

1.4.4 For details of the wintering bird surveys conducted on the site, please refer to ES Appendix 7.16.

1.5 Applicable Bird Legislation

1.5.1 The following legislation is concerning bird species is relevant to this breeding bird baseline:

1.5.2 In the UK, all wild bird species and their eggs are protected when nesting by law under Section 1 of the Wildlife and Countryside Act (WCA) 1981 (as amended) (HMSO 1981). In addition, there are several pieces of legislation or policy which afford certain species extra legal protection, or emphasise their conservation importance, as outlined below:

- Species that have additional protections when breeding under Schedule 1 Part 1 of the WCA.
- Species of Principal Importance listed under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act (HMSO 2006)

1.6 Conservation Status

General Bird Conservation

1.6.1 It is difficult to place an overall trend on bird conservation status, as the large number of species within the UK each have varying requirements and whilst some are adversely impacted by changes in management, development and climate change, others benefit. However, reviewing the overall status of the UK's birds can be achieved by reviewing the BoCC list relevant to the date that the surveys were undertaken gives an indication of the status of birds known to be resident in the UK (Eaton *et al* 2015).

1.6.2 Species that are of high nature conservation concern, listed as 'Red-List' and 'Amber-list' on the Royal Society for the Protection of Birds (RSPB) list of Birds of Conservation Concern (BoCC). This non-legislative system was derived from the review of the population status of bird species that are regularly found breeding within the United Kingdom, using data from national monitoring schemes by the leading governmental and non-governmental conservation organisations in the UK. A brief outline of the traffic light criteria (Red , Aber, Green) is given below in Table 1.

Table 1: Outline of BoCC traffic light criteria

Criteria	Status
Red	Globally threatened Historical population decline in UK during 1800–1995 Rapid (> or =50%) decline in UK breeding population over last 25 years Rapid (> or =50%) contraction of UK breeding range over last 25 years
Amber	Moderate (25-49%) decline in UK breeding population over last 25 years Moderate (25-49%) contraction of UK breeding range over last 25 years Moderate (25-49%) decline in UK non-breeding population over last 25 years Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern) Five-year mean of 1–300 breeding pairs in UK > or =50% of UK breeding population in 10 or fewer sites, but not rare breeders > or =50% of UK non-breeding population in 10 or fewer sites > or =20% of European breeding population in UK > or =20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding populations in UK
Green	No identified threat to the population's status

1.6.3 In 2015, of the 247 species considered, 67 species were on the red list, 96 were on the amber list and were on the green list (for an explanation of the categories refer to Table 1). Overall, although there was an increase of birds species on the 'green list', there was also an increase in species on the 'red list' (an increase of 15 species since 2009). This is indicative of an overall negative trend in the status of bird populations overall in the UK. This trend appears to be a continuous trend since the first survey was conducted in 1996. This is presented in Image 2 below, which shows the proportion of the UK bird species listed in each of the BoCC categories since surveys began in 1996.

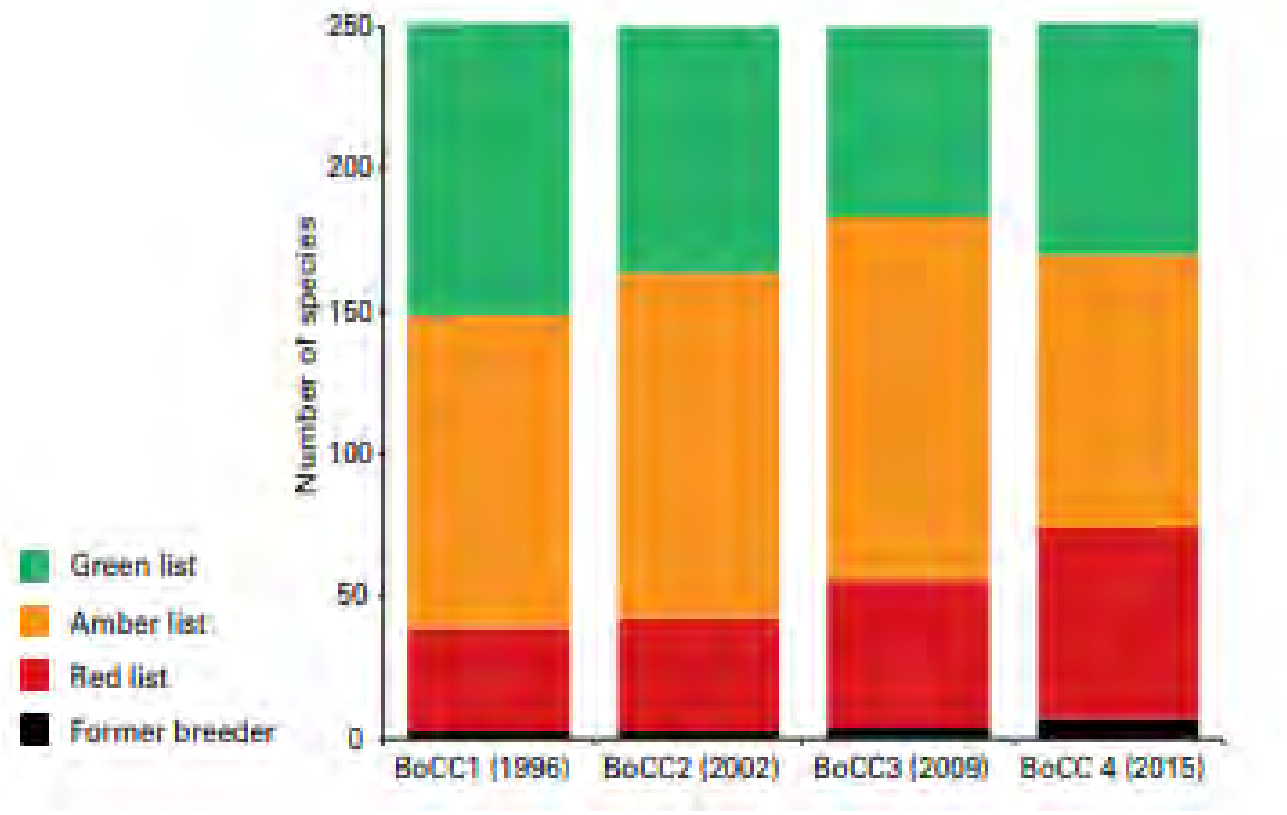


Image 2: The status of British bird species within the BoCC categorisation 1996 – 2015 extracted from Eaton et al 2015

1.6.4 The sections below show the status of three broad groupings of bird species with the UK relevant to the site, their current status and identified conservation issues.

Farmland bird conservation

1.6.5 Farmland birds have undergone a significant decline in numbers since 1950. The RSPB farmland bird indicator (RSPB 2018) suggests that farmland bird numbers may have declined by 48 percent between 1970 and 2007 and declined by 9% between 2010 and 2015. The turtle dove (*Streptopelia turtur*), grey partridge (*Perdix perdix*), corn bunting (*Emberiza calandra*) and tree sparrow (*Passer montanus*) have declined by more than 80 per cent.

1.6.6 It is considered that this decline is not solely due to loss of farmland, but primarily due to intensification of farming, loss of hedgerows and changes in farming practices (such as the loss of field margins and increasing planting of winter sown crops, which reduce the availability of feeding resources over winter).

Woodland bird conservation

1.6.7 Woodland birds are calculated to have declined by up to 23% between 1970 and 2015 (*Haydow* et al 2017). There are more birds of woodland on the BoCC red list than of any other habitat. There are potentially multiple causes for this decline, from a loss of habitat, climate change and changes in management within woodlands.

Water fowl and wetland bird conservation

1.6.8 Wetland bird populations overall are estimated to have declined by 8% between 1975 and 2015. The causes of this decline are many and varied, largely due to the extremely variable nature of the biology of the individual species in this group. Causes of decline may result from persecution across the species range (particularly for migratory species), changes in habitats (different management, climate change, development) and changes in availability of feeding resources. Overall, it appears that generalist species (i.e. those which do not have specific habitat or feeding resource requirements) are not declining or declining less than more specialist species. There is also potential that recorded declines may be accounted for by fewer species migrating to the UK due to climate change.

2 APPROACH AND METHODOLOGY

2.1 Survey Proportionality and Design

2.1.1 The surveys conducted for breeding birds and nesting barn owl (building surveys) were conducted to inform the masterplan design in order to:

- Inform design so that impacts to birds could be minimised;
- Inform the requirement for habitats and features specifically required for birds to be incorporated within the masterplan;
- Allow suitable buffer areas to be identified within the masterplan.

2.1.2 In addition, the surveys were conducted to inform the EIA (Environmental Impact Assessment) for the project. The surveys were designed to:

- Allow the value of the bird assemblage on site and associated with the site to be assessed;
- Determine the requirement for mitigation to be specified with the EIA;
- Determine the likely impact upon the bird assemblage and population (once the mitigation proposed is applied);
- Determine the likelihood of the site being associated as 'functionally linked land' with designated sites;
- Calculate any requirement for off-site mitigation / offsetting.

2.1.3 It was not the purpose of the survey to identify every bird nest within the site. For example, due to safety concerns, full internal inspections of structures to identify barn owl nests were not conducted. Tree inspections for barn owl were also not conducted.

2.1.4 Initial breeding bird surveys were undertaken between March and June 2017 (inclusive). The results and an assessment of the data obtained was reported in 2019 in support of an outline planning application. Subsequently, in order to assess the continued validity of the results and assessment, an update survey was conducted in both April 2020 and April 2021. The results of these surveys were compared to the 2017 results to assess the validity of the assessment informed by the 2017 surveys. This report contains the data and assessments from 2017 and the update surveys in 2020 and 2021.

2.1.5 Further surveys may be required at a later stage of the planning process. Where this is the case, this is identified within this report in section 6.

2.2 Desk Study

2.2.1 A desk study was undertaken to review existing biological information. Information was provided by the Kent and Medway Biological Records Centre (KMBRC) for breeding birds within a 2km radius of the site as recommended in the Institute of Environmental Assessment's 'Guidelines for Baseline Ecological Assessment' (1997) and CIEEM's (Chartered Institute of Ecology and Environmental Management) Guidelines for Preliminary Ecological Appraisal (2013 revision).

2.2.2 Desk study data was initially obtained from a preliminary ecology report by White Young Green (WYG 2016) containing data from KMBRC to scope the surveys. This data was subsequently updated in March 2018, again utilising data from KMBRC (presented in full in ES Appendix 7.5).

2.2.3 Subsequently more detailed bird data (including breeding status and location) was obtained from KMBRC in September 2018. This data is not reproduced due to its sensitivity.

2.2.4 A further update was undertaken in April 2020, with no additional records of breeding birds reported in the data received from KMBRC.

2.2.5 In addition, 'Magic' mapping was consulted for all statutory designated sites which are present within 10km of the site and are designated for their bird value. Magic mapping data was also used to identify areas of farmland within the site which are under Higher Land Stewardship.

2.2.6 The Kent Bird Report 2019 (The most recent report at the time of reporting) was obtained from Kent Bird Group to provide context for the survey results and inform the species valuations.

2.2.7 Desk Study results are presented in Section 3.1.

2.3 Habitat Assessment

Initial habitat assessment

2.3.1 In order to inform the survey design, a habitat assessment was undertaken to identify habitats and areas likely to be if value for birds. This assessment was undertaken on 4, 5 and 6 October 2016 by Arcadis ecologists Guy Stone and Brandon Murray, combined with a Phase 1 habitat survey. During this survey, key habitat areas, including likely nesting, breeding and foraging areas were identified. These assessments were utilised to design and scope the bat surveys.

Assessment of habitat quality for foraging barn owl

2.3.2 As a component of the habitat surveys, an assessment of the foraging value of the habitat within the site was conducted, this was based upon the 'Phase 1' habitat categories recorded. This assessment graded the habitats under four categories, dependent upon their value for barn owl foraging. The categorisations utilised are based upon the guidance provided within the CIEEM guidance (Shawyer 2011) and are presented in Table 2 below.

Table 2: Barn owl habitats as defined within the CIEEM guidance (Shawyer 2011)

Habitat Name	Value for foraging barn owl	Description from guidance
Type 1 Habitat	Optimal	*Type I Habitats are those which provide optimum habitat to field voles Microtus agrestis (for breeding, foraging and shelter) and are of the highest value to barn owl. This habitat type is usually permanent, unimproved or semi-improved grassland, rank and heterogeneous in appearance, often of mixed height, with fully or partly collapsed dead grass stems (straw) often dominating the leaf sward. This grassland possesses a high abundance of raised tussocks per unit area (typically 4-40/m2) coupled with a basal litter layer or 'thatch' of straw, at least 30 mm deep (Note: won't find this if viewed from distance but assume where you can) (Shawyer 1998). Type 1 Habitats usually receive no real management or anything other than periodic light grazing by farm animals. Long-term set-aside grassland and unmanaged fields, wasteland, ditches, riverbanks, field margins and road verges are the most common examples of this habitat type. When viewed in the wider landscape, Type 1 Habitats can usually be recognised, particularly in the autumn, winter and early spring, by their golden or green/brown appearance, and are sometimes described as 'white grassland'.*
Type 2 Habitat	Sub-optimal	*Type 2 Habitats are sub-optimal to field voles and are of intermediate and often transient value to barn owl. This type of improved or semi-improved grassland is characterised by having a homogeneous, more even-height sward, sometimes displaying some lush and emerging tussock structure but little sign of a litter layer or 'thatch'. It can sometimes constitute a mature clover/grass ley and usually receives some level of farm management such as occasional fertilization, annual topping or light grazing. When seen in the wider landscape, Type 2 Habitats normally have a more uniform, dark green appearance, than Type 1 Habitats.*

Habitat Name	Value for foraging barn owl	Description from guidance
Type 3 Habitat	Very poor	*Type 3 Habitats offer very poor habitat for field voles and most other small mammals and as such are of low value to barn owl. These improved grasslands are characterised by having a homogeneous sward, which is often kept short throughout much of the year, no tussock structure and are devoid of any litter layer at their base. They are usually mown closely for hay or silage, heavily grazed by sheep, horses or cattle or used for public amenity. They normally display a uniform bright green appearance when viewed in the wider landscape. Acid grasslands and those grasslands overgrown with scrub which can restrict barn owl from hunting, also fall into this habitat category. Type 3 Habitat is not normally illustrated on the final survey map because of its poor suitability to barn owl.*
Other Habitats	Little or no value	*Non-grassland habitats, such as arable fields and mature woodland are generally of little or no value as a permanent foraging resource to barn owl. Arable fields containing cereals, rapeseed, or other food crops do not provide suitable habitat for field voles, although at certain times of the year, such as during harvest, they can, for short periods, expose wood mice Apodemus sylvaticus and temporarily attract barn owl. Prior to harvest, however, arable crops are largely impenetrable to foraging barn owl because of the stiff nature of the crop and high density of planting. For the purpose of the survey, arable fields without grass margins and woodlands (except those possessing wide grass rides or young plantations) are, therefore, considered unsuitable for barn owl and are not illustrated on the eventual survey map.*

Update assessment 2018

2.3.3 Prior to reporting, an update habitat assessment was conducted to determine if the condition of the site had changed significantly. This walkover was conducted concurrent with an invertebrate scoping survey on 8 August 2018 by Principal Ecologist Brandon Murray.

Update assessment 2019

2.3.4 A further update habitat assessment to determine changes in the condition of the site was performed in 2019. This assessment was conducted by David Darrell Lambert concurrent with the wintering bird survey on 28 November 2019.

Update assessments 2020

2.3.5 In 2020 a full habitat assessment was undertaken by Arcadis to update the validity of the previous surveys. The habitats within the site were assessed to identify any changes in their suitability to support breeding birds. Any changes from previous surveys were noted. The assessment was conducted between 05 and 07 May 2020 by Brandon Murray and Rory Roche.

2.3.6 A further update habitat assessment to determine changes in the condition of the site was conducted by David Darrell Lambert concurrent with the wintering bird survey on 21 and 22 December 2020.

2.4 Field Survey

Breeding bird survey

2.4.1 The survey work consisted of walked transect surveys, according to methods adapted from Gilbert et al. (1998) and in line with the British Trust for Ornithology (BTO) guidance for breeding bird surveys. Surveys were carried out by suitably experienced bird surveyors:

David Darrell-Lambert (over 19 years of bird survey experience), Ewan Gibson (BSc, GradCIEEM), Adam Wilson and Steve Bunn. Pen portraits of surveyors are presented in Appendix E.

2.4.2 Surveys were initially undertaken between March 2017 and June 2017 (inclusive) approximately once every two weeks, up to a total of eight visits. Further single update surveys were undertaken in April 2020 and April 2021. All survey visits began at dawn (approximately one hour before sunrise) or later if birds began singing later due to the weather conditions and low light levels. No two consecutive surveys were started from the same location – this was varied in an attempt to obtain a representative picture of bird numbers and activity.

2.4.3 Transect routes were chosen proactively to align within 100m of notable features and habitat potentially suitable for nesting birds, which was identified during the habitat assessment. The transect route was designed to cover all habitat types within the site. Key features which were covered on all of the transects during the surveys were:

- The East Stour river corridor and the two tributaries on the site (one to the south of the A20 and one to the east of Harringe Lane which drains from Harringe Brooks wood to the east);
- Harringe Brooks Wood edges and the farmland area around this wood;
- The Folkestone Racecourse Lake and associated ditches and areas of rough grassland;
- The parkland areas around the Folkestone Racecourse;
- Park wood and its surrounds;
- 'Pond 15' to the east of Barrow Hill Farm;
- The woodland to the North of Link Park;
- Dense and species rich hedgerows across the site.

2.4.4 The surveys were walked at a constant pace and birds seen or heard were identified and counted. All bird species were mapped and recorded using standard BTO species and behaviour codes. The data was recorded digitally on hand-held tablets with mobile GIS and GPS capability (within ArcGIS 'collector' software). Each surveyor started from a different location on site in order to better cover the entire site within a reasonable amount of time. Start and finish locations and transect routes were varied for each visit to ensure that all parts of the site were surveyed at varying times of day during the set of survey visits.

2.4.5 During the survey, birds identified were placed into four categories, as presented in Table 3.

Table 3: Breeding categories utilised within the breeding bird surveys

Category	Description
Confirmed breeder	Observations that confirm a species is breeding on or near to the site: occupied nest(s), nest containing eggs or young, recently fledged young, used nest or eggshells (recent), distraction-display/injury feigning, adults entering or leaving nest-site in circumstances indicating occupied nest, adult carrying food or faecal sac.
Probable breeder	Observations of behaviour suggesting that a species is probably breeding: pair observed in suitable nesting habitat in breeding season, permanent territory(s) presumed through registration of consistent territorial behaviour (for example song), courtship/display, visiting probable nest sites, agitated behaviour from adults, nest building.

Category	Description
Possible breeder	Species observed or heard singing in the breeding season within suitable breeding habitat.
Non-breeding	Species only recorded flying over the area, displaying wintering behaviour, suspected to be still on migration or a summering non-breeder.

2.4.6 The results of these surveys are presented in Section 3.

Barn owl building assessment

2.4.7 All buildings surveyed for the potential to support bats were simultaneously surveyed for barn owl. The barn owl surveys were led by Ewan Gibson (BSc, GradCIEEM) who held a valid Natural England barn owl survey licence (CL29), accompanied by Brandon Murray (MCIEEM) and Aline Brodzinski (MCIEEM) in 2017/2018 and by Ewan Gibson (BSc, ACIEEM) and Claire Wiggs (BSc QualCIEEM) in 2021.

2.4.8 The original surveys took place throughout 2017 and 2018, when access to areas of the site was obtained. Further update surveys were undertaken in August 2021. The table below (Table 4) outlines the dates of the surveys conducted.

Table 4: Dates of barn owl building assessment surveys conducted

Date	Surveyors	Overview of survey coverage
31 May 2017	Brandon Murray and Ewan Gibson	Areas adjacent to Holiday Extras, Newingreen
27 and 28 June 2017	Aline Brodzinski and Ewan Gibson	Buildings across the Study Area
12 July 2017	Brandon Murray and Ewan Gibson	Bunkers to the west of Otterpool Lane, Hilhurst Farm
20 February 2018	Brandon Murray and Ewan Gibson	Bunkers within Lympne Airfield, Buildings within Otterpool Manor
18 – 20 September 2021	Ewan Gibson and Claire Wiggs	Buildings across the study area

2.4.9 The survey work involved a pair of surveyors inspecting the exterior of each building to determine whether there were potential suitable access points for barn owl. Should the building be suitable for barn owl, the interior was inspected where access was necessary, safe and permitted for signs of barn owl activity. No access at height was permitted due to safety concerns. Signs of barn owl include: birds present, active nests, disused nests, pellets/feathers indicating a nest or a roost site. The searches were undertaken from ground level. Buildings were categorised according to the categorisations presented in Table 5 according to the guidelines set out by CIEEM (2012).

Table 5: Categories and indicative barn owl signs as described by CIEEM (2012)

Building Category	Description	Indicative signs
Temporary Rest Site	A temporary night-time stopping-off place for a barn owl.	Chalky-white droppings, occasional pellet or moulted-feather.
Active Roost Site	A place at which breeding does not occur, but where the bird is seen or heard regularly or its current or recent presence (last 12 months) can be recognised by observed signs.	Thick, chalky-white, streaky droppings, usually accompanied by pellets and moulted feathers.
Potential Nest Site	Sites at which a barn owl could breed	An entry point of at least 80 mm diameter (about tennis ball size) or vertical slot of this width backed by a sufficiently large and dark chamber with a floor area greater than 250 mm x 250 mm.
Confirmed Nest Site	A place which breeding is confirmed to occur	Nest material being and/or food being delivered, eggs presence, sight or sound of chicks.

Data analysis and handling

2.4.10 When the breeding bird survey data was assessed, it was noted that a number of anomalous results were recorded in the survey conducted on 20 March 2018. It was assessed that the majority of birds recorded were 'wintering' birds (confirmed through observation of wintering behaviour and / or due to not being resident or breeding in the UK). This was supported by the fact that the weather in March 2017 was unseasonably cold. As a result, the data from the first 'breeding bird' survey is not included within the assessment within this report. The data is presented for information only. This data is analysed and utilised within the wintering bird survey report, as this sample was contained wintering bird behaviour (Appendix 7.16).

2.5 Survey Limitations

Desk study

2.5.1 Desk study records do not constitute a full list of the species which are present within an area. The absence of a record does not necessarily demonstrate the absence of a species.

Habitat assessment

2.5.2 During the habitat assessment conducted in 2016, it was not possible to access all of the site due to access restrictions. The habitat assessment was updated throughout late 2016 and early 2017. It is considered that the access obtained was sufficient to adequately scope and plan the breeding bird surveys.

2.5.3 Access for the additional surveys conducted in August 2018, 2019, 2020 and 2021 was sufficient to allow key changes to the habitats on site to be identified.

Breeding bird field survey

2.5.4 On one occasion, the survey was undertaken by a single surveyor. On this occasion, the most experienced surveyor (David Darrell-Lambert) worked alone. Surveys were subject to land access restrictions at various times, meaning that for some areas it was not possible to survey every visit. This also resulted in the routes walked varying for different visits, due to

varying access to different areas; where possible, the surveyors observed these areas with restricted access from adjacent areas. Nevertheless, a high percentage site coverage was achieved on all survey visits, and the large amount of survey effort conducted ensures that the results of the survey are valid and suitable for making conclusions.

2.5.5 Weather conditions varied over the season, with one survey suffering from poor visibility, caused by fog. However, considering the significant number of surveys conducted and the extensive coverage of the site, the survey data is considered sufficient to draw valid conclusions.

2.5.6 Nocturnal activity surveys were not undertaken; therefore, species such as little owl, tawny owl and barn owl are likely to be underrepresented in the survey results.

Barn owl survey

2.5.7 Surveys were conducted from ground using binoculars, there is potential that some internal signs / signs at height may have been missed. The following buildings would require internal access to upper storeys but access was either unsafe or not permitted: 1c, 1d, 2a, 3c, 6d, 7e, 7k, 9f, 11b/c, 11e/g. Access was not granted to the following buildings (internally or externally) in 2017 and they could not be viewed effectively from adjacent land: 4a, 4b, 6b, 6c, 6d, 7g, 7i, 7l, 7m and 8a. Access was not granted to the following buildings (internally or externally) in 2021 and they could not be viewed effectively from adjacent land: all buildings in group 11 (all building locations shown on Figure 6).

2.5.8 Holes in trees were not assessed as this detail of survey would be undertaken at a later stage in the planning process.

3 RESULTS

3.1 Desk Study

Designated sites with relevance to birds

International statutory designated sites within 10km

3.1.1 The desk study investigated international designated sites. Within 30km of the site, there are five international statutory designated sites which are designated for their bird assemblages. The site closest is the Dungeness, Romney Marsh and Rye Bay Special Protection Area (SPA),with Marine Component and Ramsar site. The marine component is 2.9km to the south of the site, the terrestrial/freshwater wetland component 8.7km to the south of the site (Table 6).

3.1.2 Full details of these designated sites and assessment for breeding and wintering birds are presented in Appendix 7.19 Habitat Regulation Screening Assessment.

Table 6: International Statutory Designated sites within 10km of the site designated for their bird assemblage

Site and designation	Distance and direction from site	Description
Dungeness, Romney Marsh and Rye Bay SPA (with Marine Component)	8.7km (with marine component / 2.9km) south at closest point	*Qualifies under article 4.1 of the Directive (2009/147/EC), as it is regularly used by >1% of the UK population of the following Annex I species:* • Bewick's swan *Cygnus columbianus bewickii* (non-breeding) • Bittern *Botaurus stellaris* (breeding) • Hen harrier *Circus cyaneus* (non-breeding) • Golden plover *Pluvialis apricaria* (non-breeding) • Ruff *Philomachus pugnax* (non-breeding) • Aquatic warbler *Acrocephalus paludicola* (non-breeding) • Marsh harrier *Circus aeruginosus* (breeding) • Avocet *Recurvirostra avosetta* (breeding) • Mediterranean gull *Larus melanocephalus* (breeding) • Sandwich tern *Sterna sandvicensis* (breeding) • Common tern *Sterna hirundo* (breeding) • Little tern *Sterna albifrons* (breeding) *Qualifies under article 4.2 of the Directive (2009/147/EC), as it is regularly used by >1% of the biogeographical populations of the following migratory species:* *Shoveler Anas clypeata: 485 wintering individuals (1.2% NW & C Europe non-breeding population)*
Dungeness, Romney Marsh and Rye Bay Ramsar	9.9km S	*Criterion 1 (contains rare, unique examples of natural wetland types), including:* • Annual vegetation of drift lines and the coastal fringes of perennial vegetation of stony banks (Ramsar wetland type E – sand, shingle or pebble shores). • Natural shingle wetlands: saline lagoons (Ramsar wetland type J – coastal brackish/saline lagoons), freshwater pits (Ramsar

Site and designation	Distance and direction from site	Description
		wetland type K – coastal freshwater lagoons) and basin fens (Ramsar wetland type U – non-forested peatlands). *Criterion 2 (supports threatened ecological communities), including:* • Bryophytes e.g. wetland thread-mosses *Bryum* species • Vascular plants e.g. sea barley *Hordeum marinum*, Borrer's saltmarsh-grass *Puccinellia fasciculata* and slender hare's-ear *Bupleurum tenuissimum*, sea-heath *Frankenia laevis*, sharp-leaved pondweed *Potamogeton acutifolius*, divided sedge *Carex divisa* and rootless duckweed *Wolffia arrhiza*. • Invertebrates e.g. reed beetles *Donacia*, snail-killing flies (*Sciomyzidae*) and soldierflies (*Stratiomyidae*) *It also supports vulnerable, endangered or critically endangered wetland species, including:* • greater water-parsnip *Sium latifolium* • Warne's thread-moss *Bryum warneum* • water vole *Arvicola amphibius* • aquatic warbler *Acrocephalus paludicola* • great crested newt • medicinal leech *Hirudo medicinalis* • a ground beetle *Omophron limbatum* • marsh mallow moth *Hydraecia osseola hucherardi* • De Folin's lagoon snail *Caecum amoricum* *Criterion 5 (regularly supports >20,000 waterbirds); in the non-breeding season the site supports 34,957 waterbirds (5-year peak mean 2002/3 – 2006/7).* *Criterion 6 (regularly supports 1% individuals in the population of the following species):* • Mute swan *Cygnus olor*; 348 wintering individuals (1.1% British population) • Shoveler: 485 wintering individuals (1.2% NW & C Europe non-breeding population)

National statutory designated sites within 5km

3.1.3 No national statutory designated sites were identified within 5km of the site which are designated for their bird assemblage or are likely to be notable for their bird assemblage.

Non-statutory designated sites within 1km

3.1.4 Although no specific citations for the local wildlife sites were available, the habitats present in these areas, their distance from the site and their potential to have species linkages with the habitats on the site were assessed. The sites which presented in Table 7 below, are those with the most potential to be related to the breeding bird assemblage using the site.

Table 7: Non-statutory designated sites with the potential to be linked / be impacted by works on the Otterpool Park site within 1km.

Site Name	Designation	Distance (m)	Direction	Notes
Harringe Brooks Wood, Sellindge	LWS	0m	Immediately adjacent to the west of the site	This LWS is immediately adjacent to the site. It supports ancient woodland and some aquatic features. Works on the site have the potential to directly impact this LWS. In addition, birds within the habitats within the LWS have the potential to be foraging and utilizing habitats within the site. This is particularly true of species which nest within woodland and forage within arable habitats such as turtle dove.
Pasture and Woods Below Court-at-Street, Lympne	LWS	500m	South-west	This LWS contains ancient woodland. Birds within the habitats within the LWS have the potential to be foraging and utilizing habitats within the site. This is particularly true of species which nest within woodland and forage within arable habitats such as turtle dove.
Folks Wood, Pedlinge	LWS	200m	East	This LWS contains ancient woodland. Birds within the habitats within the LWS have the potential to be foraging and utilizing habitats within the site. This is particularly true of species which nest within woodland and forage within arable habitats such as turtle dove.
Royal Military Canal	LWS	850m	South	This LWS is an aquatic habitat. Species within this site have the potential to have linkages to the site, particularly species such as kingfisher *Alcedo atthis* and water fowl.

Higher level stewardship areas

3.1.5 Within the site, a total of 175 ha of arable or grassland is under Higher Level Stewardship. The area under this stewardship is shown on Figure 11.

Species records

3.1.6 Of the 172 species records returned for the site, 34 were listed as red list species, 58 amber list species and 80 green species on the Birds of Conservation Concern 4 (BoCC4) list. Of those 172 species, 31 species were listed on Section 41 of the NERC Act (2006) while 32 were listed on Schedule 1 of the Wildlife and Countryside Act (1981, as amended). Of the 10 Kent Biodiversity Action Plan (BAP) Species, nine were present within the records returned, the exception being nightjar *Caprimulgus europaeus*.

3.1.7 Table 8 presents the species records returned, with an assessment of the species potential to nest within the site. This assessment is based on the suitability or habitat on site and/or the presence of that species in the south east of England. This information is subsequently utilised within the discussion (section 5) and EIA to help inform potential impacts to bird species. Where birds were only identified wintering, these are not included within this breeding bird table.

Table 8: Notable breeding bird species recorded during the desk study birds listed are either red or amber on the BoCC list, listed on S41 of the NERC Act, Kent BAP or listed on Schedule 1 of the WCA

Common name	Scientific name	Designation	Number of records	Recent summer (Apr-Jul)	Nearest location	Confirmed breeding?	Potential to be breeding on the site?
Barn Owl	*Tyto alba*	Berne:A2; BoCC4:Green; ECCITES:A; WCA1	47	31/05/2016	Westenhanger Racecourse (TR1236)	N	Y
Black Redstart	*Phoenicurus ochruros*	Berne:A2; BoCC4:Red; Bonn:A2; KRDB1; WCA1	8	11/06/2012	Lympne (TR1135)	N	N
Black-headed Gull	*Larus ridibundus*	Berne:A3; BoCC4:Amber; BirdsDir:A2.2	100	16/05/2016	Westenhanger Racecourse (TR1236)	N	Y
Black-necked Grebe	*Podiceps nigricollis*	Berne:A2; BoCC4:Amber; KRDB1; WCA1	2	12/04/2013	Nickoll's Gravel Pits (Palmarsh) (TR133333)	N	Y (but very unlikely)
Black-tailed Godwit	*Limosa limosa*	BAP; Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.2; KRDB1; S41; WCA1	10	09/04/2015	Palmarsh (Hythe) (TR1333)	N	Y (but very unlikely)
Bullfinch	*Pyrrhula pyrrhula*	BAP; Berne:A3; BoCC4:Amber; S41	137	16/05/2016	TR13 (TR13C)	Y	Y
Cetti's Warbler	*Cettia cetti*	Berne:A2; KRDB3; WCA1	232	21/04/2016	Stanford (Sellindge) (TR1238)	N	Y
Common Crossbill	*Loxia curvirostra*	Berne:A2; WCA1	11	04/07/2015	West Hythe (near Folkestone) (TR1234)	N	Y
Common Gull	*Larus canus*	Berne:A3; BoCC4:Amber; BirdsDir:A2.2; KRDB1	35	01/04/2013	Lympne (TR1135)	N	Y (but unlikely)
Common Sandpiper	*Actitis hypoleucos*	Berne:A2; BoCC4:Amber; Bonn:A2	252	21/07/2016	Nickoll's Gravel Pits (Palmarsh) (TR133333)	N	N
Common Scoter	*Melanitta nigra*	BAP; Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.2; S41; WCA1	1	10/04/2016	Royal Military Canal at West Hythe (TR1234)	N	N
Common Tern	*Sterna hirundo*	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1	17	09/04/2016	Nickoll's Gravel Pits (Palmarsh) (TR133333)	Y	Y (but very unlikely)
Corn Bunting	*Miliaria calandra*	BAP; Berne:A3; BoCC4:Red; KRDB2; S41	25	12/05/2015	Lympne (TR1135)	Y	Y
Cuckoo	*Cuculus canorus*	BAP; Berne:A3; BoCC4:Red; S41; KRDB2	163	08/06/2016	TR13 (TR13C)	Y	Y
Dunlin	*Calidris alpina*	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1; KRDB2	92	25/04/2015	Botolph's Bridge (TR1233)	N	N
Dunnock	*Prunella modularis*	BAP; Berne:A2; BoCC4:Amber; S41	166	15/06/2015	TR13 (TR13C)	Y	Y
Fieldfare	*Turdus pilaris*	Berne:A3; BoCC4:Red; BirdsDir:A2.2; WCA1	126	01/04/2013	Lympne (TR1135)	N	N
Firecrest	*Regulus ignicapillus*	Berne:A2; BoCC4:Green; KRDB1; WCA1	93	04/04/2015	Lympne (TR1135)	N	Y
Fulmar	*Fulmarus glacialis*	Berne:A3; BoCC4:Amber (Subsp. Red)	7	25/05/2013	West Hythe (near Folkestone) (TR1234)	N	Y (but very unlikely)

Common name	Scientific name	Designation	Number of records	Recent summer (Apr-Jul)	Nearest location	Confirmed breeding?	Potential to be breeding on the site?
Garganey	*Anas querquedula*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A2.1; KRDB1; WCA1	13	09/04/2015	Lympne (TR1135)	N	Y (but unlikely)
Golden Oriole	*Oriolus oriolus*	Berne:A2; BoCC4:Red; WCA1	3	17/05/2015	Folk's Wood (Pedlinge) (TR1335)	N	N
Green Sandpiper	*Tringa ochropus*	Berne:A2; BoCC4:Amber; Bonn:A2; WCA1	519	28/04/2016	Port Lympne Zoo Park (Lympne) (TR105348)	N	N
Greenshank	*Tringa nebularia*	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.2; WCA1	59	21/05/2011	Sellindge (near Folkestone) (TR1038)	N	N
Grey Wagtail	*Motacilla cinerea*	Berne:A2; BoCC4:Red	126	22/05/2015	TR13 (TR13D)	N	Y
Greylag Goose	*Anser anser*	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.1	101	16/05/2016	Pedlinge (near Hythe) (TR1335)	N	Y
Hawfinch	*Coccothraustes coccothraustes*	BAP; Berne:A2; BoCC4:Red; KRDB1; S41	9	09/04/2011	TR03 (TR03X)	N	N
Hen Harrier	*Circus cyaneus*	Berne:A3; BoCC4:Red; Bonn:A2; ECCITES:A; BirdsDir:A1; S41; WCA1	11	11/06/2011	Sandling Park (near Hythe) (TR143363)	N	N
Herring Gull	*Larus argentatus*	BAP; BoCC4:Red; BirdsDir:A2.2; S41; KRDB2	75	12/04/2016	Brockhill Country Park (Folkestone) (TR1435)	N	Y
Hobby	*Falco subbuteo*	Berne:A2; Bonn:A2; ECCITES:A; WCA1	75	08/05/2016	Lympne (TR1135)	N	Y
Honey Buzzard	*Pernis apivorus*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; KRDB1; WCA1	13	29/06/2014	Royal Military Canal at West Hythe (TR1234)	N	N
Hoopoe	*Upapa epops*	Berne:A2; WCA1	1	18/04/2011	Saltwood (Folkestone) (TR1535)	N	N
House Martin	*Delichon urbica*	Berne:A2; BoCC4:Amber	113	25/04/2016	TR13 (TR13C)	Y	Y
House Sparrow	*Passer domesticus*	BAP; BoCC4:Red; KRDB2; S41	83	28/05/2015	TR13 (TR13C)	Y	Y
Kestrel	*Falco tinnunculus*	Berne:A2; BoCC4:Amber; Bonn:A2; ECCITES:A	83	02/06/2013	TR13 (TR13C)	Y	Y
Kingfisher	*Alcedo atthis*	Berne:A2; BoCC4:Amber (subsp. Red); BirdsDir:A1; WCA1	229	27/05/2016	Lympne (TR1135)	N	Y
Lapwing	*Vanellus vanellus*	BAP; Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.2; KRDB2; S41	280	03/04/2013	TR13 (TR13D)	Y	Y
Lesser Black-backed Gull	*Larus fuscus*	BoCC4:Amber; BirdsDir:A2.2	64	25/05/2013	Lympne (TR1135)	N	Y (but unlikely)
Lesser Redpoll	*Carduelis cabaret*	BAP; Berne:A3; BoCC4:Red; KRDB1; S41	55	07/04/2013	TR13 (TR13D)	N	N

Common name	Scientific name	Designation	Number of records	Recent summer (Apr-Jul)	Nearest location	Confirmed breeding?	Potential to be breeding on the site?
Linnet	*Carduelis cannabina*	BAP; Berne:A2; BoCC4:Red; KRDB2; S41	83	20/04/2016	TR13 (TR13C)	Y	Y
Mallard	*Anas platyrhynchos*	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.1	305	12/04/2016	TR13 (TR13C)	Y	Y
Marsh Harrier	*Circus aeruginosus*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; KRDB3; WCA1	52	27/04/2015	Westenhanger Racecourse (TR1236)	N	Y (but very unlikely)
Marsh Tit	*Parus palustris*	BAP; Berne:A2; BoCC4:Red; S41; KRDB2	50	05/05/2012	Port Lympne Zoo Park (Lympne) (TR105348)	Y	Y
Meadow Pipit	*Anthus pratensis*	Berne:A2; BoCC4:Amber	112	04/04/2015	TR13 (TR13C)	Y	Y
Mediterranean Gull	*Larus melanocephalus*	Berne:A2; BoCC4:Amber; Bonn:A2; BirdsDir:A1; KRDB3; WCA1	80	08/04/2016	Westenhanger Racecourse (TR1236)	N	Y
Mistle Thrush	*Turdus viscivorus*	Berne:A3; BoCC4:Red; BirdsDir:A2.2	135	24/04/2016	TR13 (TR13C)	Y	Y
Montagu's Harrier	*Circus pygargus*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; WCA1	1	30/04/2013	Saltwood (Folkestone) (TR1535)	N	N
Mute Swan	*Cygnus olor*	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.2	151	28/05/2015	TR13 (TR13C)	Y	Y
Nightingale	*Luscinia megarhynchos*	Berne:A2; BoCC4:Red; Bonn:A2; KRDB3	12	01/05/2016	TR13 (TR13C)	Y	Y
Osprey	*Pandion haliaetus*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; WCA1	9	28/04/2015	Lympne (TR1135)	N	N
Oystercatcher	*Haematopus ostralegus*	Berne:A3; BoCC4:Amber; BirdsDir:A2.2	217	21/07/2016	Aldington (near Ashford) (TR075363)	Y	Y (but very unlikely)
Pochard	*Aythya ferina*	Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.1; KRDB3	149	23/04/2016	Westenhanger Racecourse (TR1236)	N	Y
Purple Heron	*Ardea purpurea*	Berne:A2; Bonn:A2; BirdsDir:A1; WCA1	4	16/05/2014	Nickoll's Gravel Pits (Palmarsh) (TR133333)	N	N
Quail	*Coturnix coturnix*	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.2; KRDB1; WCA1	2	12/05/2012	Pedlinge (near Hythe) (TR1335)	N	Y
Red Kite	*Milvus milvus*	Berne:A3; BoCC4:Green; Bonn:A2; ECCITES:A; BirdsDir:A1; WCA1	38	17/05/2016	Lympne (TR1135)	N	Y
Redstart	*Phoenicurus phoenicurus*	Berne:A2; BoCC4:Amber; Bonn:A2; KRDB1	8	12/04/2016	Sandling Park (near Hythe) (TR143363)	N	Y (but unlikely)
Red-throated Diver	*Gavia stellata*	Berne:A2; BoCC4:Green;Bonn:A2; BirdsDir:A1; KRDB3; WCA1	23	11/04/2013	Royal Military Canal at West Hythe (TR1234)	N	N
Redwing	*Turdus iliacus*	Berne:A3; BoCC4:Red; BirdsDir:A2.2; WCA1	204	16/04/2016	Lympne (TR1135)	N	N
Reed Bunting	*Emberiza schoeniclus*	BAP; Berne:A2; BoCC4:Amber; S41	122	18/06/2015	TR13 (TR13D)	Y	Y
Ring Ouzel	*Turdus torquatus*	BAP; Berne:A2; BoCC4:Red; S41	20	17/04/2010	Lympne (TR1135)	N	N
Shelduck	*Tadorna tadorna*	Berne:A2; BoCC4:Amber; Bonn:A2	46	16/05/2015	Botolph's Bridge (TR1233)	N	Y

Common name	Scientific name	Designation	Number of records	Recent summer (Apr-Jul)	Nearest location	Confirmed breeding?	Potential to be breeding on the site?
Short-eared Owl	*Asio flammeus*	Berne:A2; BoCC4:Amber; ECCITES:A; BirdsDir:A1	17	02/05/2012	Botolph's Bridge (TR1233)	N	N
Shoveler	*Anas clypeata*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:C; BirdsDir:A2.1	46	04/04/2015	Sandling Park (near Hythe) (TR143363)	N	N
Skylark	*Alauda arvensis*	BAP; Berne:A3; BoCC4:Red; BirdsDir:A2.2; KRDB2; S41	102	07/06/2014	TR13 (TR13C)	Y	Y
Snipe	*Gallinago gallinago*	Berne:A3; BoCC4:Amber; Bonn:A2; BirdsDir:A2.1; KRDB1	273	23/04/2016	Lympne (TR1135)	Y	Y
Song Thrush	*Turdus philomelos*	BAP; Berne:A3; BoCC4:Red; BirdsDir:A2.2; KRDB2; S41	191	19/04/2016	TR13 (TR13C)	Y	Y
Spoonbill	*Platalea leucorodia*	Berne:A2; BoCC4:Amber; Bonn:A2; ECCITES:A; BirdsDir:A1; WCA1	8	23/06/2014	Palmarsh (Hythe) (TR1333)	N	N
Spotted Flycatcher	*Muscicapa striata*	BAP; Berne:A2; BoCC4:Red; Bonn:A2; KRDB2; S41	38	01/06/2011	Lympne (TR1135)	Y	Y
Starling	*Sturnus vulgaris*	BAP; BoCC4:Red; BirdsDir:A2.2; S41; KRDB2	93	10/04/2016	TR13 (TR13C)	Y	Y
Stock Dove	*Columba oenas*	Berne:A3; BoCC4:Amber; BirdsDir:A2.2	134	01/05/2016	TR13 (TR13C)	Y	Y
Swift	*Apus apus*	Berne:A3; BoCC4:Amber	106	14/07/2016	TR13 (TR13C)	Y	Y
Tawny Owl	*Strix aluco*	Berne:A2; BoCC4:Amber; ECCITES:A	47	30/05/2012	TR13 (TR13C)	Y	Y
Teal	*Anas crecca*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:C; BirdsDir:A2.1; KRDB1	195	25/04/2015	Westenhanger Racecourse (TR1236)	N	Y
Turtle Dove	*Streptopelia turtur*	BAP; Berne:A3; BoCC4:Red; Bonn:A2; ECCITES:A; BirdsDir:A2.2; KRDB2; S41	94	20/05/2013	TR13 (TR13C)	Y	Y
Whimbrel	*Numenius phaeopus*	Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.2; WCA1	38	08/05/2016	Lympne (TR1135)	N	N
Wigeon	*Anas penelope*	Berne:A3; BoCC4:Amber; Bonn:A2; ECCITES:C; BirdsDir:A2.1	93	04/05/2015	Westenhanger Racecourse (TR1236)	N	N
Willow Warbler	*Phylloscopus trochilus*	Berne:A2; BoCC4:Amber	104	16/04/2016	TR13 (TR13C)	Y	Y
Woodcock	*Scolopax rusticola*	Berne:A3; BoCC4:Red; Bonn:A2; BirdsDir:A2.1	59	07/04/2013	Lympne (TR1135)	N	Y
Yellow Wagtail	*Motacilla flava*	BAP; Berne:A2; BoCC4:Red; S41; KRDB2	98	28/04/2016	TR13 (TR13C)	Y	Y
Yellowhammer	*Emberiza citrinella*	BAP; Berne:A2; BoCC4:Red; KRDB2; S41	121	16/05/2016	TR13 (TR13C)	Y	Y

3.2 Habitat Assessment

Initial Assessment

3.2.1 This section of the report briefly outlines the habitats present on the site from the initial habitat assessment, and their potential value to breeding birds. Full details of the habitats present on the site are presented Appendix 7.3 Habitat and Hedgerow Survey Report. The table below outlines the key habitats on site for breeding birds (Table 9).

Table 9: Key habitats on site for breeding birds

Habitat	Description	Potential value to breeding birds
Arable	The majority of arable fields have been used to grow rape and wheat. Their field margins vary greatly in size, from no discernible margins to up to c.10m wide. Where these habitats are of sufficient size, these margins are mapped.	Important foraging habitat for a range of bird species, especially farmland birds. A limited subset of species will nest in this habitat. The management of this habitat impacts greatly upon its value for birds.
Broadleaved scattered trees	Within the site, there are a number of scattered trees. 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.	These are often important features for nesting birds, including species which nest within tree cavities.
Broadleaved plantation woodland / Broadleaved semi-natural woodland / Mixed plantation woodland	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. Springfield Wood, a woodland copse in the west of the site which is grazed by sheep. Numerous small woodland copses are also scattered across the site. Adjacent to the site there were also two broadleaved semi-natural woodlands registered on the Ancient Woodland Inventory. These are Harringe Brooks Woods to the west and Kiln Wood to the east of the site. Mixed plantation is largely planted for screening. This woodland was predominantly broadleaved species, with some Scots Pine. There is a substantial woodland belt north of Link Park planted to shield Link Park from views from the north.	Woodlands are important for a range of bird species, for both nesting and foraging.
Buildings	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.	Buildings can be important nesting sites for a range of breeding species, including barn owl.
Dense / continuous scrub	Dense scrub is present around the airfield in the south of the site and are largely comprised of Hawthorn and Bramble.	This habitat can support bird nesting, particularly of 'farmland' and urban birds.

Habitat	Description	Potential value to breeding birds
Improved grassland	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^2) 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.	This habitat is of limited value for birds; however, some species may forage within this habitat, and dependent upon management, this habitat may have some suitability for ground nesting birds.
Hedgerows	Due to the historic agricultural land use, the site contains a large number of mature hedgerows containing standard trees. The majority of these hedgerows are fragmented or defunct with limited cross-site connectivity, although some are well established and have a good species diversity.	Hedgerows can provide foraging and nesting opportunities for birds.
Riparian corridor and running water	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 Woods in the south west of the site north to the East Stour. This habitat is largely comprised of mature trees dominated by Alder, with Ash and Oak also common there are also areas of mature scrub comprised largely of Hawthorn.	This habitat provides a range of foraging and nesting opportunities. This includes nesting opportunities for rarer specie such as kingfishers and foraging for piscivores.
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^2 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. It is found around the racecourse, within field margins, especially areas of the site which were under HLS (Higher Level Stewardship management), 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.	This habitat is of value for bird foraging, and dependent upon management, this habitat may have some suitability for ground nesting birds.
Standing water	Over 30 ponds were recorded within the site, varying from relatively large water bodies such as the Folkestone Racecourse Lake to the majority which were small often ephemeral ponds.	This habitat is important for a range of species. It can provide feeding resources for wildfowl, areas where birds can aggregate (particularly transitory wildfowl). Species can nest on the periphery of this habitat, including kingfisher.

Follow up assessment 2018

3.2.2 A follow-up assessment to assess any significant changes to the habitats present on the site was conducted concurrent with an invertebrate assessment on 8 August 2018. It was noted during this survey that the habitats present on the site were not significantly different to those recorded during the initial scoping and habitat assessment conducted in 2016. A limited

number of crop type changes were noted, but the overall status of the site for birds was not significantly different to that recorded during 2016.

Follow up assessments 2019 and 2020

3.2.3 Further follow up assessment to identify any significant changes to the habitats present on the site was conducted concurrent with the wintering bird survey on 28 November 2019, between 05 and07 May 2020 and concurrent with the wintering bird survey on 21 and 22 December 2020. As with the follow up assessment in 2018, no significant changes were recorded and the overall status of the site for birds was not significantly different to that recorded during 2016. It is considered that the site offered no significantly different resources for breeding birds in 2019 or 2020 than it did in 2016.

Barn owl foraging habitat assessment

3.2.4 Within the assessment, the site was valued for its foraging habitat for barn owl. The results of this assessment are presented in Figure 7. The table below (Table 10) presents the percentages of habitat of each category within the site.

Table 10: Areas of each barn owl habitat foraging category

Habitat Name	Value for foraging barn owl	Area on site	% of habitat
Type 1 Habitat	Optimal	17ha	3
Type 2 Habitat	Sub-optimal	85ha	15
Type 3 Habitat	Very poor	157ha	27
Other Habitats	Little or no value	314ha	55

3.2.5 In summary, only 18% of the site was optimal or sub-optimal, with the remaining area of the site being very poor or having little or no value to foraging barn owl.

3.3 Breeding bird field survey

Introduction

3.3.1 This section of the report outlines the results of the breeding bird surveys conducted. The reporting is broken down into the following sections to allow the key information to be identified and analysed:

- Linkages with international designated sites.
- Overview and assemblage;
- Number of bird observations per visit;
- Schedule 1 birds
- Breeding farmland birds;
- Notable birds and/or birds of conservation concern.

Linkages with international designated sites.

3.3.2 Of the six breeding bird species that form the qualifying features of the Dungeness, Romney Marsh and Rye Bay SPA and Ramsar within 10km, only one species (Mediterranean gull) was recorded during breeding bird surveys (17 in early April 2017, 1 in late June 2017 and 2 in late April 2021) (Table 11). This species nest within black-headed gull colonies at coastal

wetlands. The site does not feature suitable breeding habitat for this species, therefore it is not considered likely that they breed within the site. For Ramsar Criterion 6, mute swan was only observed as one individual on one occasion during the breeding season (in 2017). Full details are presented for all sites within 30km within Appendix 7.19.

Table 11: Qualifying breeding bird species for international designated sites within 10km and their occurrence within the site.

Species	Sites where this species is listed on the citation	Presence on site	Notes
Pied avocet *Recurvirostra avosetta*	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site
Common tern *Sterna hirundo*	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site
Little tern *Sterna albifrons*	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site
Marsh harrier *Circus aeruginosus*	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site
Mediterranean gull *Larus melanocephalus*	Dungeness, Romney Marsh and Rye Bay SPA	388 individuals recorded in wintering surveys, and 18 individuals recorded in breeding bird surveys. Peak count was 334 individuals on the visit on 23/02/2018	Listed in both designations due to breeding status on the designated sites. Considered very unlikely to breed within the site
Sandwich tern *Sterna sandvicensis*	Dungeness, Romney Marsh and Rye Bay SPA	Not recorded within the surveys	Not relevant to site

Overview and assemblage

3.3.3 During the 2017 breeding bird surveys a total of 9,735 birds were recorded. Once the March 2017 survey data was omitted, (see section 2.4), a total of 7,182 birds were recorded. A total of 85 bird species were recorded during the 2017 field surveys. During the 2020 field surveys a total of 52 species were recorded, including three (cuckoo *Cuculus canorus*, nightingale *Luscinia megarhynchos* and sedge warbler *Acrocephalus schoenobaenus*) which had not been recorded during the 2017 survey; a total of 58 species were recorded in 2021 (two species had not been previously recorded: raven *Corvus corax* and wheatear (*Oenanthe Oenanthe*). Therefore, across all of the surveys, 90 bird species were recorded. The results from the 2017 surveys are presented in Figure 1, the results from the 2020 survey are presented in Figure 9 and the results from the 2021 surveys are presented in Figure 10. The table below (Table 12), outlines the species found and the total number of birds recorded during the 2017 surveys (i.e. excluding March "wintering" results) and the results of the 2020 and 2021 breeding bird surveys

Table 12: Birds recorded during the 2017, 2020 and 2021 breeding bird surveys

Common name	Latin binomial	Total number of birds recorded in 2017 (including omitted March survey)	Total number of birds recorded in 2017 (excluding March survey)	27 Apr 2020	Total number of birds recorded in April 2021
Black redstart	*Phoenicurus ochruros*	1	1	0	0
Blackbird	*Turdus merula*	343	301	18	59
Blackcap	*Sylvia atricapilla*	93	93	15	30
Black-headed gull	*Chroicocephalus ridibundus*	402	2	0	0
Blue tit	*Cyanistes caeruleus*	233	205	46	76
Brambling	*Fringilla montifringilla*	1	0	0	0
Bullfinch	*Pyrrhula pyrrhula*	11	11	1	8
Buzzard	*Buteo buteo*	28	23	4	14
Canada goose	*Branta canadensis*	14	14	5	0
Carrion crow	*Corvus corone*	137	123	4	26
Chaffinch	*Fringilla coelebs*	385	265	26	55
Chiffchaff	*Phylloscopus collybita*	101	98	10	18
Coal tit	*Periparus ater*	1	1	0	0
Collared dove	*Streptopelia decaocto*	36	35	4	6
Common Gull	*Larus canus*	223	5	0	0
Coot	*Fulica atra*	20	20	1	5
Cormorant	*Phalacrocorax carbo*	4	4	0	0
Cuckoo	*Cuculus canorus*	0	0	1	0
Dunnock	*Prunella modularis*	189	159	14	40
Feral pigeon	*Columba livia domestica*	73	73	7	
Fieldfare	*Turdus pilaris*	184	0	0	35
Gadwall	*Mareca strepera*	3	0	0	0
Goldcrest	*Regulus regulus*	48	44	6	1

Common name	Latin binomial	Total number of birds recorded in 2017 (including omitted March survey)	Total number of birds recorded in 2017 (excluding March survey)	27 Apr 2020	Total number of birds recorded in April 2021
Goldfinch	*Carduelis carduelis*	153	104	21	16
Great crested grebe	*Podiceps cristatus*	18	18	0	0
Great tit	*Parus major*	164	131	32	42
Greater spotted woodpecker	*Dendrocopos major*	26	24	2	6
Green woodpecker	*Picus viridis*	37	28	5	7
Greenfinch	*Chloris chloris*	34	33	6	9
Grey heron	*Ardea cinerea*	3	2	0	2
Grey wagtail	*Motacilla cinerea*	4	4	0	0
Greylag goose	*Anser anser*	17	15	0	22
Herring gull	*Larus argentatus*	594	340	12	45
House martin	*Delichon urbicum*	27	27	0	3
House sparrow	*Passer domesticus*	75	69	12	23
Jackdaw	*Coloeus monedula*	362	328	69	93
Jay	*Garrulus glandarius*	21	17	2	6
Kestrel	*Falco tinnunculus*	10	7	2	2
Kingfisher	*Alcedo atthis*	4	4	0	0
Lesser redpoll	*Acanthis cabaret*	1	0	0	0
Lesser whitethroat	*Sylvia curruca*	6	6	6	3
Lesser-black-backed gull	*Larus fuscus*	14	12	0	1
Linnet	*Linaria cannabina*	140	139	26	60
Little egret	*Egretta garzetta*	2	2	0	0

Common name	Latin binomial	Total number of birds recorded in 2017 (including omitted March survey)	Total number of birds recorded in 2017 (excluding March survey)	27 Apr 2020	Total number of birds recorded in April 2021
Little grebe	*Tachybaptus ruficollis*	4	4	0	0
Long-tailed tit	*Aegithalos caudatus*	65	51	7	2
Magpie	*Pica pica*	67	61	7	22
Mallard	*Anas platyrhynchos*	65	55	1	11
Mandarin duck	*Aix galericulata*	5	5	0	0
Meadow pipit	*Anthus pratensis*	95	25	0	5
Mediterranean gull	*Larus melanocephalus*	18	1	0	2
Merlin	*Falco columbarius*	1	0	0	0
Mistle thrush	*Turdus viscivorus*	29	25	0	9
Moorhen	*Gallinula chloropus*	13	12	1	1
Mute swan	*Cygnus olor*	1	1	0	0
Nightingale	*Luscinia megarhynchos*	0	0	1	0
Nuthatch	*Sitta europaea*	6	5	2	0
Pheasant	*Phasianus colchicus*	29	26	3	20
Pied wagtail	*Motacilla alba*	110	28	3	4
Raven	*Corvus corax*	0	0	0	1
Red kite	*Milvus milvus*	2	1	0	0
Red-legged partridge	*Alectoris rufa*	1	1	0	0
Redwing	*Turdus iliacus*	142	4	0	0
Reed bunting	*Emberiza schoeniclus*	15	13	5	6
Reed warbler	*Acrocephalus scirpaceus*	5	5	0	0
Ringed plover	*Charadrius hiaticula*	1	1	0	0
Robin	*Erithacus rubecula*	250	215	29	49

Common name	Latin binomial	Total number of birds recorded in 2017 (including omitted March survey)	Total number of birds recorded in 2017 (excluding March survey)	27 Apr 2020	Total number of birds recorded in April 2021
Rook	*Corvus frugilegus*	777	594	67	101
Sedge warbler	*Acrocephalus schoenobaenus*	0	0	2	1
Siskin	*Spinus spinus*	1	1	0	0
Skylark	*Alauda arvensis*	135	126	22	39
Snipe	*Gallinago gallinago*	3	3	0	0
Song thrush	*Turdus philomelos*	117	91	11	30
Sparrowhawk	*Accipiter nisus*	7	6	0	1
Starling	*Sturnus vulgaris*	1045	833	17	32
Stock dove	*Columba oenas*	97	77	4	20
Stonechat	*Saxicola rubicola*	1	0	0	0
Swallow	*Hirundo rustica*	44	44	6	8
Swift	*Apus apus*	48	48	0	0
Tawny owl	*Strix aluco*	1	1	2	0
Treecreeper	*Certhia familiaris*	29	26	3	1
Tufted duck	*Aythya fuligula*	3	3	0	2
Turtle dove	*Streptopelia turtur*	7	7	0	0
Wheatear	*Oenanthe Oenanthe*	0	0	0	1
Whitethroat	*Sylvia communis*	137	137	26	37
Willow warbler	*Phylloscopus trochilus*	2	2	1	0
Wood pigeon	*Columba palumbus*	626	507	59	111
Wren	*Troglodytes troglodytes*	507	462	68	79
Yellow wagtail	*Motacilla flava*	9	9	3	0
Yellowhammer	*Emberiza citrinella*	253	158	14	58

Common name	Latin binomial	Total number of birds recorded in 2017 (including omitted March survey)	Total number of birds recorded in 2017 (excluding March survey)	27 Apr 2020	Total number of birds recorded in April 2021
Total		9014		721	1,366
EXCLUDING March Survey 20 March 2018			6461		

Breeding status of birds recorded within the surveys

3.3.4 In line with the methodology, the breeding status of species was assessed throughout the surveys. The table below (Table 13) presents the results of these assessments. Birds are placed within the most definitive category within which they could be placed (i.e. if a bird species was confirmed to be breeding on site, it will not be listed within the probable or possible breeders lists).

Table 13: Breeding status of the species recorded within the site

Confirmed breeders (on or near to site)	Probable breeders	Possible breeders
Blackbird	Collared dove	Blackcap
Blue tit	Greylag goose	Bullfinch
Buzzard	Mistle Thrush	Canada goose
Carrion crow	Moorhen	Chiffchaff
Chaffinch	Reed bunting	Coal tit
Coot	Skylark	Common gull
Dunnock	Yellow wagtail	Common snipe
Goldfinch	-	Cormorant
Great crested grebe	-	Cuckoo
Great-spotted woodpecker	-	Feral pigeon
Great tit	-	Gadwall
Green woodpecker	-	Goldcrest
Jackdaw	-	Greenfinch
Kestrel	-	Grey heron

Confirmed breeders (on or near to site)	Probable breeders	Possible breeders
Kingfisher	-	Grey wagtail
Linnet	-	Herring gull
Magpie	-	House martin
Mallard	-	House sparrow
Pheasant	-	Jay
Rook	-	Lesser whitethroat
Song thrush	-	Little egret
Starling	-	Little grebe
Stock dove	-	Long-tailed tit
Treecreeper	-	Meadow pipit
Whitethroat	-	Mute swan
Wood pigeon	-	Nightingale
Wren	-	Nuthatch
Yellowhammer	-	Pied wagtail
-	-	Raven
-	-	Red kite
-	-	Red-legged partridge
-	-	Reed warbler
-	-	Ringed plover
-	-	Robin
-	-	Sedge warbler
-	-	Siskin
-	-	Sparrowhawk
-	-	Stonechat
-	-	Swallow
-	-	Swift
-	-	Tawny owl

Confirmed breeders (on or near to site)	Probable breeders	Possible breeders
-	-	Tufted duck
-	-	Turtle dove
-	-	Willow warbler

3.3.5 In total, 28 species were confirmed breeders, 7 were probable breeders and 43 were possible breeders meaning a total of 78 species have the potential to be breeding within, on in the vicinity of, the site. These species range from common and widespread species (e.g. magpie) to much more notable species (kingfisher).

Number of bird observations per visit

3.3.6 Results were collected between March and July 2017, with additional surveys in April 2020 and April 2021. The table below (Table 14) presents the number of bird observations during each visit. This is also presented in Image 3.

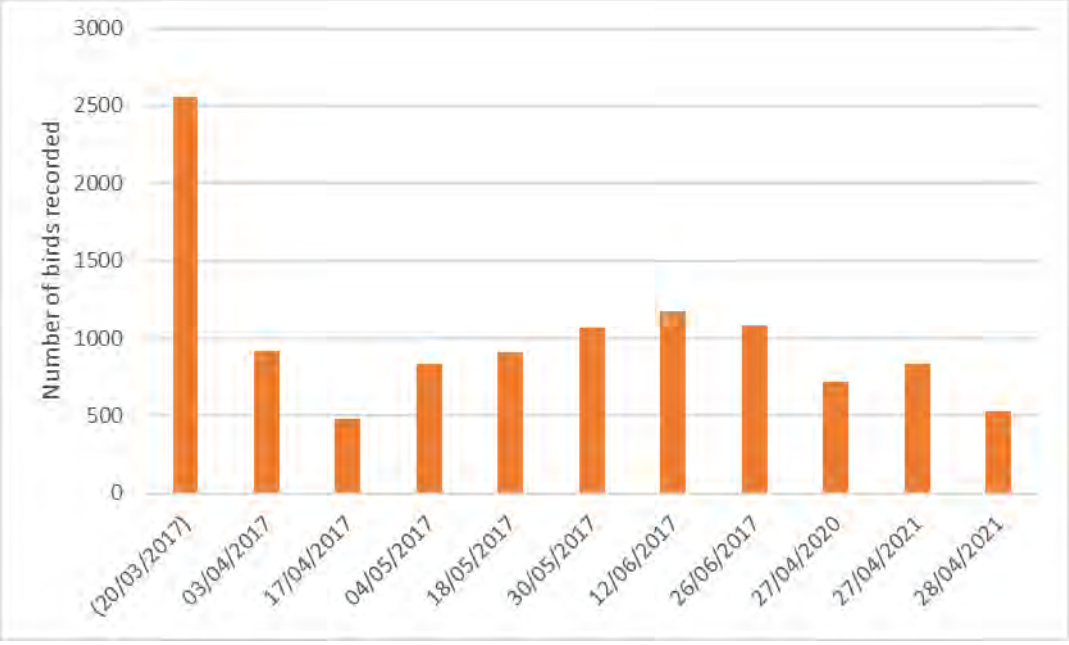


Image 3: Numbers of birds recorded on each survey

3.3.7 Overall, the distribution of birds was as expected, with a drop between April and May as wintering birds departed for summering locations elsewhere, followed by a rise in sightings as more summering birds arrived and/or breed, producing offspring.

Table 14: Number of bird records on each survey visit

Visit number	Survey date	Number of birds recorded
March Visit 1	20/03/2017	(2553)
April Visit 1	03/04/2017	919

Visit number	Survey date	Number of birds recorded
April Visit 2	17/04/2017	477
May Visit 1	04/05/2017	835
May Visit 2	18/05/2017	907
May Visit 3	30/05/2017	1067
June Visit 1	12/06/2017	1172
June Visit 2	26/06/2017	1084
April Visit 3	27/04/2020	721
April Visit 4	27/04/2021	834
April Visit 5	28/04/2021	532

Schedule 1 birds

3.3.8 Eight species that are listed under Schedule 1 Part 1 of the WCA (HMSO, 1981) (and are therefore afforded extra legal protection when breeding) were recorded during the breeding bird survey. These species, along with a description of the likelihood of breeding, are summarised in Table 15 below.

Table 15: Birds listed under Schedule 1 Part 1 of the WCA (HMSO, 1981) recorded during surveys on site.

Species*	Record	Comment	Confirmed to be Breeding on site?	Mean number of birds recorded per survey (mean of 8 surveys)
Barn owl (*Tyto alba*)	No records during breeding bird surveys; pellets and feathers in two buildings on barn owl survey and anecdotal/incidental sightings only.	No confirmed breeding on site but roosting confirmed; breeding on site is possible.	No	N/A only anecdotal records and signs.
Black redstart	During the breeding bird surveys: one individual, visit 3. Incidental record of a family (2 adults feeding one fledgling) at Hilhurst Farm in August 2021.	Observed activity in 2021 confirms that breeding occurred at or near the farm (at the farm is most likely to provide suitable habitat)	Yes	Only one during survey, two adults and one juvenile as an incidental record.
Brambling	Single record only (one individual, visit 1).	Infrequent observation, not known/likely to breed locally; not likely to have bred on site.	No	Only wintering activity recorded on early survey. Not likely to breed on site (winters in the UK).

Species*	Record	Comment	Confirmed to be Breeding on site?	Mean number of birds recorded per survey (mean of 8 surveys)
Fieldfare	Single record only (184 individuals, visit 1).	Infrequent observation, not known/likely to breed locally; not likely to have bred on site.	No	Only wintering activity recorded on early survey, with a lower number recorded April 2021. Not likely to breed on site (winters in the UK).
Kingfisher	Two records (4 individuals, visits 2 & 6) plus incidental records of nest-burrow and behaviour indicative of breeding.	Confirmed to have bred on site northwest corner of the site on the banks of the East Stour River. Potential breeding pair at Folkestone Racecourse Lake	Yes	<1 bird per survey. Confirmed to be breeding on site.
Mediterranean gull	Two records (visit 1 – 17 individuals, visit 6 – 1 individual).	All but one individual recorded only in March, no suitable breeding habitat on site; not likely to breed on site.	No	N/A only wintering activity recorded, unlikely to be breeding
Merlin	Single record only (one individual, visit 1).	Infrequent observation, not known to breed locally; not likely to have bred on site.	No	Only recorded once, unlikely to be breeding on site.
Red kite	Single record only (one individual, visit 1) plus a single incidental record (one individual).	Infrequent observation, not known to breed locally; not likely to have bred on site.	No	Only recorded once, possible but unlikely to be breeding on site.
Redwing	Two records (visit 1 – 138 individuals, visit 2 – 4 individuals).	Infrequent observation, not known/likely to breed locally; not likely to have bred on site.	No	Only wintering activity recorded on early surveys. Not likely to breed on site (winters in the UK).

* Schedule 1 Part 2 of the WCA (HMSO, 1981) is not included as the only recorded species on this list is greylag goose, a species receiving the extra protection only in other regions of the UK.

3.3.9 Of these eight species, kingfisher and black redstart were confirmed to be breeding on site. There is potential that barn owl is breeding, although this was not confirmed. A precautionary assessment that barn owl may be breeding on the site is made. The other six species were either observed infrequently, showed no evidence of breeding or do not normally breed locally, and are therefore considered unlikely to have been breeding on site.

3.3.10 The following bird species are listed as qualifying features of Dungeness, Romney Marsh and Rye Bay SPA during the breeding season:

- Marsh harrier;
- Avocet;
- Mediterranean gull
- Sandwich tern;
- Common tern;
- Little tern.

3.3.11 Only one of these qualifying bird species (Mediterranean gull) was recorded during breeding bird surveys. Mediterranean gull were only recorded on two occasions in low numbers and no breeding activity was observed. The site does not feature suitable breeding habitat for Mediterranean gull (large reed beds or marshes or islands in lakes) therefore it is not considered likely that they breed within the site.

Breeding farmland birds

3.3.12 Within the site, an assemblage of farmland birds was observed during the surveys. In order to determine the value of this assemblage, those birds recorded as 'farmland' species was extracted from the dataset. The species selected were based upon:

- The 19 species listed on the UK Farmland Bird Indicator List 1970 – 2007 (RSPB 2018);
- More generalist species which were observed to be reliant on the farmland within the site.

3.3.13 The birds which were identified as being 'farmland birds' and were recorded during the surveys are shown in the results table below (Table 16). Peak counts within the surveys are provided.

Table 16: Farmland birds recorded on site

Species	20/03/2017 (assessed in wintering birds)	03/04/2017	17/04/2017	04/05/2017	18/05/2017	30/05/2017	12/06/2017	26/06/2017	27/04/2020	27/04/2021	28/04/2021	Total	Breeding status
Goldfinch	*49*	20	8	10	11	17	18	20	21	7	9	190	Confirmed
Greenfinch	*1*	3	5	8	6	4	2	5	6	5	4	49	Possible
Jackdaw	*34*	53	27	60	109	25	47	7	69	60	33	524	Confirmed
Kestrel	*3*		1	2	1		2	1	2	1	1	14	Confirmed
Linnet	*1*	32	8	47	10	13	15	14	26	45	15	226	Confirmed
Long-tailed tit	*14*	7	7	6		15	5	11	7		2	74	Possible
Meadow pipit	*70*	5	1		4	4	4	7		5		100	Possible
Mistle thrush	*4*	4	2	5	11		2	1		4	5	38	Probable
Reed bunting	*2*	4	3	1	1	2	2		5	6		26	Possible
Rook	*183*	43	47	77	86	128	99	114	67	33	68	945	Confirmed
Skylark	*9*	8	9	18	27	22	20	22	22	30	9	196	Probable
Song thrush	*26*	17	12	12	12	18	7	13	11	22	8	158	Confirmed
Starling	*212*	65	11	23	12	156	412	154	17	8	24	1094	Confirmed
Stock dove	*20*	6	6	29	9	12	5	10	4	10	10	121	Probable
Turtle dove	*0*					3	3	1				7	Possible
Whitethroat	*0*		1	39	32	14	23	28	26	3		166	Confirmed
Wood pigeon	*119*	91	37	80	69	58	50	122	59	79	32	796	Confirmed
Yellow wagtail	*0*		1	3	3	1		1	3			12	Probable
Yellowhammer	*95*	25	13	22	23	21	22	32	14	32	26	325	Confirmed
Total	*842*	383	199	442	426	513	738	563	359	350	246	5061	
TOTAL omitting March 2017survey		383	199	442	426	513	738	563	359	350	246	4219	

Notable birds and/or birds of conservation concern

3.3.14 The table below (Table 17) present the records of birds which are notable, due to their listing on Section 41 of the NERC Act, listing on the Kent BAP, or listing on the red or amber lists of BoCC.

Table 17: Summary of notable bird species

Species	NERC S41	BOCC List	Kent BAP
Black redstart		Red	
Bullfinch	Y	Amber	Y
Common snipe		Amber	
Cuckoo	Y	Red	
Dunnock	Y	Amber	
Gadwall		Amber	
Grey wagtail		Red	
Greylag goose		Amber	
House martin		Amber	
House sparrow	Y	Red	Y
Kestrel		Amber	
Kingfisher		Amber	
Lesser redpoll		Red	
Lesser-black-backed gull		Amber	
Linnet	Y	Red	
Mallard		Amber	
Meadow pipit		Amber	
Merlin		Red	
Mistle thrush		Red	
Mute swan		Amber	
Nightingale		Red	Y
Reed bunting	Y	Amber	Y
Ringed plover		Red	

Species	NERC S41	BOCC List	Kent BAP
Skylark	Y	Red	
Song thrush	Y	Red	
Starling	Y	Red	
Stock dove		Amber	
Swift		Amber	
Tawny owl		Amber	
Turtle dove	Y	Red	Y
Wheatear		Amber	
Willow warbler		Amber	
Yellow wagtail	Y	Red	Y
Yellowhammer		Red	Y

3.3.15 In total, 34 notable bird species were recorded within the bird surveys.

3.4 Barn Owl Building Survey

3.4.1 A summary table of the barn owl building surveys is presented in Appendix C (the locations are presented in Figure 6).

3.4.2 In summary, 97 buildings/building groups were assessed for their potential to support nesting barn owl. Of these, only 14 buildings / groups had the potential to support nesting barn owl, and only two buildings had definitive evidence of barn owl usage (10 buildings could not be surveyed or assessed due to access restrictions). A summary of the status of the buildings surveyed is presented in Table 18, with details of structures with barn owl nesting potential identified within Table 19. Table 19 also outlines whether it is proposed for these structures to be removed as a component of the development.

Table 18: Summary of assessment of potential to be utilised by barn owl (categories are organised from least likely to support barn owl to most likely)

Category	Count	Number of these structures likely to be removed
N/A (removed)	19	N/A
Not suitable for nesting barn owl	53	N/A
Unknown - unlikely to be utilised by barn owl because of known use*	9	N/A
Unknown - unable to make a determination on likelihood of use**	1	1

Category	Count	Number of these structures likely to be removed
Potential Nest Site – Considered unlikely to be utilised by barn owl	6	4
Potential Nest Site, unable to make a determination on likelihood of use	6	5
Potential nest site (evidence of usage by barn owl)	2	0
TOTAL potentially suitable or insufficiently assessed	15	10

* includes occupied and maintained residential houses etc.

** the majority of these structures were not accessible.

Table 19: Summary of structures where barn owl nesting potential was identified

Building number	Detail of nesting potential identified	Category (Table 18)	Photograph
1c	Missing tiles on roof provide potential access to roof void. Potential for further entry points out of sight on building roof. Internal features unknown.	Potential Nest Site – unable to make a determination on likelihood of use** To be removed	
1d	One access point visible on south of structure, not safe to access. No confirmed nesting but has nesting potential. Surrounded by potential foraging habitat.	Potential Nest Site – unable to make a determination on likelihood of use** To be removed	
1f(a)	Broken soffit on north side gives access to roof void. No confirmed nesting but has nesting potential, though considered unlikely due to proximity of more attractive sites.	Potential Nest Site – considered unlikely to be utilised by barn owl To be removed	

Building number	Detail of nesting potential identified	Category (Table 18)	Photograph
1g	Entry points above doors, planks resting on beams and roof void in eastern end. No confirmed nesting but has nesting potential, though considered unlikely due to proximity of more attractive sites.	Potential Nest Site – considered unlikely to be utilised by barn owl To be removed	
2a	Suitable entry points identified, barn owl pellets and feathers found, chalky droppings (could not be confirmed as barn owl) and suitable nesting points present. Anecdotal evidence from building owner suggested that barn owl had been recorded using the structure previously.	Potential Nest Site with potential (evidence of usage by barn owl (anecdotal or inconclusive evidence) Not being removed	
2b	Entry points identified and some possible nesting areas on 1st floor. Nesting potential considered unlikely due to relatively high disturbance (this is an active frequently utilised structure and is in close proximity to more attractive sites are nearby).	Potential Nest Site – considered unlikely to be utilised by barn owl To be removed	
2d	Possible entrance hole in roof and through open windows. Suitable platform for breeding in partially collapsed roof void. No confirmed nesting but has nesting potential, though considered unlikely due to proximity of more attractive sites.	Potential Nest Site – considered unlikely to be utilised by barn owl To be removed	
2g	Small alcoves within the tower and walls could be used for breeding but most likely too small and exposed to be likely; those partially covered by ivy may be more suitable but cannot be inspected from ground.	Potential Nest Site – considered unlikely to be utilised by barn owl Not being removed	

Building number	Detail of nesting potential identified	Category (Table 18)	Photograph
3c	Confirmed to be used by barn owl. Active barn with numerous ledges/concealed high areas in north-west part, barn open on north side for multiple entry points. Four barn owl pellets and feathers collected from ground floor throughout at south-west end of barn. Could not be fully surveyed due to safety concerns.	Potential Nest Site (evidence of usage by barn owl) Not being removed	
6d	Entry points likely to be present. Not possible to fully access.	Unknown – unable to make a determination on likelihood of use** To be removed	
7e	Multiple partially collapsed structures. Possible entry points observed. No permission to fully survey.	Potential Nest Site – unable to make a determination on likelihood of use** To be removed	
7k	Multiple possible entry points observed. Old water tanks and cavities in ceiling provide suitable ledges for nesting.	Potential Nest Site – unable to make a determination on likelihood of use** To be removed	
7n	Entrance to building through broken windows, internal features unknown.	Potential nest site – unable to make a determination on likelihood of use** To be removed	

Building number	Detail of nesting potential identified	Category (Table 18)	Photograph
9a	Fully inspected. No confirmed usage by barn owl. Entry through open barn doors. Potential for nest sites (though not ideal) on pallets and stored sacking on roof beams, but high light levels also make it unlikely to be used.	Potential Nest Site – considered unlikely to be utilised by barn owl Not being removed	
9f	Not fully assessed – not safe to enter outbuildings. No entry point into residential house. Entry into outbuilding through open door and window, including to dilapidated 1st floor which was inaccessible to surveys but may include a potential nest site.	Potential Nest Site – unable to make a determination on likelihood of use** Not being removed	 

3.4.3 Barn owl was not recorded during any breeding bird surveys. The only records were from two incidental sightings in the central/northern area of the Folkestone Racecourse (detailed below), barn owl pellets and feathers found in two barns (at Hilhurst Farm and Westenhanger Castle) in the east and north of the site, and anecdotal evidence of their presence within Otterpool Manor and Upper Otterpool. The incidental records are detailed in section 3.5 below.

3.5 Incidental and Anecdotal Record Summary

Barn owl

3.5.1 Anecdotal evidence provided by conversation with John Forge, owner of Westenhanger Castle (pers. comm. 2017) suggested that a barn owl was known to roost and had been seen resting in a window of the castle's barn (building 2a) on multiple occasions.

3.5.2 The only barn owl observations on site were during bat surveys:

- One flew from north-east to south-west on 25/07/2017 at Ordnance Survey Grid Reference (OSGR) TR 11868 36984 and one flew from west to east on 16/08/2017 at OSGR TR 12342 37196; both observations suggested that the barn owl might be flying away from the castle's barn though this cannot be confirmed (see limitations section).

- Two individuals were seen foraging over the disused Lympne Airfield on 14 July 2021

3.5.3 Additional landowner communications suggest that barn owl had historically utilised the structures in Upper Otterpool and Otterpool Manor. Details of this are presented alongside the relevant building descriptions in Appendix C.

Black redstart

3.5.4 During barn owl building assessment surveys, a family of black redstart was observed on 19 August 2021 at Hilhurst Farm (TR 13255 36987). Two adults were observed feeding a fledgling in and around the farm buildings, showing that the birds bred at or very near to the farm in 2021.

Kestrel

3.5.5 Kestrel were confirmed to be breeding on site (during the barn owl building surveys) in building 2a, with young being heard to call from a ledge within the building. This species was also incidentally observed foraging around the racecourse grounds.

Kingfisher

3.5.6 A kingfisher nest-burrow (see Image 4 below) was observed by Brandon Murray during a water vole survey on 25 May 2017. The location (OSGR TR 09667 37726) is consistent with observations made by Ewan Gibson on 17 May 2017 during a reptile survey, when a kingfisher called every few seconds for approximately one minute near this location – such behaviour being suggestive of breeding activity.

Image 4: Kingfisher nest-burrow

Peregrine falcon

3.5.7 An incidental record of two peregrine falcon (*Falco peregrinus*) possibly displaying near Westenhanger Castle was made on 27 April 2021 during reptile surveys. This is the only record of the species on site, so they are not considered to be breeding.

Red kite

3.5.8 In addition to a single record of a red kite during a breeding bird survey, one further observation was recorded on 11 June 2017 of a soaring individual at OSGR TR 10957 35992. No indication of breeding in the vicinity of the site was observed.

Skylark

3.5.9 Whilst the surveys were being undertaken in 2017, it was noted that a section of the Lympne Airfield in the south of the site appeared to be set aside for skylark nesting. This area was located at approximately OSGR TR 119 362.

3.5.10 The presence of this area will be taken into consideration in the impact assessment and the requirement for provision of off-site mitigation.

4 Breeding Bird Valuation

4.1 Introduction

4.1.1 This section of the report presents the valuations of the breeding bird species recorded on the site.

4.1.2 The following data was reviewed in order to inform the assessment of each species, and the overall assemblage:

- The survey data from the 2017, 2020 and 2021 surveys, including the peak counts of birds recorded;
- The notable status of the species in the UK and Kent;
- The data from the KMBRC regarding the number of species and distribution of species recorded;
- Data on population sizes recorded from the most recent 2019 Kent Bird Report (KOS 2019). This was used for comparison to the population status from on-site surveys, where on site populations were approaching 50% of the county status a value of County was assigned. (NB: It must be noted that this largely reports amateur and incidental sightings of birds and data not collected in a systematic fashion and generally surveyed from the most suitable sites and habitats quite different from the Otterpool site. The data that provided the most potential context for the site was utilised, whether that be the Kent wide cited distribution or data from a specific site survey.)
- Information on the availability and quality of habitat for a given species within the site.

4.1.3 All of this data has been considered to calculate a 'geographical value' for each species and subsequently a valuation for the assemblage, of both wintering birds and breeding birds. Where the peak count of birds on the site exceeded 50% of the countywide reported peak counts and the habitat on site is likely to support or maintain the species, an evaluation of importance at "County" level was ascribed. This evaluation is presented in Table 21.

4.1.4 The geographic valuations utilised are assessed using the criteria presented in Table 20 below.

Table 20: Geographical context of Ecological Features

Importance of Ecological Features	Description
International and European	Habitats An internationally designated site or candidate site (Special Protection Area (SPA), provisional SPA, Special Areas of Conservation (SAC), candidate SAC, Ramsar Site, Biogenetic/Biosphere Reserve, World Heritage Site) or an area that would meet the published selection criteria for designation. A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. Species Any regularly occurring population of internationally important species, threatened or rare in the UK (i.e., an *International Union for Conservation of Nature* red list species that is also a UK Red Data Book or Section 41 species (of the NERC Act 2006). A regularly occurring, nationally significant population/number of an internationally important species.
National (England)	Habitats

Importance of Ecological Features	Description
	A nationally designated site (Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Marine Nature Reserve (MNR)) or a discrete area, which would meet the published selection criteria for national designation (e.g. SSSI selection guidelines). A viable area of a priority habitat identified as a priority under Section 41, or of smaller areas of such habitat essential to maintain wider viability. Species A regularly occurring, regionally or county significant population/number of an internationally/nationally important species. Any regularly occurring population of a nationally important species, threatened or rare in the region or county (see Local Biodiversity Action Plan). A feature identified as of critical importance in the UK under Section 41.
Regional (South East England)	Habitats Sites that exceed the County-level designations but fall short of SSSI selection criteria. Viable areas of key habitat identified in the Regional Biodiversity Action Plan (BAP) or smaller areas of habitat essential to maintain wider viability. Species Any regularly occurring, locally significant population of a species listed as being nationally scarce, which occurs in 16 of 100 10km^2 squares in the UK or in a Regional BAP. A regularly occurring, locally significant population/number of a regionally important species. Sites maintaining populations of internationally/nationally important species that are not threatened or rare in the region or county.
County (Kent County Council)	Habitats Sites recognised by local authorities, e.g., Local Nature Reserves or County Wildlife Sites. A viable area of habitat identified in County BAP. A diverse and/or ecologically valuable hedgerow network. Semi-natural ancient woodland greater than 0.25ha. Species Any regularly occurring, locally significant population of a species listed in a County BAP due to regional rarity or localisation. A regularly occurring, locally significant population of a County important species. Sites supporting populations of internationally / nationally / regionally important species that are not threatened or rare in the region or county, and not integral to maintaining those populations. Sites/features scarce in the County or that appreciably enrich the County habitat
Local / Site (Due to the scale of the development the site is considered to be significant at a Local level)	Habitats Non-statutory designations attributed by the Local Planning Authority such as Sites of Importance for Nature Conservation (SINCs) and Local Wildlife Sites (LWSs). Areas of habitat that appreciably enrich the local habitat resource (e.g. species-rich hedgerows, ponds etc). Sites that retain other elements that due to their size, quality or the wide distribution within the local area are not considered for the above classifications. Species Populations/assemblages of species that appreciably enrich the biodiversity resource within the local context. Sites supporting populations of County important species that are not threatened or rare in the County and are not integral to maintaining those population

4.2 Assessment Results

Table 21: Species geographical valuation breeding birds (excluding March)

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
Barn Owl	-	Green	-	Probable (anecdotal records)	2 (incidental records only)	Other notable species	Low abundance across the county / records of presence from Westenhanger Racecourse, one breeding record from within km square.	Local / Site
Black redstart	-	Red	-	Confirmed	One on one occasion (singing), incidental record of two adults feeding one fledgling	Other notable species	Single individuals recorded on spring passage. Breeding in Kent at 13 locations, including 6 pairs at Dungeness and one pair at Samphire Hoe / eight black redstart	County

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
							records of presence, nearest from Lympne.	
Bullfinch	Y	Amber	Y	Possible	2 (call)	Other notable species	Multiple reports of low numbers of birds breeding across the county (in all breeding areas) / 166 records of presence within Otterpool km square.	Local / Site (site not required to support or maintain this species)
Common snipe	-	Amber	-	No	3 (resting)	Notable Waders (Charadriiformes)	No confirmed breeding / territorial birds in Kent in 2019. 273 records of presence within km square, nearest from Lympne.	Local / Site (site not required to support or maintain this species)

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
Cuckoo	Y	Red	-	Possible	1 (singing)	Other notable species	Widespread but declining in Kent. Peak count in Kent was 10 at Worth Marshes in May.	Local / Site (site not required to support or maintain this species)
Dunnock	Y	Amber	-	Yes	30 (juveniles recorded)	Notable 'songbirds' (Passeriformes)	Abundant resident in Kent. 166 records of presence within Otterpool km square.	County (as a component of the farmland bird assemblage)
Gadwall	-	Amber	-	Possible	3 (foraging)	Notable Water Fowl (Anseriformes)	Scarce but increasing breeder peak count of 52 at Dungeness / 166 records of presence within Otterpool km square.	Local / Site (site not required to support or maintain this species)

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
Grey wagtail	-	Red	-	Possible	2 (largely foraging)	Notable 'songbirds' (Passeriformes)	Breeding recorded in all recording areas in 2019 123 records of presence within Otterpool km square.	Local / Site (site not required to support or maintain this species)
Greylag goose	-	Amber	-	Probable	8 (displaying and commuting)	Notable Water Fowl (Anseriformes)	Peak count of 187 I the breeding season at Dungeness in June, seven pairs recorded / 101 records of presence within Otterpool km square.	Local / Site
House martin	-	Amber	-	Possible	18 (foraging)	Notable 'songbirds' (Passeriformes)	1850 House Martin recorded in autumn passage at Dungeness. 113 records of presence within	Local / Site (site not required to support or maintain this species)

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
							Otterpool km square.	
House sparrow	Y	Red	Y	Possible	19 (majority calling)	Notable 'songbirds' (Passeriformes)	55 birds recorded in the breeding season in May and 60 in June at Dungeness / 83 records of presence within Otterpool km square.	Local / Site (site not required to support or maintain this species)
Kestrel	-	Amber	-	No	2 (commuting)	Notable Birds of Prey (Falconiformes and Strigiformes)	Widespread records and 18 breeding pairs recorded / 83 records of presence within Otterpool km square.	Local / Site (site not required to support or maintain this species)
Kingfisher	-	Amber	-	Yes (incidental observation)	3 (one juvenile recorded)	Other notable species	Stable breeding population of 75 – 100 pairs in Kent, reports from 38 sites but only a handful	County

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
							of breeding activities reported in 2014. Less data for 2019 but population stable. breeding pairs recorded at West Hythe.	
Lesser-black-backed gull	-	Amber	-	No	5 (no breeding behaviour)	Other notable species	Peak of 30 pairs recorded at Dungeness in breeding season, low numbers of breeding pairs recorded, 8 roof nests at Folkestone / Hythe - nearest record at Lympne.	Local / Site (site not required to support or maintain this species)
Linnet	Y	Red	-	Yes	47 (singing and 1 nesting pair)	Notable 'songbirds' (Passeriformes) and farmland bird	Peak breeding season counts of over 370 at Dungeness in May. 10 pairs recorded 83 records of presence	County (as a component of the farmland bird assemblage)

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
							within Otterpool km square.	
Mallard	-	Amber	-	Yes	26 (1 nesting pair and juveniles recorded)	Notable Water Fowl (Anseriformes)	Widespread and common in Kent. 305 records of presence within Otterpool km square.	Local / Site (site not required to support or maintain this species)
Meadow pipit	-	Amber	-	Possible	7 (singing and foraging)	Notable 'songbirds' (Passeriformes) and farmland bird	Peak 250 in Dungeness in April 2019 112 records of presence within Otterpool km square.	Local / Site
Mistle thrush	-	Red	-	Probable	11 (singing and alarm call recorded)	Notable 'songbirds' (Passeriformes) and farmland bird	Breeding recorded at multiple sites 135 records of presence within Otterpool km square.	Local / Site

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
Mute swan	-	Amber	-	Possible	1 on one occasion (resting)	Notable Water Fowl (Anseriformes)	Breeding pairs on most suitable waters. 151 records of presence within Otterpool km square.	Local / Site
Nightingale	-	Red	Y	Possible	1 (singing)	Notable 'songbirds' (Passeriformes)	200 Likely breeding pairs recorded in Kent in 2019.	Local / Site
Reed bunting	Y	Amber	Y	Possible	5 (singing and calling)	Notable 'songbirds' (Passeriformes) and farmland bird	36 pairs bread at Dungeness in 2019. 122 records of presence within Otterpool km square.	Local / Site (limited area of suitable habitat, site not required to support or maintain this species)
Ringed plover	-	Red	-	Possible	1 on one occasion (calling)	Notable Waders (Charadriiformes)	180 birds recorded in the Breeding season at Pegwell / Sandwich in May 2019.	Local / Site (limited area of suitable habitat, site not required to support or

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
								maintain this species)
Skylark	Y	Red	-	Probable	27 (largely singing)	Notable 'songbirds' (Passeriformes) and farmland bird	102 records of presence within Otterpool km square. 2019 KOS report suggested a slight year on year increase in population.	County (as a component of the farmland bird assemblage)
Song thrush	Y	Red	-	Yes	18 (singing and foraging, one juvenile recorded)	Notable 'songbirds' (Passeriformes) and farmland bird	Evidence of breeding across Kent 191 records of presence within Otterpool km square.	County (as a component of the farmland bird assemblage)
Starling	Y	Red	-	Yes	412 (singing and foraging one nest confirmed)	Notable 'songbirds' (Passeriformes) and farmland bird	Up to 1000 at Dungeness March 191 records of presence within	County

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
							Otterpool km square.	
Stock dove	-	Amber	-	Probable	29 (singing, commuting and foraging)	Farmland bird	2019 KOS report suggests population is increasing, with a 75% increase since 1994 134 records of presence within Otterpool km square.	County – a relatively high peak count for Kent ad as part of the farmland bird assemblage.
Swift	-	Amber	-	Possible	27 (foraging and commuting)	Other notable species	Peak count of 700 recorded at Dungeness in 2019 but no significant breeding records / 106 records of presence within Otterpool km square.	Local / Site importance only, largely only foraging habitat present.
Tawny owl	-	Amber	-	Possible	2 (singing)	Notable Birds of Prey	Peak count of 15 in East	Local / Site

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
						(Falconiformes and Strigiformes)	Kent, only 7 breeding sites recorded in Kent 47 records of presence within Otterpool km square.	
Turtle dove	Y	Red	Y	Possible	3 (occasional singing)	Other notable species and farmland bird assemblage	KOS report 152 pairs at 77 sites in Kent. 94 records of presence within Otterpool km square.	County
Wheatear	-	Amber	-	No	1 on one occasion (resting)	Other notable species	Local breeding species. Peak count of 24 individuals at Dungeness in June 2019.	N/A (not likely to be using the site)
Willow warbler	-	Amber	-	Possible	1 on two occasions (singing)	Notable 'songbirds' (Passeriformes)	Peak counts of 12 at Dungeness in May	Local / Site (limited area of suitable habitat, site not required

Species	NERC S41	BOCC List	Kent BAP	Likely Breeding Status	Peak count survey (predominant site usage recorded)	Group (Section 5 Discussion)	Abundance data from Kent Bird Report 2019/ KMBRC data	Value (individual Site Status)
							104 records of presence within Otterpool km square.	to support or maintain this species)
Yellow wagtail	Y	Red	Y	Probable	3 (singing and display)	Notable 'songbirds' (Passeriformes) and farmland bird	Peak counts of 20 individuals at Dungeness in July. 98 records of presence within Otterpool km square.	County (as a component of the farmland bird assemblage)
Yellowhammer	-	Red	Y	Yes	32 (singing, two mating and one nesting pair)	Notable 'songbirds' (Passeriformes) and farmland bird	Peak count 12 at Bockhill and 15 at Langdon Cliffs in the breeding season low numbers of confirmed breeding pairs / 121 records of presence within Otterpool km square.	County (as a component of the farmland bird assemblage)

5 DISCUSSION

5.1 Introduction

5.1.1 This section discusses the important bird species and assemblages on the site, their numbers and distribution and potential impacts from the proposed Development. To aid discussion of the survey results, the results are subdivided into the following subsections:

- Overall activity;
- Overall bird assemblage;
- Notable bird species including;
  - Schedule 1 birds;
  - Birds of conservation concern (red and amber);
  - Section 41 (species of principal importance) and birds on the Kent BAP
- The farmland bird assemblage on the site.

5.1.2 The sections have been subdivided in to facilitate impact assessment and mitigation design for each key receptor within the accompanying ES. Where applicable, a brief overview of mitigation required is provided in this section, with a full outline within section 6.

5.2 Overall Activity

5.2.1 Bird activity was recorded across the site. As would be expected with a heterogeneous site of this nature, activity levels varied across the site, depended upon the habitats present and the species which utilise these habitats. A 'heatmap' is presented in Figure 8 which shows the usage of the site by birds. The following qualitative observations were made:

- A high density of birds were recorded in the north-east of the site, particularly the surrounds of Folkestone Racecourse Lake. This is likely due to the variety of habitats present in this area, including grassland, hedgerows, urban areas, ponds and scrub/trees;
- The woodlands to the west of the site, namely Harringe Brooks Wood (immediately adjacent to the site) and Park Wood (in the west of the site), had a high number of records, both within the woods and foraging adjacent to the woods;
- Along the East Stour River corridor, a significant number of birds were recorded, including some more notable species such as kingfisher. This area is likely to be of value because of the variety of feeding resources available, and the nesting opportunities offered by the dese habitats along the river corridor;
- The records returned from within the arable and pastureland within the site were variable, with significant groups of farmland birds being recorded on some occasions, and low number being recorded within other surveys.

5.2.2 During the April 2020 and 2021 update surveys no significant differences were observed in the activity levels recorded across the site.

5.3 Overall Bird Assemblage Summary

5.3.1 In total 90 bird species were recorded during the field surveys. Of these 90, 35 are considered notable with regards to breeding on the site, discussed in section 5.4.

5.3.2 The assemblage was typical of the habitats present within the site, with a few exceptions. It was noted that the incidental breeding record of black redstart was unusual as this species is usually associated with less vegetated areas within its limited UK range, particularly large urban developments with large areas of bare earth adjacent to water. It was confirmed to be breeding on site, but is unlikely to be a significant constraint to the master planning or the development.

5.3.3 An assemblage of bird species was typical of farmland bird species and there were assigned to a “farmland bird assemblage”. This assemblage is discussed in section 6.1.

5.3.4 A number of notable species, those on the BoCC list as red or amber, listed under Section 41 of the NERC act, listed under Schedule 1 of the WCA or on the Kent BAP were recorded. These are discussed, in section 5.4.

5.3.5 The results from the March survey were indicative of wintering and over passage migrants leaving after wintering and as such these are discussed in the wintering bird reports (ES Appendix 7.16).

5.3.6 During the April 2020 and 2021 update surveys, the bird assemblage was very similar in terms of the number of species present and the number of individuals observed of each species. Three new species were recorded singing in 2020, but only in very low numbers (cuckoo – 1, nightingale – 1 and sedge warbler – 2). These species were assessed as being possible breeders. Two additional species were identified in 2021 (raven – 1 and wheatear – 1) raven has been identified as a possible breeder. It is assessed that the breeding bird assemblage has not significantly changed since the previous surveys.

5.4 Notable Birds and Birds of Conservation Concern

5.4.1 Of the species recorded within the site, a total of 35 were considered notable. This section outlines the conservation status of these species, potential impacts and mitigation required, once the March 2018 survey was omitted. Where these species are part of the ‘farmland bird assemblage’, they are also discussed as a component of an assemblage in section 6.1 (which also considers species which are not necessarily notable).

Notable ‘songbirds’ (Passeriformes)

5.4.2 This section outlines the notable passerine species, which include a number of ‘farmland’ species.

5.4.3 A number of notable passerine species were recorded, namely bullfinch (red listed, peak count 4), dunnock (amber listed, peak count 30), grey wagtail (red listed, peak count 2), house martin (amber listed, peak count 8), house sparrow (red listed, peak count 19) and willow warbler (amber listed, peak count 1).Yellow wagtail, yellowhammer, starling, song thrush, mistle thrush and linnet were all recorded on site and are red listed in the UK on the BoCC list. Although none of these species were recorded in significant numbers (32 yellowhammer was the peak count within this group on a single visit, once the March survey was omitted), these species require conservation action to safeguard them. As such, on-site habitat mitigation, enhancement and creation is proposed, detailed in section 6.

5.4.4 Skylark were noted within the site, although not at particularly high numbers (peak count 27) and were probably breeding within the site. A significant area of breeding habitat for this species is likely to be lost, and this species is a red list species on the BoCC list. In addition, a plot likely to have been created for this species will be lost. Due to this, off-site mitigation will be required as detailed in section 6.

5.4.5 With the exception of house sparrow, all the other passerine species were recorded in such low numbers that the site is unlikely to be important for the conservation (i.e., supporting and maintaining) of these species. However, mitigation for house sparrow and swift in the form of nest boxes would be recommended, detailed in section 6.

5.4.6 During the 2020 survey a single nightingale was recorded singing and as such was assessed as a possible breeder. The single record indicates this species is of site/local importance only. No specific mitigation for this species is recommended.

Notable Waders (Charadriiformes)

5.4.7 Two notable waders were recorded, common snipe and ringed plover. One ringed plover and three snipe were recorded, each on one occasion, therefore the site is considered not to be important for these species. No specific mitigation is required for breeding waders, however a significant wetland area is proposed in the north west of the site which will benefit these species.

Notable Birds of Prey (Falconiformes and Strigiformes)

5.4.8 Three notable birds of prey were recorded on site; kestrel (which was found breeding on site), peregrine falcon and tawny owl. Tawny owl were recorded only three times on the site therefore the site is not considered important for these species. Peregrine falcon was recorded on site only once therefore the site is not considered important for these species. Kestrel was recorded on multiple occasions in low numbers. However, no specific mitigation is considered necessary for this species, as the green infrastructure (GI) provided will provide additional foraging resource for this species, and additional mitigation for barn owl (presented in section 6) will also benefit this species.

Notable Water Fowl (Anseriformes)

5.4.9 Once the March survey was, three amber listed wild fowl, namely mallard, mute swan and greylag goose were recorded on the site. Less than 10 greylag goose were recorded at each peak count, and only one mute swan, therefore the site is unlikely to be important for these species. Mallard were recorded on all but one survey with a peak count of 26. There will be negligible impacts to this species resulting from the proposed Development as the significant water bodies on the site are being retained and buffered and extensive new water bodies, including sustainable drainage systems (SuDS) are proposed. No additional mitigation is considered necessary.

5.4.10 Within the surveys, nine Schedule 1 birds were recorded within the site. However, of these, only one was confirmed to be breeding on the site (kingfisher), one had potential to be breeding on the site (barn owl) and two were considered unlikely to be breeding on the site (red kite and merlin). All of the other species recorded were recorded early in the surveys exhibiting wintering bird behaviour and were considered to have negligible potential to be breeding within the site.

Other notable species

Kingfisher (Schedule 1 bird)

5.4.11 Two locations within the site were assessed as supporting this species. Both of these locations are going to be retained within the development, and enhancement, including new wetland area and banks suitable for kingfishers are proposed, detailed in section 6.

Barn owl (Schedule 1 bird)

Nesting

5.4.12 On and in the immediate vicinity of the site, 94 buildings/building groups were assessed for their potential to support nesting barn owl. Of these, only eleven buildings / groups had the potential to support nesting barn owl (two buildings were unknown) and only one building had definitive evidence of barn owl usage. Of the eleven buildings with the potential to be roosts, only three are proposed to be removed (also the two unknown buildings) and only one of these is considered to have significant barn owl nesting potential.

5.4.13 Trees were not assessed for barn owl potential, as it was not considered proportional to the stage of the planning application. In addition, the vast majority of the trees are being retained within the development. Also, as noted within the barn owl conservation handbook, (Barn

Owl trust 2012) "*the vast majority of trees do not have a large dry hollow".* As a result, it is assessed that the likelihood of a significant number of tree roosts being present within the site and due to be removed within the proposed Development, is low.

5.4.14 In addition, when the desk study data was assessed, it was noted that there was only one confirmed breeding record from within the vicinity of the site, recorded in 1973. The likelihood of a significant number of barn owl breeding within the site is considered low.

5.4.15 As a result of these assessments, it is considered unlikely that a large number of barn owl breeding roosts will be impacted by the development. Therefore, mitigation proposed is for barn owl boxes to be erected in small numbers around the periphery of the site, detailed in section 6.

Foraging

5.4.16 Within the Otterpool Park proposed Development area, there were observations during the surveys of barn owl, and this species is likely to be foraging within the site. The habitat assessment recorded that only 18% of the site offers Type 1 or Type 2 habitats (optimal or sub-optimal habitats), and the remaining 82% is very poor or has minimal value for foraging barn owl.

5.4.17 Some mitigation for the loss of foraging habitat is included within the masterplan, with the retention of significant areas in the south east of the site, and the creation to extensive areas of rough and wildflower rich grassland along the riparian corridor, detailed in section 6.1 and within the wider GI. However, there will be a small overall loss in the amount and quality of foraging habitats available. As a result, there will be some off-site mitigation for barn owl, as specified within section 6, combined with the farmland bird mitigation.

Barn owl landscape suitability

5.4.18 In addition to the site assessments, Barn Owl Trust mapping relating to the landscape suitability was reviewed to determine the status of barn owl in the area at the regional scale (Barn Owl Trust 2018). Image 5 shows an extract from the relevant area map with the red circle indicating the site location which confirms that there is habitat suitability at a broad landscape scale but that the major road in proximity to the site reduces this suitability. The limiting factor in these areas are likely to be foraging habitat. Whereas in very suitable areas the limiting factor is likely to be breeding habitat.

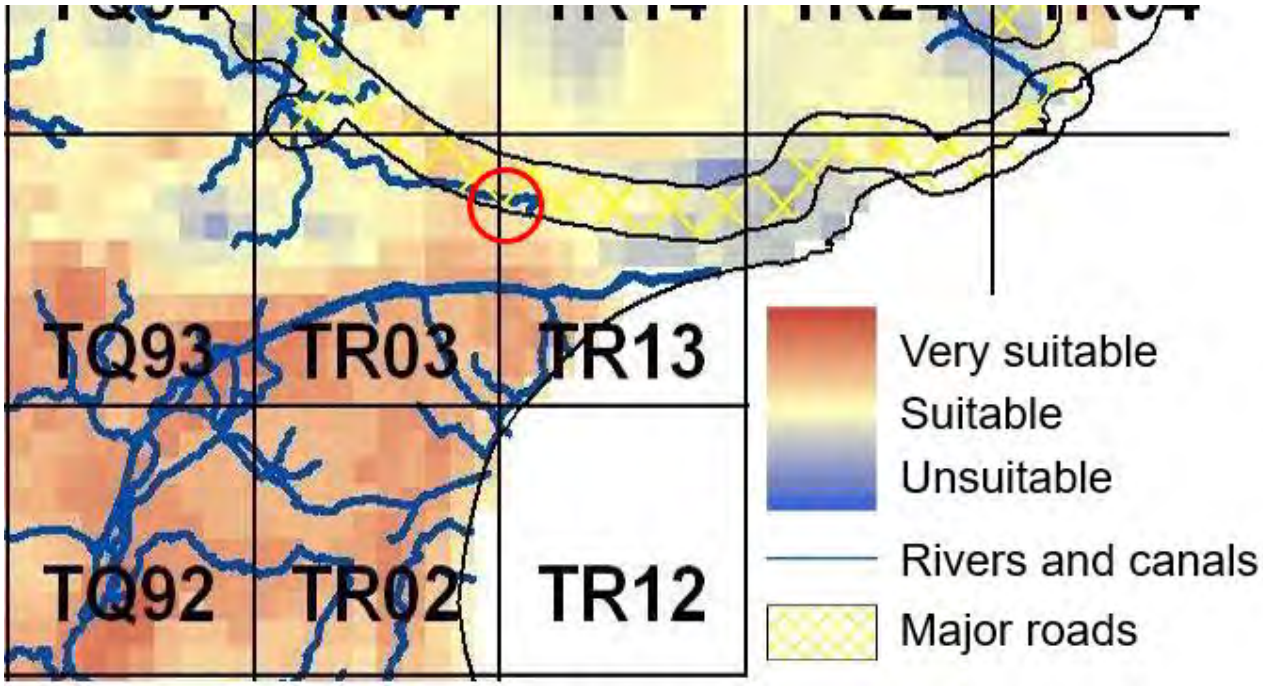


Image 5: Landscape suitability Map in relation to the Otterpool site (extracted from the Barn Owl Trust website (Barn Owl Trust 2018) https://www.barnowltrust.org.uk/wp-content/uploads/ENGLAND_Southern.jpg

Turtle dove

5.4.19 Turtle dove were recorded within the site, in low numbers (peak count 3). This species was possibly breeding on site, but considering the low number of records and that this species was only recorded on three occasions, this is considered unlikely. In addition, the desk study did not return any records of breeding turtle dove. However, this species is undergoing significant decline, and mitigation for loss of habitat is recommended, which is outlined in section 6. In summary, woodlands are to be retained and buffered, and new tree planting including woodland blocks will create prospective nesting habitats. Off-site mitigation for foraging habitat for this species will be required.

Swift

5.4.20 Swift were recorded on site on three occasions. (amber listed, peak count 27). It was not considered that this species was breeding on the site and considering the low numbers of occasions this species was recorded, it is not considered that the site is supporting or maintaining swift. However, enhancement for swift in the form of nest boxes would be recommended, detailed in section 6.

Cuckoo

5.4.21 A single cuckoo was recorded singing during the April 2020 survey and as such was assessed as a possible breeder. Due to the single record of this species, which is considered to be of site/local importance, no specific mitigation is recommended.

Black redstart

5.4.22 Black redstart were recorded on two occasions – one singing male in April 2017 (with no further records in the same season) and a pair of adults feeding a juvenile in August 2021. The latter record confirmed that breeding had taken place on site, albeit only on this one occasion. Based on the most recent estimate of the number of breeding pairs in the UK being 64 (RBBP, 2020) the single pair on site represented 1.5% of the UK breeding population.

5.4.23 There is one record of breeding on site, with only a brief single record of song in April 2017 and no other records of black redstart presence on site until 2021. The evidence does not suggest that black redstart are regular breeders on site and therefore the species is considered to be of county importance; however, if the species continues to breed on site in the future and becomes a regular breeder, it may become of national importance (depending also on changes to the UK population).

6 MITIGATION RECOMMENDATIONS AND FURTHER WORK

6.1 Farmland bird assemblage

6.1.1 Within the site, a notable assemblage of farmland birds was recorded. Of the 'farmland bird assemblage' species list identified on the site, all species were 'confirmed', 'probably' or 'possibly' breeding within the site. In total during the surveys, 4219 'farmland birds' were recorded, an average of 422 birds recorded per survey. This is a recorded average of less than 1 bird per hectare of survey area, per survey. In addition, it was noted that the number of each farmland bird species recorded during the surveys differed greatly between surveys. This suggests that the individuals recorded utilise a larger area of farmland for foraging and breeding, which includes areas of the survey site. For example, numbers of woodpigeon varied between 37 and 122, linnet between 1 and 47, starling between 11 and 412 and yellowhammer between 13 and 32.

6.1.2 The data collected suggests that the site supports a broad assemblage of common farmland birds, with a density that is likely to be limited by the habitats within the site (i.e., a relatively intensively farmed agricultural landscape).

6.1.3 Potential impacts to the farmland bird assemblage includes loss of nesting and foraging habitats, increased disturbance and impacts from introduction of domestic pets (particularly cats) into retained and adjacent habitats.

6.1.4 Extensive mitigation will be incorporated within the masterplan design, primarily within high quality Green Infrastructure (GI). The development will be designed to minimise the impact to farmland birds. Hedgerows, which provide a nesting and foraging resource are to be retained within the development, with only a small number of hedgerow sections to be removed to facilitate the development. Where hedgerows are to be removed, these sections will be translocated, and as a component of the development extensive sections of new hedgerow are to be installed. The proposed new sports pitches within the development would have rough grassland buffers, providing a foraging resource, and there will be a section of enhanced open space in the south-east of the site. However, there will be a residual significant loss of foraging arable and pasture land. As a result, off-site mitigation for this loss will be required, described in Section 6 below.

6.2 Design mitigation

Masterplan design

6.2.1 In line with the mitigation hierarchy, the masterplan has been designed to avoid and minimise impacts to breeding birds. The following approaches have been incorporated within the masterplan to avoid impacts to breeding birds:

- The majority of hedgerows are being retained and buffered within suitable GI to allow these features to continue to provide a resource for breeding birds, both nesting and feeding, and hedgerow sections which are removed to facilitate road and footpath crossings will be translocated;
- The vast majority of trees are being retained within the development;
- Aquatic features and areas identified as having particular value for notable bird species, including the East Stour River corridor and Folkestone Racecourse lake are to be retained, buffered and enhanced within the development;
- The ancient woodland, off-site to the west (Harringe Brooks Wood) is to be retained and buffered, in a buffer which is a minimum of 50m along its length;
- Multiple small woodlands are to be retained and buffered within the development, including Park Wood, Springfield Wood and a young woodland to the north of Link Park (Centred on OSGR TR 112 361).

6.2.2 In addition to this retention, there will be significant area created within the GI of the proposed Development that will be of value for breeding birds. This will include:

- A wetland area containing ditches, channels, trees and scrub in the north west of the development, which will provide foraging and nesting habitat for breeding birds, particularly waders and water fowl;
- A large number of additional hedgerows, which are to be buffered are proposed to be planted across the development, these will subdivide development plots and provide a permeable barrier to wildlife;
- A large number of new water features are proposed to be created, including SuDS and specific wildlife ponds, which will provide a foraging resource for breeding birds;
- A large area of orchard, grassland and SuDS features are proposed to be created in the south east of the site, between Lympne and the development, which will be of value for foraging and breeding birds, particularly farmland species, including ground nesting species;
- New parkland areas are to be created, in the centre of the development a woodland park is proposed, which will provide enhanced foraging and breeding habitats for breeding birds. A town park is proposed, adjacent to the Folkestone Racecourse Lake, which will provide a resource for breeding bird species which are associated with urban areas, such as house sparrow, song thrush and starling.
- New areas of woodland and tree planting are proposed, largely as landscape buffers, but these areas will provide significant nesting opportunities for breeding birds.

6.2.3 At Tier 2 and Tier 3 of the planning process, appropriate design for creation of black redstart habitat will be included, particularly in the 'Eastern Triangle' area (around Hilhurst Farm, between the A20 and Stone Street). This design mitigation will include green and brown roofs and provision of foraging resources.

6.2.4 However, it is not possible to fully mitigate for impacts to farmland birds, ground nesting birds and other groups which require large areas of open farmland and pasture within the proposed Development. As such, an outline of off-site mitigation is provided below.

6.3 Additional mitigation

Farmland birds and barn owl - off site mitigation

Introduction

6.3.1 For farmland birds and barn owl, it will not be possible to fully mitigate for these species within the site due to loss of large areas of foraging habitat and breeding habitat for ground nesting birds. Measures will be incorporated within the site (as described within section 6.1), nevertheless, there will be residual impacts, due to the significant space requirements of farmland birds and barn owl. Therefore, an off -site mitigation strategy will be outlined. It is not within the remit of this report to outline the exact location or methodology of off-site provision, this will need to be determined for each phase as the development progresses. It is not appropriate to fully outline the approach as due to the extended buildout the situation may change, for example:

- Partnerships with NGOs / other organisations may change, making collaborative offsetting projects more practicable;
- Standing advice, such as Countryside Stewardship parameters may vary over time;
- The management of farmland to be developed may change, i.e. additional areas may be brought into or taken out of Countryside Stewardship management. Therefore, the baseline will need to be updated to ensure that the mitigation provided is appropriate.

6.3.2 Initially, for Phase 1 of the development, an area to the west of the development site is proposed to be enhanced. This area is shown in Image 6 below. This area would be enhanced as outlined below to offset the initial impacts from the developments. Beyond this, additional areas will need to be identified for enhancement.

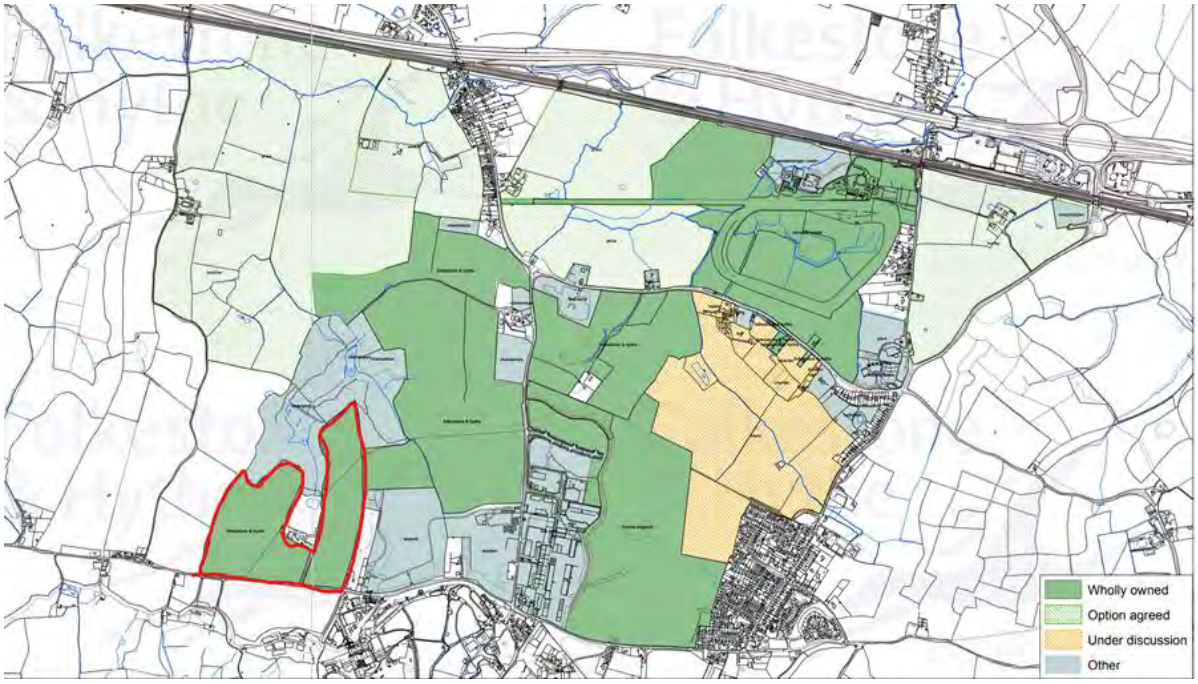


Image 6: Proposed location of enhancement for Farmland Birds for Phase 1 of the development (indicatively shown in red)

6.3.3 This section outlines how a suitable mitigation approach and quantum should be identified prior to development of each parcel and how a suitable financial payment for this can be calculated.

Outline of off-site mitigation for barn owl and farmland birds

6.3.4 This mitigation is also described within the wintering bird report (ES Appendix 7.16). This mitigation is the same, not additional to that mitigation.

6.3.5 The development would lead to the loss of the farmland that supports barn owl and other farmland bird species. Domestic pets (primarily cats) associated with new residents may also lead to an increase in predation affecting birds using retained habitats on site and the adjacent farmland. The creation of a wide band of open space on the edge of the Masterplan (such as the woodland buffer in the west and retained farmland / open space in the south east and north west) of site would reduce the likelihood of predation and lead to the creation of habitats of value to some of these species; nevertheless, there would be a residual effect on birds, as a large amount of farmland bird habitat would not remain on the site.

6.3.6 It is proposed to mitigate for the adverse effect on farmland birds by funding habitat improvements off-site. Funds would be provided to enhance local habitats for farmland birds through appropriate, proven management regimes to increase the carrying capacity of local habitats. It is considered that such enhancement measures would mitigate for the loss of habitat for farmland birds as a result of the proposed Development. The payments are based on 'Countryside Stewardship: Higher Tier' / ELMS options targeted specifically at farmland birds and aim to provide the three elements considered to limit farmland bird numbers. These are:

- Safe nesting habitat,

- Summer food; and
- Winter food.

6.3.7 Measures developed as part of 'Countryside Stewardship: Higher Tier' which could be adopted are designed to (Rural Payments Agency 2021):

- benefits as many wild pollinators and birds as possible.
- provide valuable spring foraging for wild pollinators, as well as good nesting habitat for birds.
- create a mixture of habitats, from tussocky, uncut grass to areas of warm, dry, bare ground that remain undisturbed for the breeding cycle. These will provide wild pollinators and farmland birds places to nest and, shelter and overwinter/hibernation areas for pollinators.
- Provide both annual and biennial wild bird seed mixes as they will benefit a broader range of farmland birds.
- Place skylark plots over some/all of the area of winter cereal crops.

6.3.8 There are other measures that could be adopted but those suggested would provide habitat for these three elements in line with Natural England's Farmland Bird Advisory Note (Natural England, 2013).

6.3.9 It is not considered necessary to purchase land specifically for the habitat management, since it is not the lack of farmland that is limiting bird numbers, but the lack of appropriate management. It is proposed to contribute funds to body such as a specifically created group or NGO, a wildlife trust or conservation group which would guarantee, through a legal agreement, that the money would be used to deliver the proposed benefits for farmland birds in the local area. The detail of this agreement would be set out in a S106 or similar legal agreement which would form part of the detailed permission for each planning application.

6.3.10 The disturbance and habitat loss that would have the largest effect on nesting farmland birds would occur during site clearance; it is therefore proposed that the monies would be provided to the grant-giving body at least six months, and ideally one year, in advance of the impacts occurring (i.e. at last six months and ideally one year in advance of site clearance for each phase / zone of the development).

6.3.11 It is proposed that funds provided should be sufficient to enhance farmland for farmland birds for a period of 30 years (the management time expected as stated in the Environment Act 2021). The sums would be provided as lump sums in advance of each phase of site clearance sufficient to cover management for the 30-year period. The payments provided would be in line with the payments provided by 'Countryside Stewardship: Higher Tier' (Rural Payments Agency 2021) as outlined in the tables below (Table 22 and Table 23). A mark-up on the area of enhancement provided is proposed, as areas of the site are currently under HLS stewardship (the predecessor scheme to 'Countryside Stewardship: Higher Tier'), and the requirement for offsetting should be against the future baseline. The calculation of this is shown in Table 23 below. It should be noted that management / implementation costs are likely to be in addition to these costs.

6.3.12 A study of the effect of HLS management on breeding bird populations in the UK showed an approximate 30% increase in breeding bird abundance under HLS management after 5 years (Redhead *et al* 2018). The habitat on site does not yet show obvious habitat improvements nor farmland bird abundance differentiation but is likely to do so in the future under continued HLS management. Therefore, to account for the future baseline, a calculation has been undertaken based on the area of suitable habitat for farmland birds to be lost, both conventional and HLS managed. Multipliers of 1 and 1.3 respectively have been employed to give an area of new habitat proposed to be established under optimum management for farmland birds as compensation.

Table 22: Calculation of multiplier for requirement for farmland birds

Area of the site	Area (ha)	Value for birds	Proposed offsetting quantum (multiplier)	Explanation	Total offsetting 'area' required (ha)
Arable land CURRENTLY under HLS stewardship	175ha	Currently has value for farmland birds, wintering thrushes and feeding gulls (likely to increase according to the future baseline).	1.3*	The additional 0.3 increase is to take into account the increased value and the future baseline of this habitat	175 x 1.3 = 227.5ha
Arable / pastureland not under HLS	352 ha	Currently has limited value for farmland birds, wintering thrushes and feeding gulls. Unlikely to change in future baseline.	1	A 1 for 1 enhancement should be sufficient*	352 x 1 = 352 ha
Total					579.5 ha

*1.3 to account for benefits from future baseline

Table 23: Proposed interventions for off-site mitigation (based on 'Countryside Stewardship: Higher Tier' but implementation should go above the base requirements

Item	Unit price*	Suggested minimum (per 100ha as per 'Countryside Stewardship: Higher Tier' guidance)
AB1 Nectar flower mix	£511 per hectare	1.5ha
AB11 Cultivated areas for arable plants	£532 per hectare	1.5ha
AB11 Cultivated areas for arable plants	£532 per hectare	1ha
AB12 Supplementary winter feeding for farmland birds	£632 per tonne (2 hectares)	50 tonnes
AB15 Two-year sown legume fallow	£522 per hectare	1.5ha
AB16 Autumn sown bumblebird mix	£550 per hectare	1.5ha
AB2 Basic overwinter stubble (or OP1 Overwintered stubble	£84 per hectare	5ha
AB4 Skylark plots	£18 per hectare (£9 per plot, minimum 2 plots per hectare)	2 plots per ha -= 200 plots
AB6 Enhanced overwinter stubble	£436 per hectare	2.5ha

Item	Unit price*	Suggested minimum (per 100ha as per 'Countryside Stewardship: Higher Tier' guidance)
AB8 Flower-rich margins and plots	£539 per hectare	1.5ha
AB9 Winter bird food	£640 per hectare	1/2ha depending upon implementation
BE3 Management of hedgerows	£8 per 100 meters for 1 side of a hedge	500m
GS1 Take field corners out of management (outside SDA)	£365 per hectare	1ha
GS3 Ryegrass seed-set as winter food for birds	£331 per hectare	1ha
GS4 Legume and herb-rich swards (or OP4 Multi- species ley)	£309 per hectare	1.5ha
Management Fee	TBC	TBC
OP1 Overwintered stubble	£116 per hectare	5ha
OP2 Wild Bird Seed mixture	£640 per hectare	1ha
OP3 Supplementary feeding for farmland birds	£494 per tonne (for every 2 hectares of wild bird seed mixture)	N/A
SW1 4-6m buffer strip on cultivated land	£353 per hectare	1ha
SW4 12-24 m watercourse buffer strip on cultivated land AB3 Beetle banks	£512 per hectare	1ha
WD3 Woodland edges on arable land	£323 per hectare	0.5ha
WT1 Buffering in-field ponds and ditches in improved grassland	£201 per hectare	0.5ha
WT2 Buffering in-field ponds and ditches on arable land	£501 per hectare	0.5ha
WT3 Management of ditches of high environmental value	£37 per 100 metres (for the management of both sides of the ditch)	500m

* Should be based on 'Countryside Stewardship: Higher Tier' guidance or equivalent scheme.

6.3.13 The 'Countryside Stewardship: Higher Tier' options that will be applicable to each parcel of land to be enhanced and the palette of options that will be suitable for implementation from the table above will vary greatly. As such, it is not possible to confirm the likely cost of the overall intervention. However, the 'Countryside Stewardship: Higher Tier' guide provides some examples of a compliant scheme., the payments on these schemes area in the region

of £3000 - 3500 per 100 ha per annum. Assuming the offsetting interventions for the proposed Development would go over and above the minimum requirements, and 2X the base requirements were implemented, this would suggest an annual cost of between £6000 and £7000 per 100ha of offset (excluding any management costs).

6.3.14 It is considered that providing sums that would cover enhancements on 579.5ha of land would more than mitigate for the impacts on farmland birds that would be generated by the development on the Masterplan Site. The RSPB have found that they were able to more than double the number of farmland birds on their Hope Farm Site in Cambridgeshire in a ten-year period by managing their farmland in a manner beneficial to farmland birds (Source: RSPB website). It is therefore anticipated that enhanced management of 579.5ha of land would mitigate for the impact on birds associated with the loss of suitable farmland bird habitat within the site. The provision of grants to local landowners via a grant-giving body would ensure that the monies are provided for appropriate measures, and that the measures would be implemented since the grants would not be awarded if the works were not completed.

6.3.15 As it is considered that 579.5ha of enhancement would offset the Otterpool impact to farmland birds, this allows an estimate of the total cost to be calculated. Assuming an annual cost of between £6000 and £7000 per 100ha of offset, over 30 years, the total cost would be:

- £6000/7000 (cost) x 30 (years) x 5.795 (number of 100ha blocks) = £1043100 to £1216950 (ESTIMATED).
- This equated to a cost of £34770 to £40565 per year
- Assuming a total of 8500 residential units, this would be £4.09 to £4.77 per unit per year.

6.3.16 It is considered that this alternative provision would mitigate for impacts resulting from the loss of barn owl habitats. This would be in line with the prescription of the Barn Owl Trust which state:

“Barn Owl foraging habitat has no statutory protection at any time (other than by virtue of the presence of other more highly protected species of fauna or flora). Nevertheless, we recommend that the loss of foraging habitat is mitigated by the creation and subsequent management of alternative areas of habitat.” (Barn Owl Trust 2018).

Selection of off-site mitigation provision

6.3.17 As explained above, it is not practicable to determine the exact application of the off-site mitigation requirements outlined within this document at this time. The image below outlines the potential options for the implementation of the off-site mitigation (Image 7), and a process through which an appropriate course should be selected.

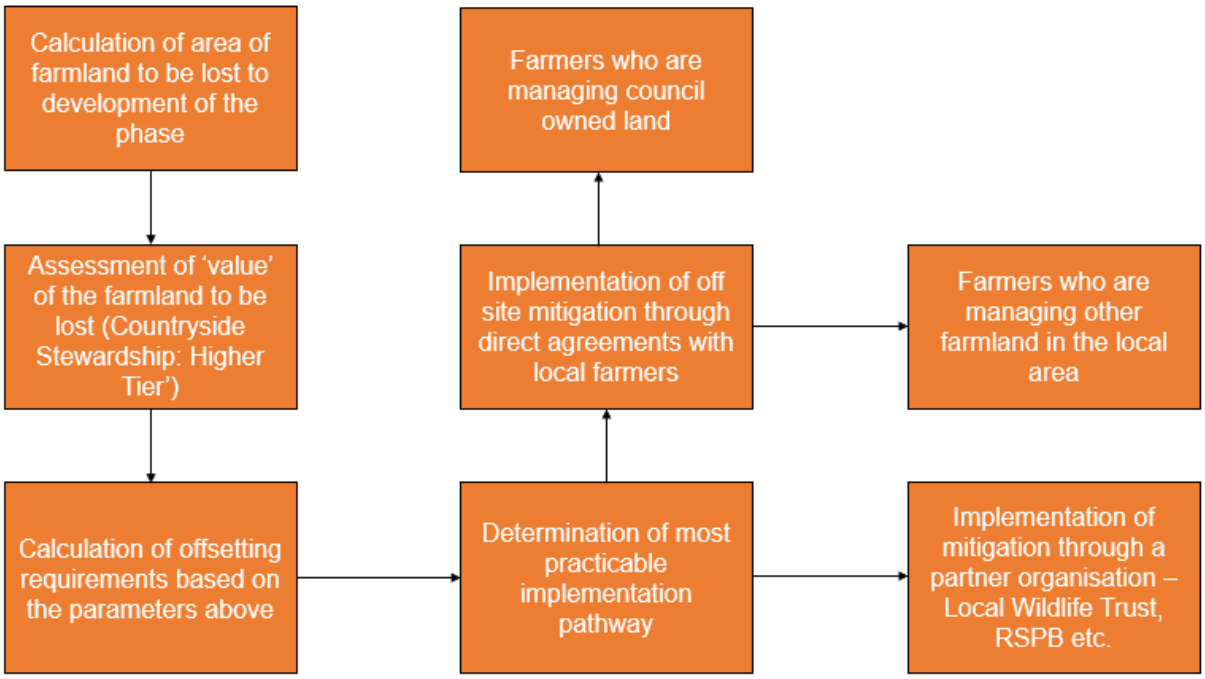


Image 7: Process and options for the selection of implementation of the off-site mitigation

Construction mitigation

General

6.3.18 All nesting birds are protected by law and the site clearance to enable the development is likely to have impacts to nesting bird habitats. It is therefore recommended that appropriate construction mitigation measures are implemented. These should be outlined within the Code of Construction Practice plan (CoCP) and include

- Any clearance or disturbance of vegetation (inclusive of but not limited to hedgerows, trees and arable fields) should be undertaken outside of the bird breeding season (between March and August inclusive), as per Natural England's (NE) Standing Advice (NE, 2015). If this is not possible, pre-clearance nest checks (within 48 hours prior to clearance) must be undertaken by an ecologist to ensure compliance with the aforementioned legislation.
- Pre-construction nest checks for barn owl, black redstart and kingfisher in particular should be undertaken where there is appropriate habitat with the potential to be disturbed (to determine the need for a licence).
- 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; the CoCP would ensure that retained trees are protected.
- In advance of site clearance, protective fencing is installed to protect retained and/or ecologically sensitive habitats (woodlands, mature trees and hedgerows) and their associated buffer zones to ensure that they are not subject to accidental damage (to be determined on a phase by phase-by-phase basis).
- Haul routes, storage compounds and staff facilities would be located away from retained habitats to minimise disturbance to the species they support.

- 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 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.
- Care should be taken to ensure that biosecurity measures are in place to prevent the spread of arboricultural diseases such as Ash dieback.

6.3.19 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.

6.3.20 The Ecological Clerk of Works would report to the Site Manager and/or Environmental Clerk of Works to ensure that remedial actions are undertaken in a timely manner.

Dedicated

6.3.21 During the phasing of the work there may be a requirement for a Noise Mitigation and Management Plan with regards to breeding birds. This mitigation would be evolved with the phasing of the proposed Development.

Licensing potential for Schedule 1 Birds

6.3.22 Bird species listed under Schedule 1 of the WCA 1981 (as amended) (HMSO, 1981) are afforded extra protection whilst breeding. This means that adult and young birds are additionally protected from disturbance whilst at or near the nest site, so long as the young are still dependent on the adults (which extends beyond their fledging the nest).

6.3.23 Barn owl are known to nest throughout the year; therefore, works undertaken at any time of year within 30m (Barn Owl Trust, 2012) of a location identified in this report as a Potential Nest Site, or any tree with a suitable cavity (an entrance hole need only be the size of a tennis ball) must be surveyed by a licensed ecologist (Licence CL29) prior to the commencement of works. If an active nest is found, an exclusion zone will be defined by the ecologist within which no works can commence until the nest is no longer active.

6.3.24 At least one active kingfisher nest burrow, potentially two were present on site. Before any works can be undertaken in close proximity to a watercourse, a nest check should be undertaken by an ecologist prior to the commencement of works. If an active nest is found, an exclusion zone will be defined by the ecologist within which no works can commence until the nest is no longer active.

6.3.25 At least one area where black restart breed was present on site. Before any works can be undertaken in close proximity to this area, a nest check should be undertaken by an ecologist (according to the appropriate survey methodology) prior to the commencement of works. If an active nest is found, an exclusion zone will be defined by the ecologist within which no works can commence until the nest is no longer active.

6.3.26 If this is not practicable, Natural England licences may be required to enable any works which have the potential to impact upon schedule 1 birds. This will have to be confirmed through specific risk assessments prior to the construction of each phase of the development.

6.3.27 Due to their additional protection, works which could impact upon Kingfisher, black redstart and barn owl may require a licence from Natural England. Table 24 outlines the potential licences required.

Table 24: Schedule 1 birds which may require a licence to enable the proposed works

Species	Location	Notes
Kingfisher	Recorded in two locations, in the east along the East Stour (confirmed breeding) and around the Folkestone Racecourse Lake, likely breeding.	It is not considered that a licence would be needed in relation to the recorded nest in the west of the East Stour due to the masterplanningmaster planning proposals. However, a licence is likely to be required in relation to any nests in located within the Folkestone Racecourse Lake as some drainage works will be required which may cause disturbance to this species.
Barn owl	No confirmed breeding locations. Only likely breeding location which has been identified which is likely to be removed is building 7k	Will need to be confirmed prior to removal closer to the commencement of works. Surveys will only be possible to conduct if building is declared safe.
Black Redstart	Breeding at Hilhurst Farm	Will need to be confirmed prior to removal / closer to the commencement of works. Timing of works should be able to prevent the need for a licence.

Operational mitigation

Maintenance and monitoring

6.3.28 Operational mitigation is proposed to safeguard and maximise the value of the development for nesting birds.

- Kingfisher and house sparrow are Otterpool Biodiversity Action Plan (BAP) species (Appendix 7.20) aspirations and high-level targets are outlined for these species in the BAP. An Ecological Management Plan (EMP) will be provided to ensure that the mitigation including the BAP aspirations are met.
- Maintaining high species diversity within woodland areas, a mixture of scrub and trees which are well linked. This could be achieved by appropriate planting, coppicing, thinning and felling;
- Maintaining species rich grassland to provide optimal foraging habitat;
- Maintenance of hedgerows. This could be achieved by small scale pruning and coppicing. It should be noted that the level of maintenance required often depends on the dominant species present within the hedgerow as different species take different amounts of time to flower/fruit;
- The provision and maintenance of appropriate nest boxes. This can increase the carrying capacity of the habitat, increasing population density. Within the design barn owl nest boxes should be erected, however only a small number are likely to be required (five is recommended at this stage, this may increase if nests are found within trees to be removed). These should be located at least 1km from the M20, locations along the southern and western boundaries of the site are recommended as this will enable any pairs utilising these boxes to forage in retained habitats in the south and west of the Otterpool Park development and on off-site habitats.

- In addition, 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.

Design parameters for built parcels

6.3.29 The value of the built parcels for breeding birds will be maximised.

6.3.30 Native planting, including scrub and trees, will provide habitats and food sources for birds and nesting habitats. In addition, bird nest boxes may be strategically placed to target specific species, and a minimum number of bird boxes per a certain number of built structures should be installed, to be determined at Tier 2 for each parcel / phase.

6.3.31 Open fronted nest boxes of different sizes, potentially within a green wall would be of value for robins, house sparrows and starlings, those with apertures could be exploited by tits. The inclusion of artificial house martin and song thrush nests attached to the structure of any proposed buildings would benefit these species which are declining nationally.

6.3.32 Within the built parcels, parameters will be set (dependent upon the proposed density of the parcels buildings) for the GI which will be of value for birds. This will include:

- Parameters for amounts of green roofs within built parcels;
- Parameters for the number of trees and street trees within built parcels; and
- Parameters for the number of bird boxes.

6.4 Further survey

6.4.1 It is considered that the survey work conducted is sufficient to inform the masterplan design and EIA fulfilling the survey aims outlined in section 2.1. However, throughout the extended buildout, there is likely to be a requirement to update / expand the survey work on the site.

6.4.2 Prior to each parcel being built, it will be necessary to assess the available survey data and update it where required, updates may be necessary if:

- The baseline conditions have changed significantly since the last survey conducted;
- The age of the survey data is considered too old to rely upon and an update is required;
- Where detailed dedicated species surveys are required to inform the design and additional mitigation, for example tree assessments / inspections for nesting barn owl, black redstart surveys or detailed riverbank inspections for kingfishers;
- Where buildings are to be demolished that are identified as having the potential to support nesting barn owl.

6.4.3 These additional surveys would inform the requirement for specific mitigation in a parcel, where applicable.

7 CONCLUSIONS

7.1.1 The surveys conducted for breeding birds and barn owl were conducted to inform the masterplan design in order to:

- Inform design so that impacts to birds could be minimised;
- Inform the requirement for habitats and features specifically required for birds to be incorporated within the masterplan;
- Allow suitable buffer areas to be identified within the masterplan.

7.1.2 In addition, the surveys were conducted to inform the EIA for the project. The surveys were designed to:

- Allow the value of the bird assemblage on site and associated with the site to be assessed;
- Determine the requirement for mitigation to be specified with the EIA;
- Determine the likely impact upon the bird assemblage and population (once the mitigation proposed is applied);
- Determine the likelihood of the site being associated as 'functionally linked land' with designated sites;
- Calculate any requirement for off-site mitigation / offsetting.

7.1.3 As would be expected with a heterogeneous site of this nature, activity levels varied across the site, depended upon the habitats present and the species which utilise these habitats. Overall, the following qualitative observations were made:

- A high density of birds was recorded in the north-east of the site: the surrounds of Folkestone Racecourse Lake. This is likely due to the variety of habitats present in this area, including grassland, hedgerows, urban areas, ponds and scrub/trees;
- The woodlands to the west of the site, namely Harringe Brooks Wood (immediately adjacent to the site) and Park Wood (in the west of the site), had a high number of records, both within the woods and foraging adjacent to the woods;
- Along the East Stour River corridor, a significant number of birds were recorded, including some more notable species such as kingfisher. This area is likely to be of value because of the variety of feeding resources available, and the nesting opportunities offered by the dese habitats along the river corridor;
- The records returned from within the arable and pastureland within the site were variable, with significant groups of farmland birds being recorded on some occasions, and low number being recorded within other surveys.

7.1.4 In total 85 bird species were recorded during the 2017 field surveys (of which 79 are considered within this report, the remaining 6 are discussed in the wintering bird report). Of these 79, 31 are considered notable.

7.1.5 The assemblage was typical of the habitats present within the site, with a few exceptions. It was noted that the incidental breeding record of black redstart was unusual as this species is usually associated with less vegetated areas within its limited UK range, particularly large urban developments with large areas of bare earth adjacent to water. It was confirmed to be breeding on site but is unlikely to be a significant constraint to the master planning or the development.

7.1.6 An assemblage of 'farmland'; bird species was recorded. Of the 'farmland bird assemblage' species list species identified, all were confirmed, probably or possibly breeding species within the site. In total during the surveys, 3264 'farmland birds' were recorded, with an average number of records of 466 birds per survey recorded. This is a recorded average of

less than one bird per hectare of survey area, per survey. In addition, it was noted that the number of each farmland bird species recorded during the surveys differed greatly between surveys. This suggests that the individuals recorded utilise a larger area which includes the site. For example, goldfinch numbers recorded varied between 8 and 49, linnet between 1 and 47, starling between 11 and 412 and yellowhammer between 13 and 95.

7.1.7 An additional survey was undertaken in April 2020, to update the validity of the survey. This recorded 52 species, of which 17 were notable with three species (cuckoo, nightingale and sedge warbler) that had not been recorded in the previous surveys, bringing the total number of recorded species during all surveys to 88.

7.1.8 Surveys undertaken in April 2021 recorded a total of 58 species, of which 25 were notable with two species (raven and wheatear) that had not been recorded in previous surveys, bring the total number of recorded species during all surveys to 90.

7.1.9 The habitat assessment conducted in 2019 identified no significant changes likely to greatly impact upon the populations of birds supported by the site (when compared to the 2017 assessments). This was supported by the results of the surveys, which did not identify any significant changes in the bird assemblage of the site. Of the newly recorded species in 2020, only cuckoo and nightingale were notable, but were both only single individuals. Wheatear, a newly recorded species in 2021, is also a notable species, however, only a single individual was recorded.

7.1.10 The peak counts of three species in 2020 were greater than the peaks recorded in 2017. Of these, only reed bunting and tawny owl were notable, but peak counts only increased by 1. None of the peak counts of any of the other species recorded was greater that the peak recorded in 2017. In the 2021 surveys, one species, greylag goose, had a peak count greater than 2017 peak counts. The peak count in this instance increased by five.

7.1.11 Overall, the results of the 2020 and 2021 surveys resulted in the conclusion that:

- No further breeding bird surveys are required to inform a resubmission of the ES; and
- The valuations utilised in the 2018 submission are considered to be valid, with no evidence of any species or groups increasing in value.

7.1.12 In line with the mitigation hierarchy, the masterplan has been designed to minimise impacts to breeding birds.in addition, it is proposed that offsite mitigation is conducted to mitigate for the remaining adverse effect on farmland birds, by funding habitat improvements. Funds would be provided to enhance local habitats for farmland birds through appropriate, proven management regimes to increase the carrying capacity of local habitats. It is considered that such enhancement measures would mitigate for the loss of habitat for farmland birds as a result of the proposed Development. The payments are based on HLS (Higher Land Stewardship) options. In addition, enhancements within built parcels and operational mitigation will be employed to reduce impacts to breeding birds.

7.1.13 Overall, once mitigation is applied, it is considered that the project could commence without a significant impact to breeding birds.

8 REFERENCES

Reference	Title
Ref 1	Barn Owl Trust (2012) *Barn Owl Conservation Handbook.* Pelagic Publishing, Exeter.
Ref 2	Barn Owl Trust online resources [accessed August 2018] https://www.barnowltrust.org.uk/hazards-solutions/barn-owls-planning/
Ref 3	CIEEM (2012) Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Available at: https://www.cieem.net/data/files/Resource_Library/Technical_Guidance_Series/SoSM/TGSSoSM-Barn_Owl_Survey_Methodologyrevised2012.pdf [Accessed: October 2017].
Ref 4	Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R. (2015) 'Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man'. British Birds, 108: 708–746.
Ref 5	Gilbert, G., Gibbons, D., Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for Key UK Species. Pelagic Publishing, Exeter.
Ref 6	HMSO (1981) Wildlife and Countryside Act 1981. HMSO, London.
Ref 7	HMSO (2006) Natural Environment and Rural Communities Act 2006. HMSO, London.
Ref 8	John Forge (2017) Personal conversation. Westenhanger Castle. 16 March 2017
Ref 9	Kent Biodiversity Partnership (2017) UK BAP priority species are… Available at: http://www.kentbap.org.uk/habitats-and-species/priority-species/ [Accessed: October 2017].
Ref 10	British Ornithologists' Union (2017) British Ornithologists' Union British List (Categories A, B, C). Available at: http://www.nhm.ac.uk/our-science/data/uk-species/checklists/NHMSYS0000528629/version1.html?name.match=CONTAINS&name.value=black+redstart&group=&sortBy=latin&filterActive=true&resultsPerPage=10 [Accessed: October 2017].
Ref 11	European Commission (2009) Directive 2009/147/EC. Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:020:0007:0025:EN:PDF [Accessed: October 2017].
Ref 12	KOS (2019) Kent bird report Number 68.
Ref 13	Natural England (2015) Wild birds: surveys and mitigation for development projects. Available at: https://www.gov.uk/guidance/wild-birds-surveys-and-mitigation-for-development-projects [Accessed: November 2017].
Ref 14	Rare Breeding Bird Panel (RBBP) (2020) Rare breeding birds in the UK in 2018. Available at: https://rbbp.org.uk/wp-content/uploads/2021/09/rbbp-report-2018.pdf [Accessed: October 2021].
Ref 15	Redhead, J.W., Hinsley, S.A,. Beckmann, B.C Broughton, R.K. Pywell, R.F, Effects of agri-environmental habitat provision on winter and breeding season abundance of farmland birds Agriculture, Ecosystems and Environment 251 (2018) 114–123

Reference	Title
Ref 16	RSPB 2018 https://www.rspb.org.uk/globalassets/downloads/documents/conservation--sustainability/hope-farm/hope-farm---farming-for-food-profit-and-wildlife.pdf
Ref 17	RSPB (2018) Farmland Bird Indicator, viewed online [accessed August 2018] https://www.rspb.org.uk/our-work/conservation/conservation-and-sustainability/farming/near-you/farmland-bird-indicator
Ref 18	Rural Payments Agency (2021) Countryside Stewardship: Higher Tier manual for agreements starting on 1 January 2022.
Ref 19	Shawyer, C. R. 2011. Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting.
Ref 20	UNESCO (1971) The Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention). Available at: http://jncc.defra.gov.uk/page-1369 [Accessed: October 2017].
Ref 21	WYG (2016) Folkestone, Kent, Extended Phase 1 Habitat Survey, Shepway District Council.
Ref 22	Institute of Environmental Assessment (1997). Guidelines for Baseline Ecological Assessment. Taylor & Francis.
Ref 23	CIEEM (2013) Guidelines for Preliminary Ecological Appraisal. Chartered Institute of Ecology and Environmental Management, Winchester.
Ref 24	CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

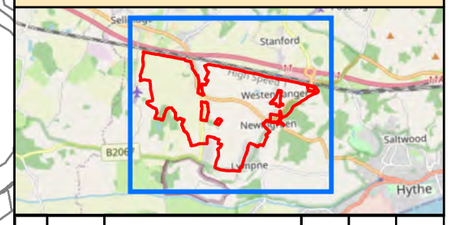
Figure 1: All breeding Bird Survey Results

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 1 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

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

1:15,000
0 0.1 km

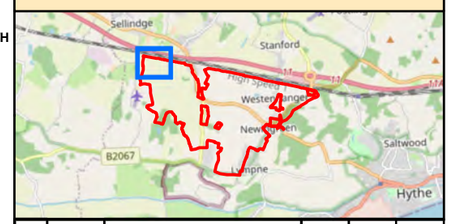
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 2 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

0 1:2,500 0.1 km

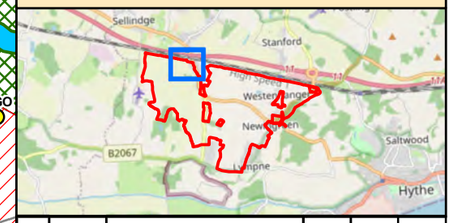
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Conifer)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 3 of 22

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

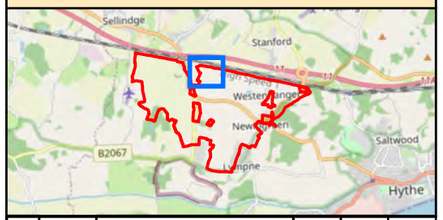
1:2,500
0 0.1 km

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Conifer)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A Amenity Grassland
- A Arable
- SI Semi-improved Neutral Grassland
- SI Species Poor Semi-improved Grassland
- I Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 4 of 22

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

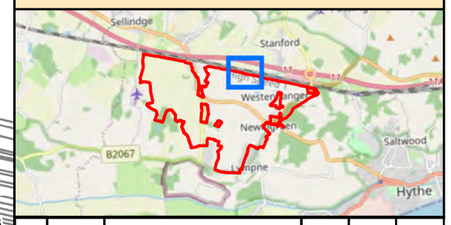
N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

1:2,500
0 0.1 km

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

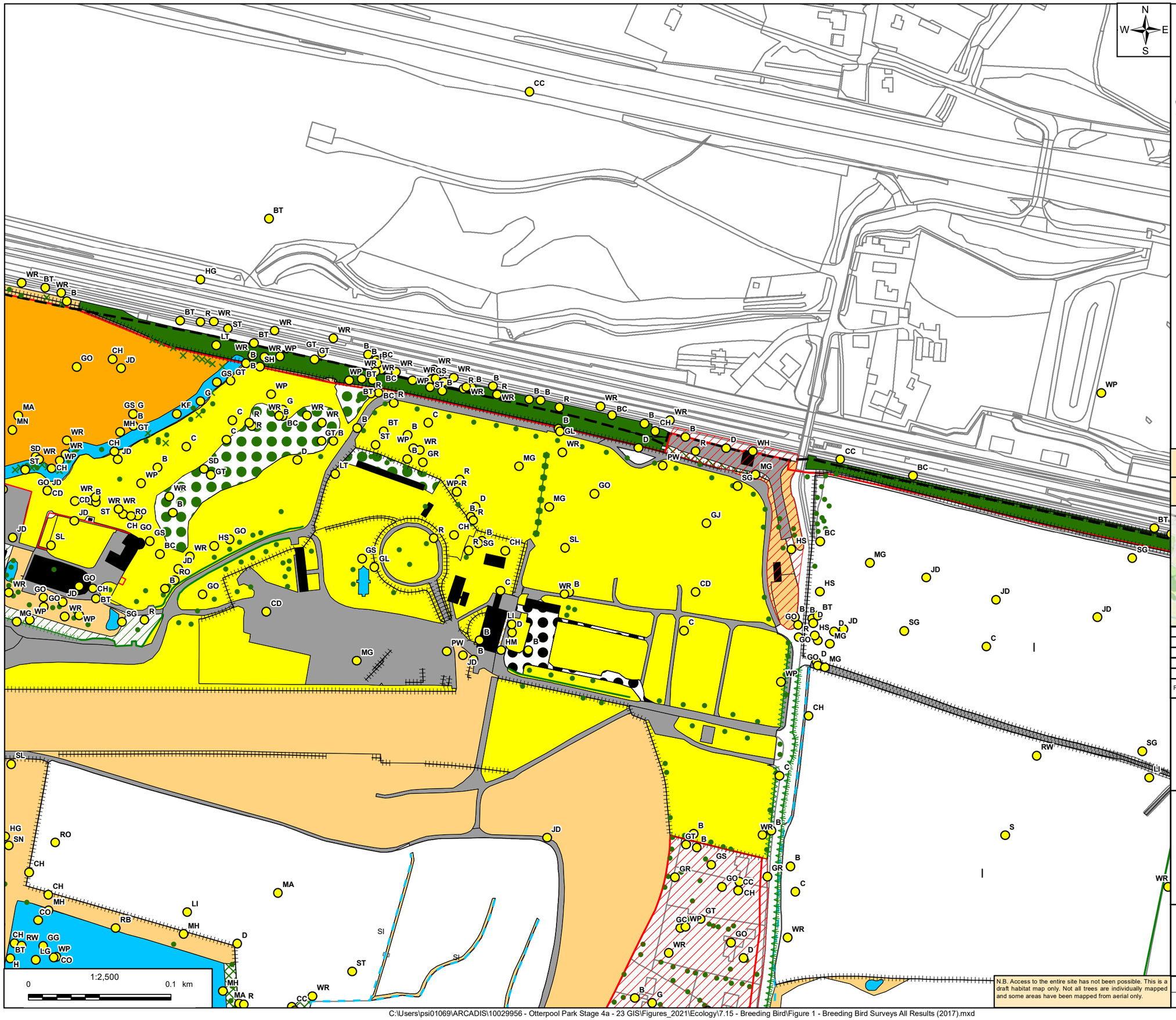
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 5 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

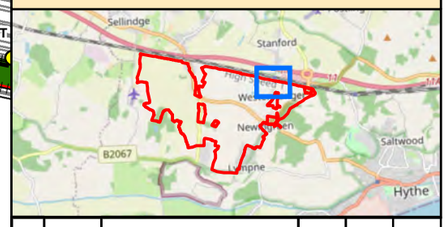
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Conifer)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 6 of 22

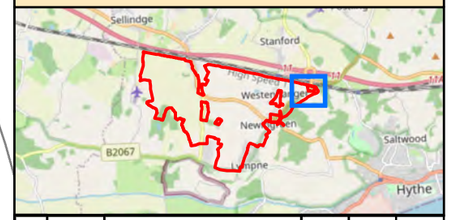
N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 7 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

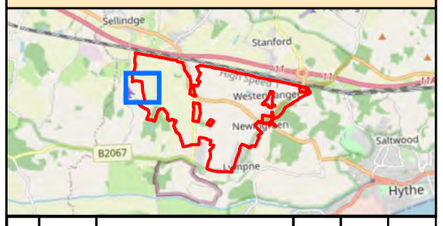
scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 8 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

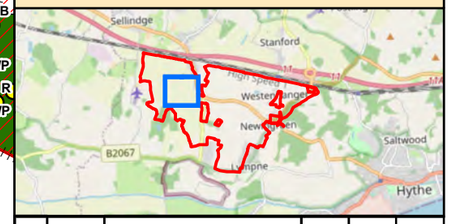
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

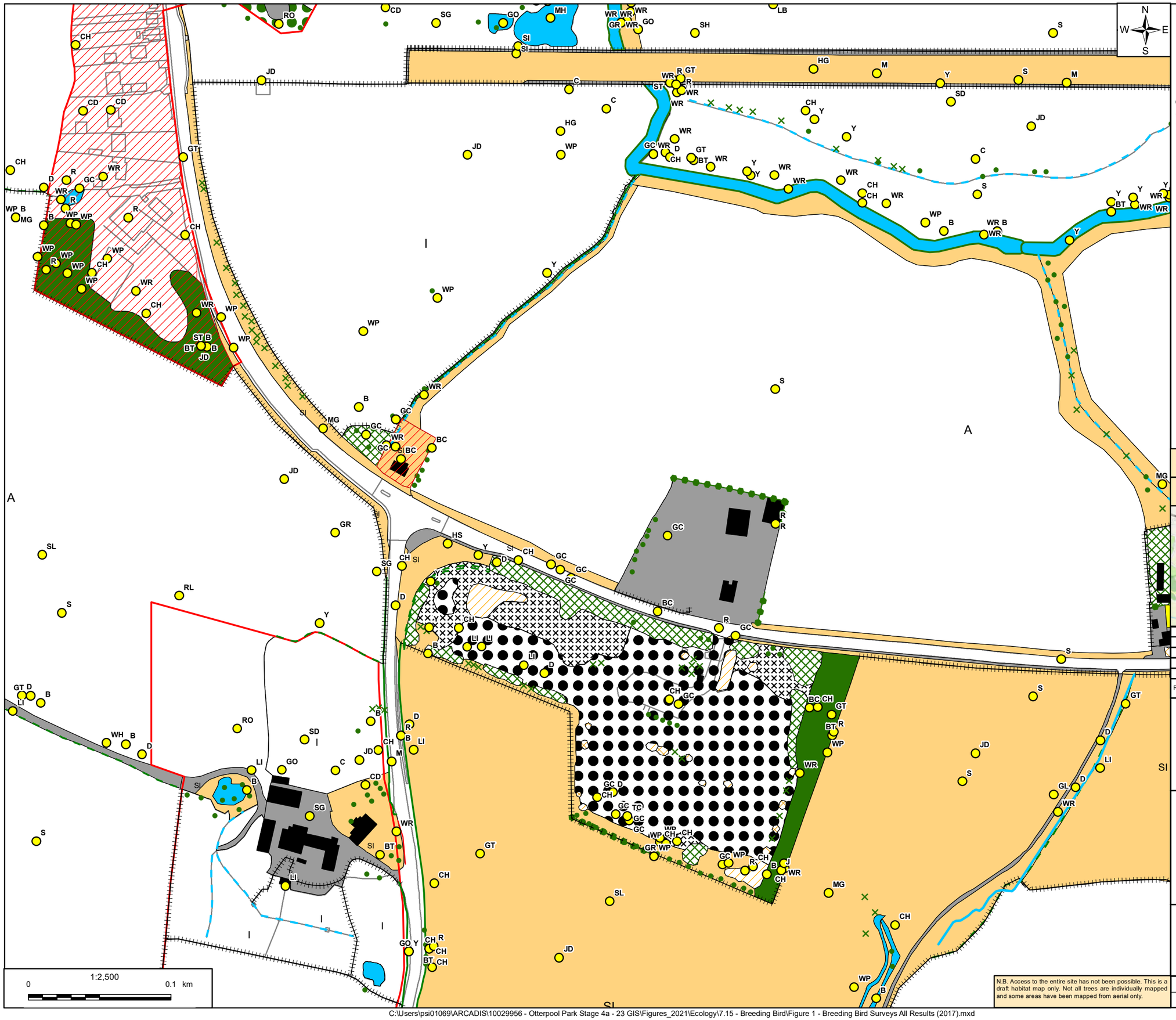
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 9 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

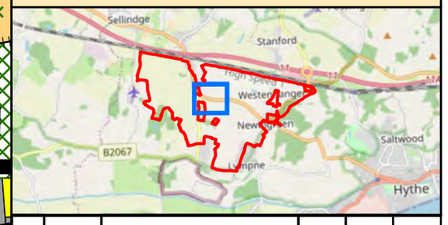
0 1:2,500 0.1 km



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

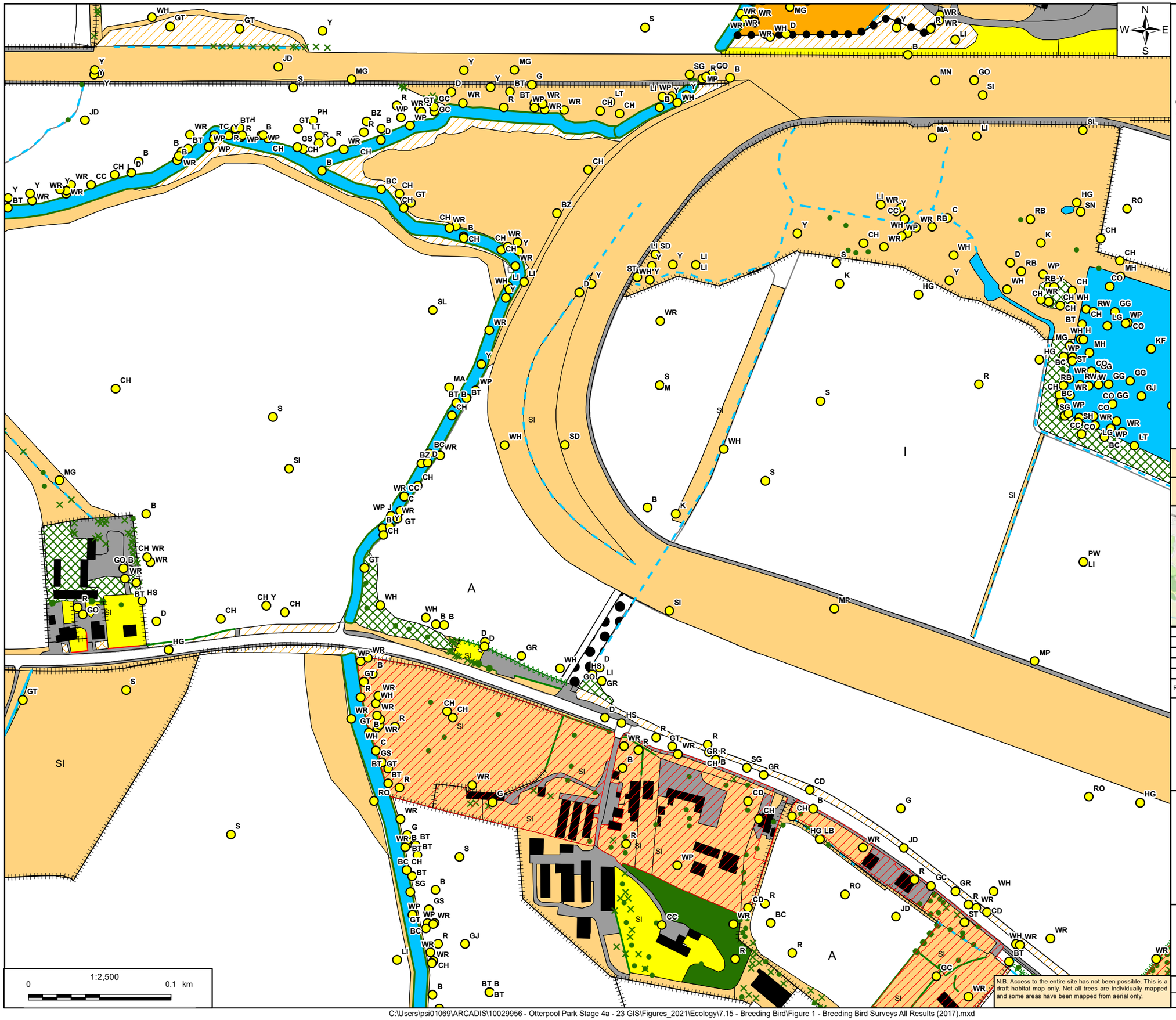
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 10 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

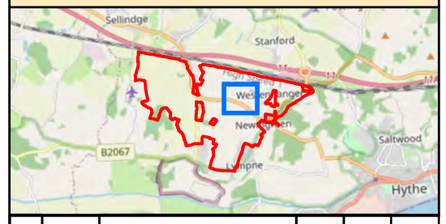
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

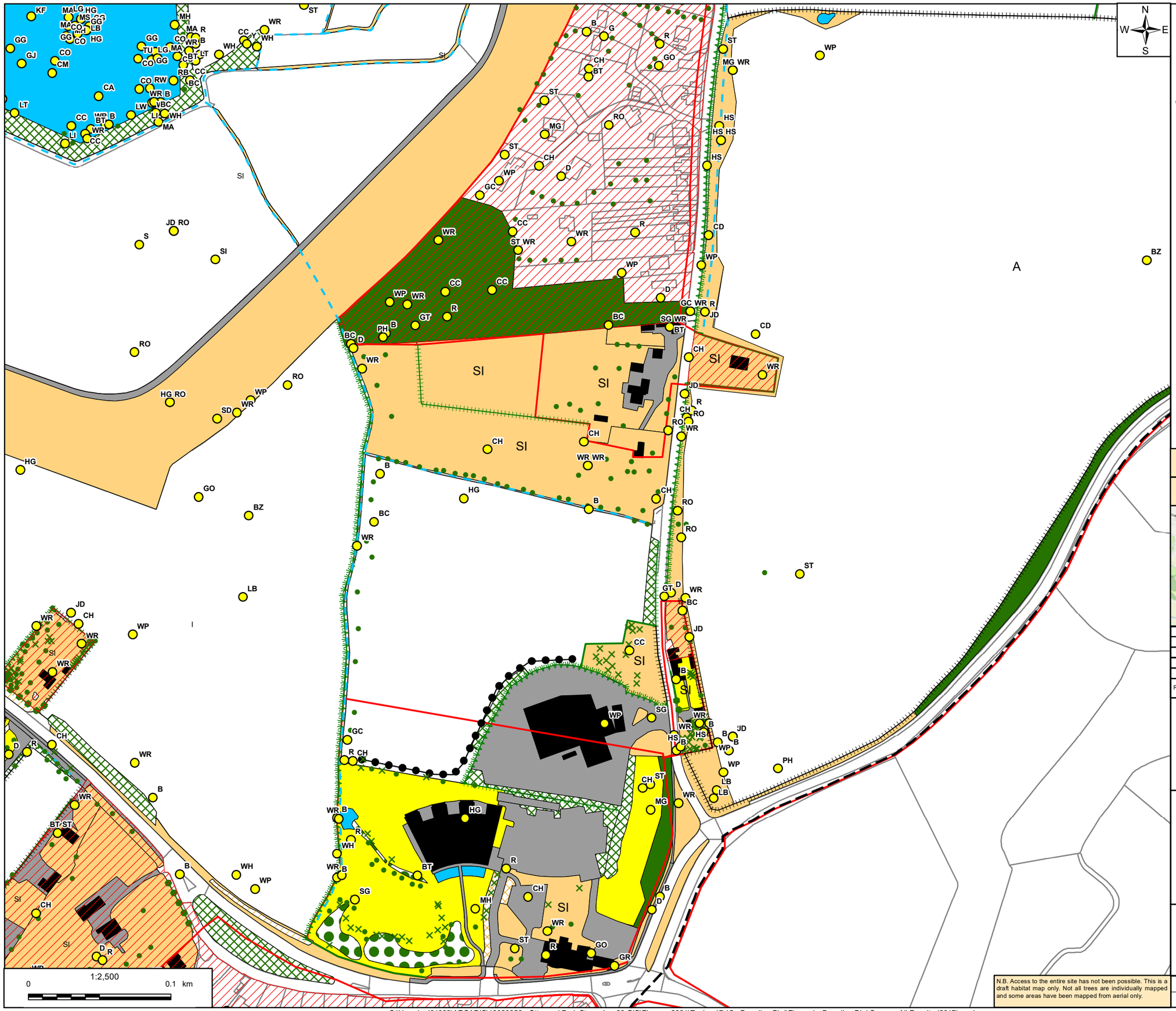
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 11 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

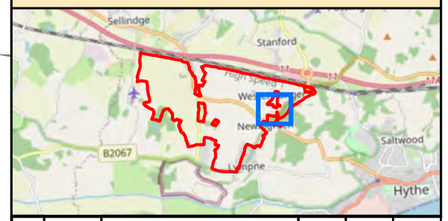
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 12 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

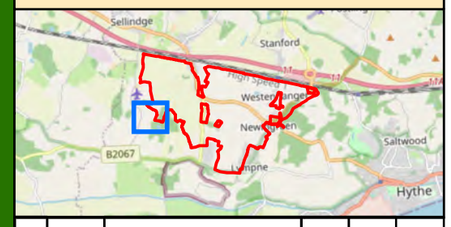
scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

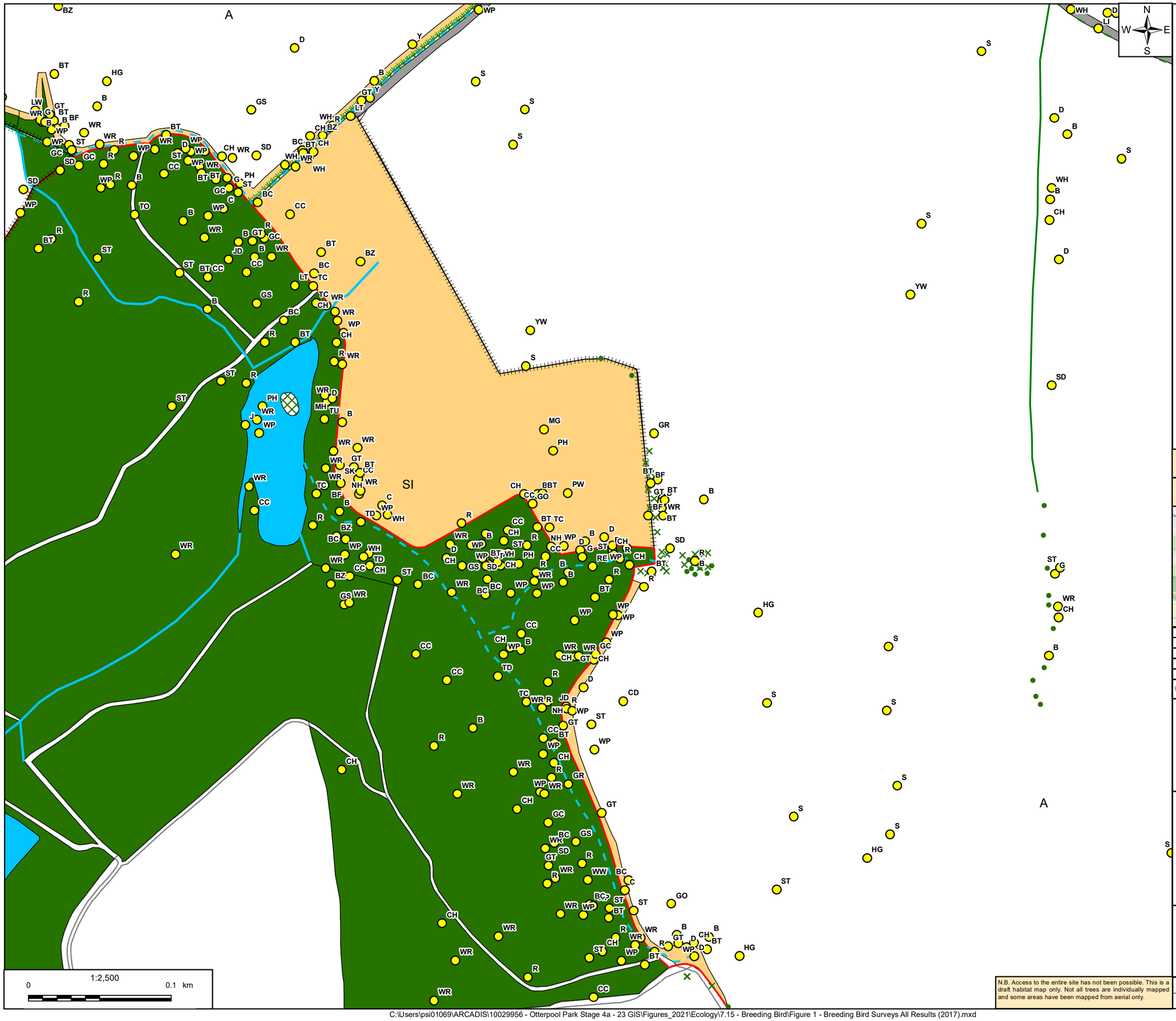
Figure 1
Breeding Bird Surveys All Results (2017)
Page 13 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

0 1:2,500 0.1 km

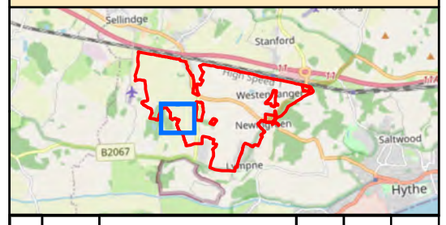
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

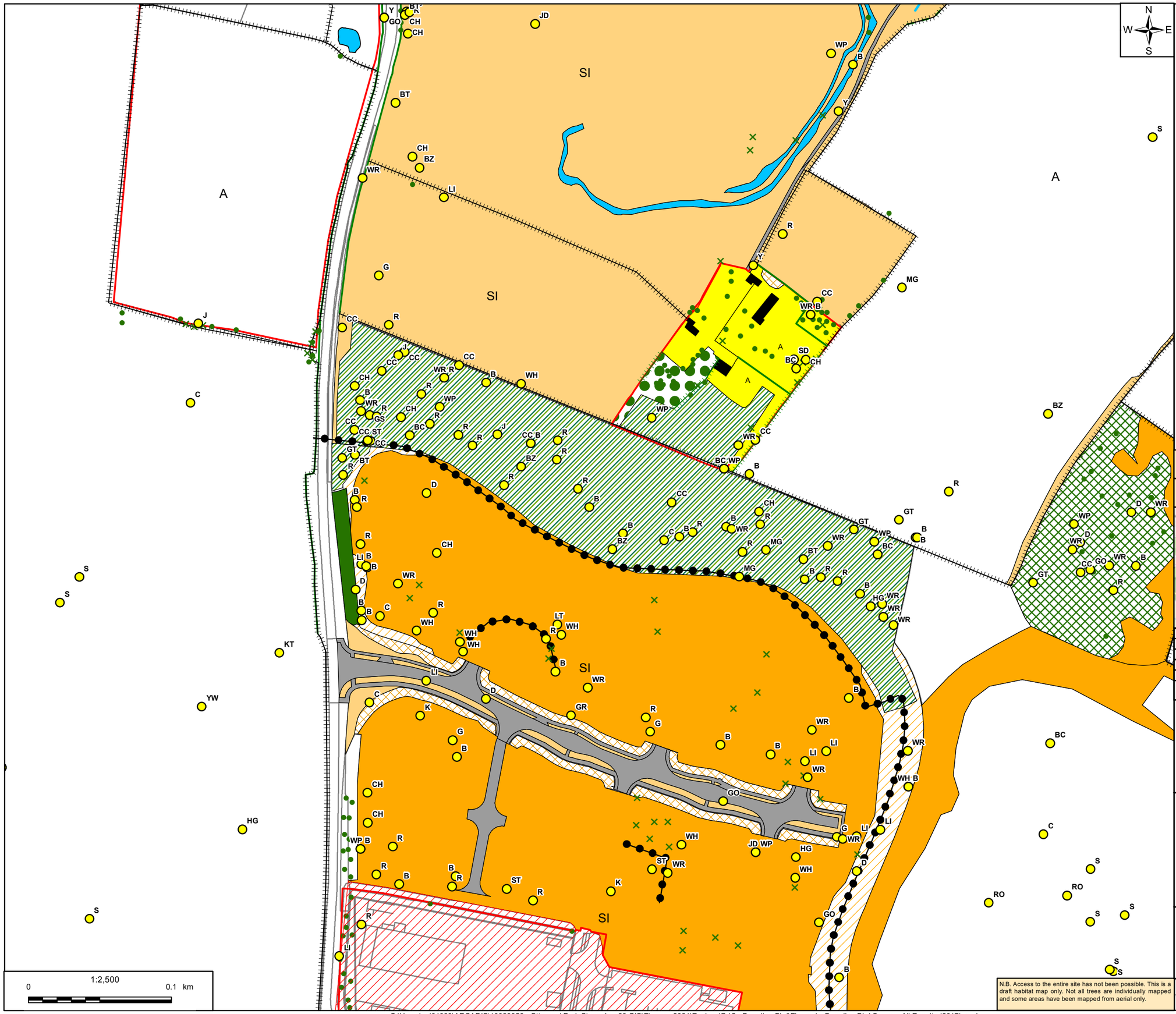
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 14 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

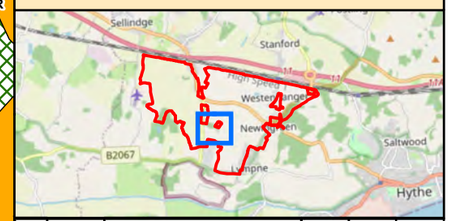
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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 *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

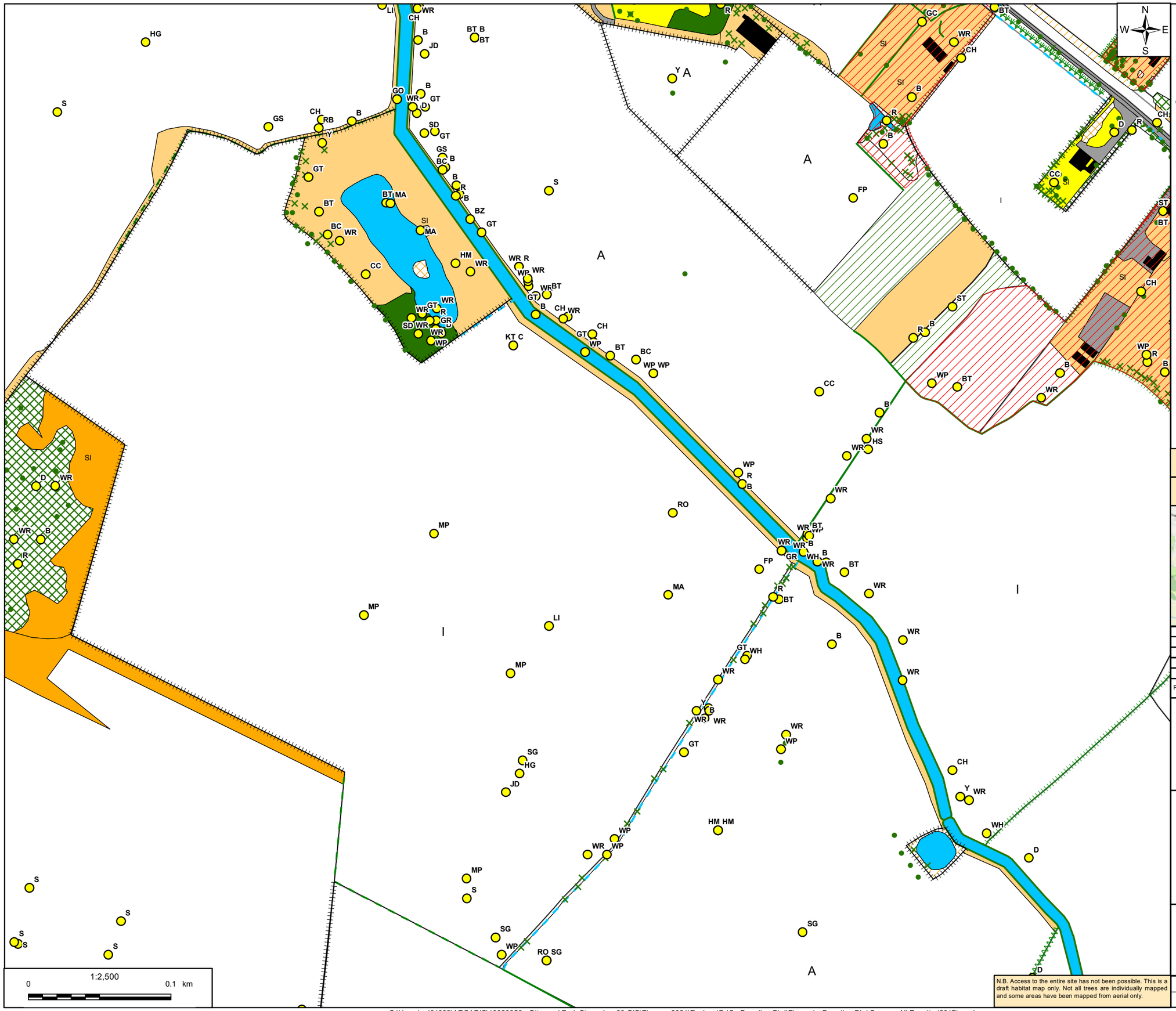
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 15 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

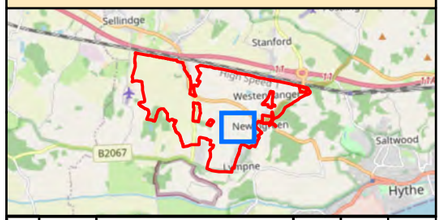
scale	original size	datum	grid
1:2,500	A3	Sx	OSGB



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 16 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

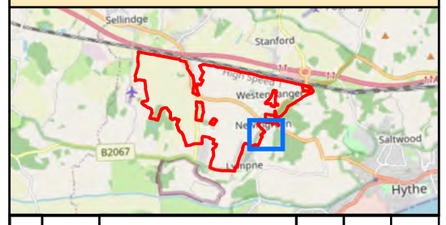
scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

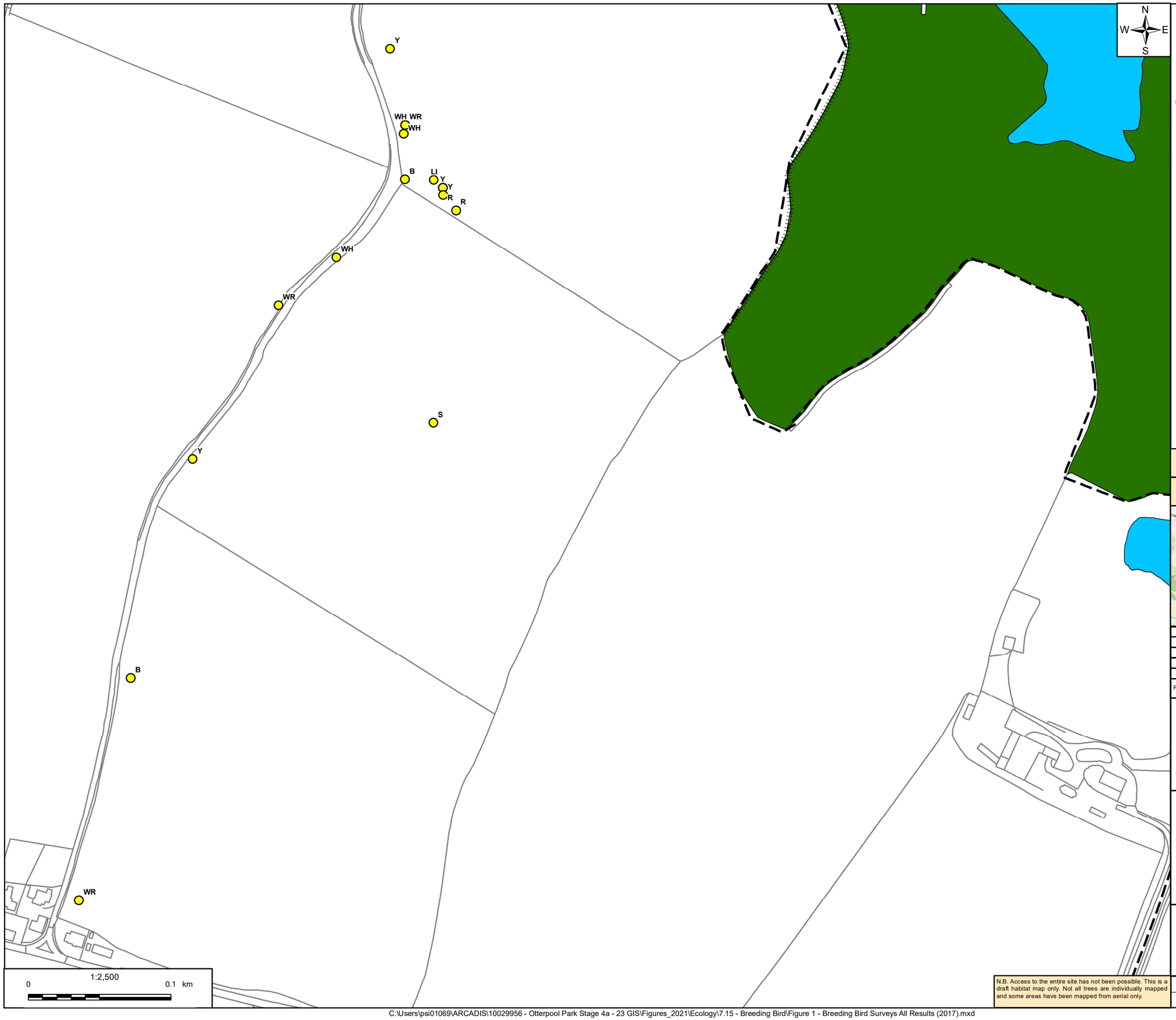
Figure 1
Breeding Bird Surveys All Results (2017)
Page 17 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

0 1:2,500 0.1 km

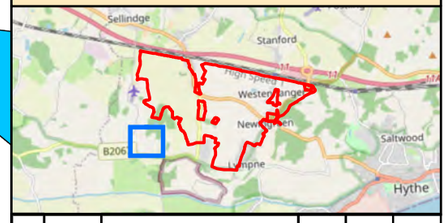
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

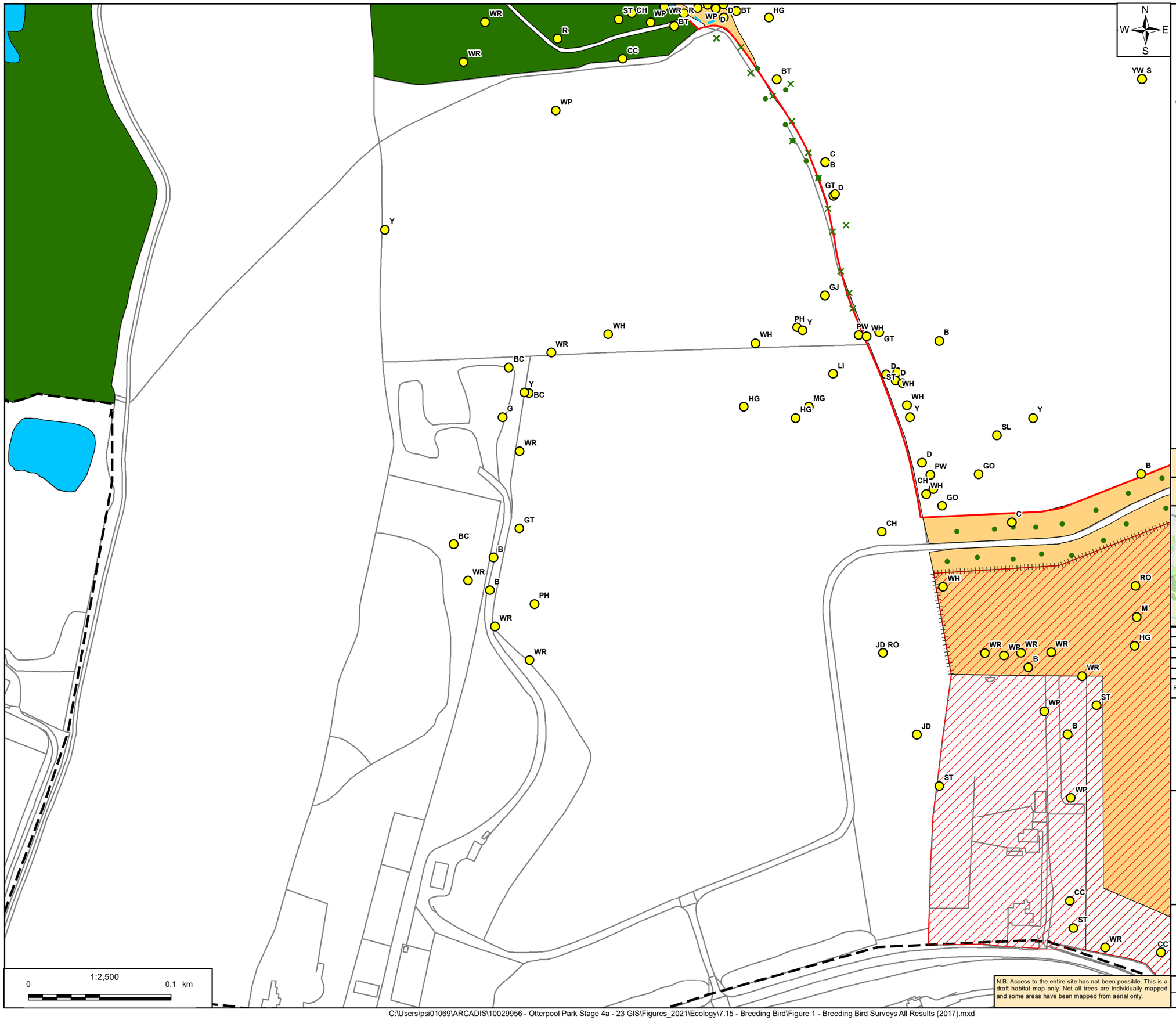
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 18 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

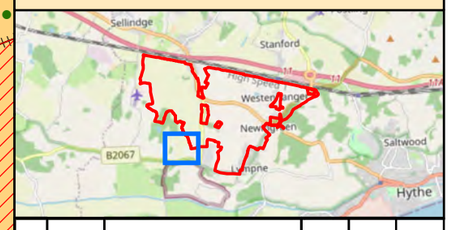
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 19 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

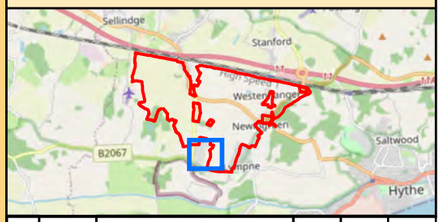
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

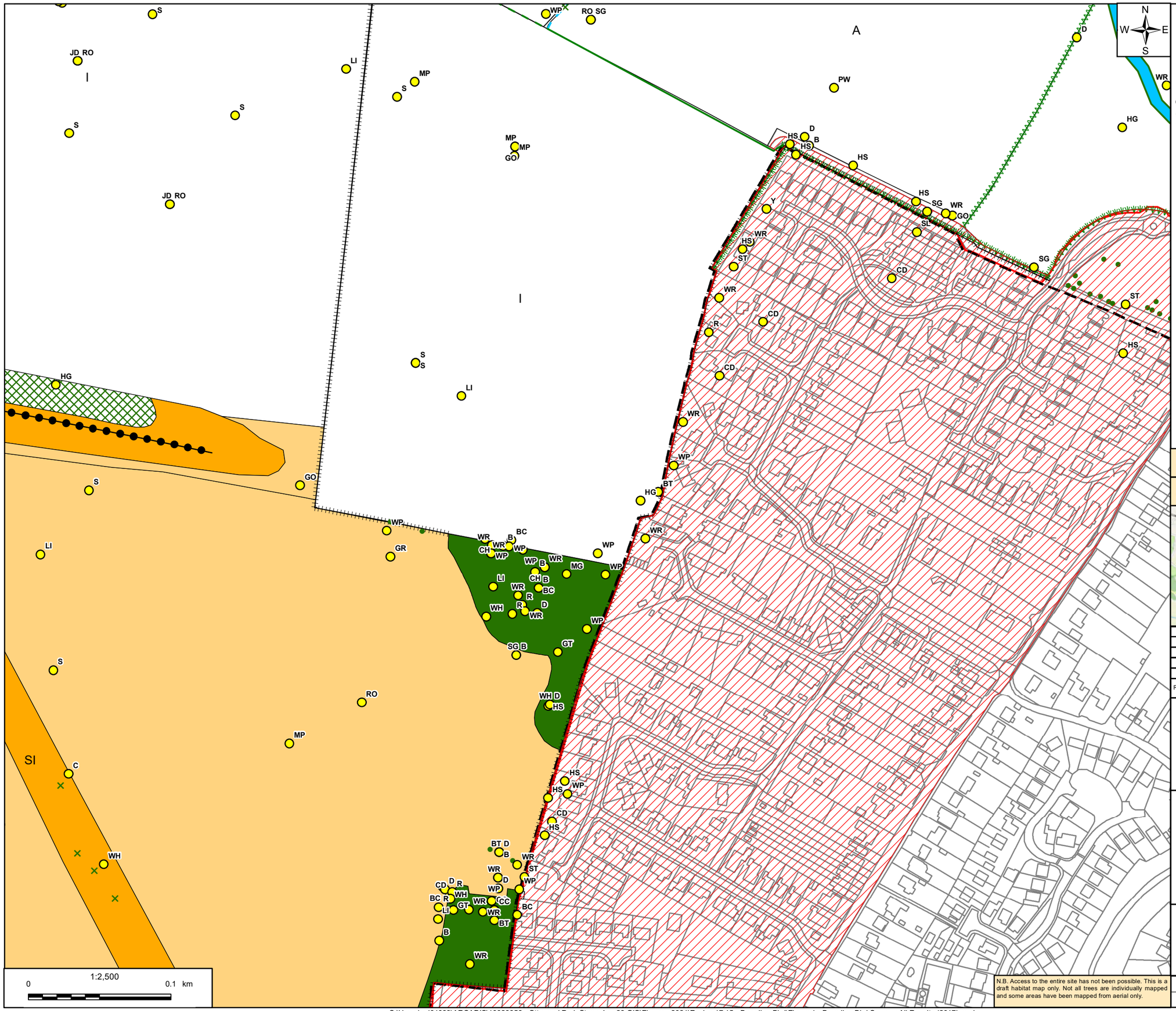
Figure 1
Breeding Bird Surveys All Results (2017)
Page 20 of 22

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

0 1:2,500 0.1 km

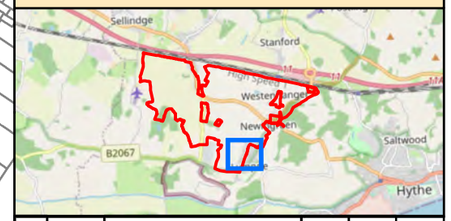
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

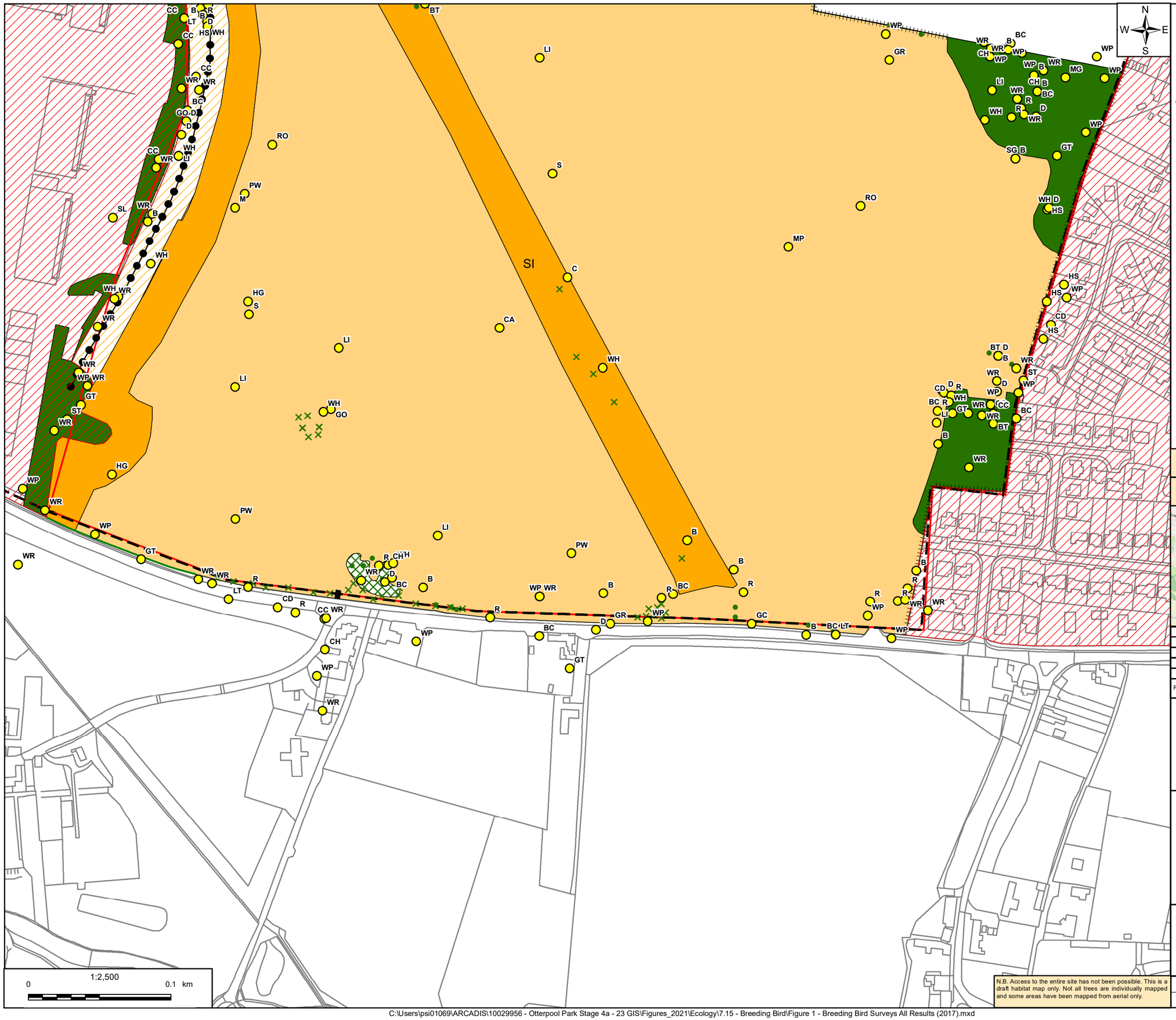
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 1
Breeding Bird Surveys All Results (2017)
Page 21 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

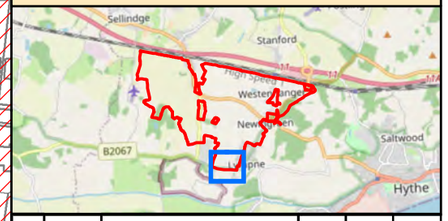
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- All Breeding Bird Data (with BTO code)
- Area Not Fully Surveyed
- Scattered Scrub
- Scattered Trees
- Earth Bank
- Species Poor Hedgerow with Trees (Confier)
- Native Species-rich Intact Hedge
- Species Poor Intact Hedge
- Species Poor Defunct Hedge
- Native Species-rich Hedge with Trees
- Native Species Poor Defunct Hedge
- Species Poor Hedge with Trees
- 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
- A — Amenity Grassland
- A — Arable
- SI — Semi-improved Neutral Grassland
- SI — Species Poor Semi-improved Grassland
- I — Improved Grassland
- Bare Ground
- Building
- Hardstanding
- Standing Water
- Riparian Corridor *

* 'Riparian corridor' within the site consists of a 1 - 3m wide stream / river largely surrounded on both banks by trees and scrub.



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

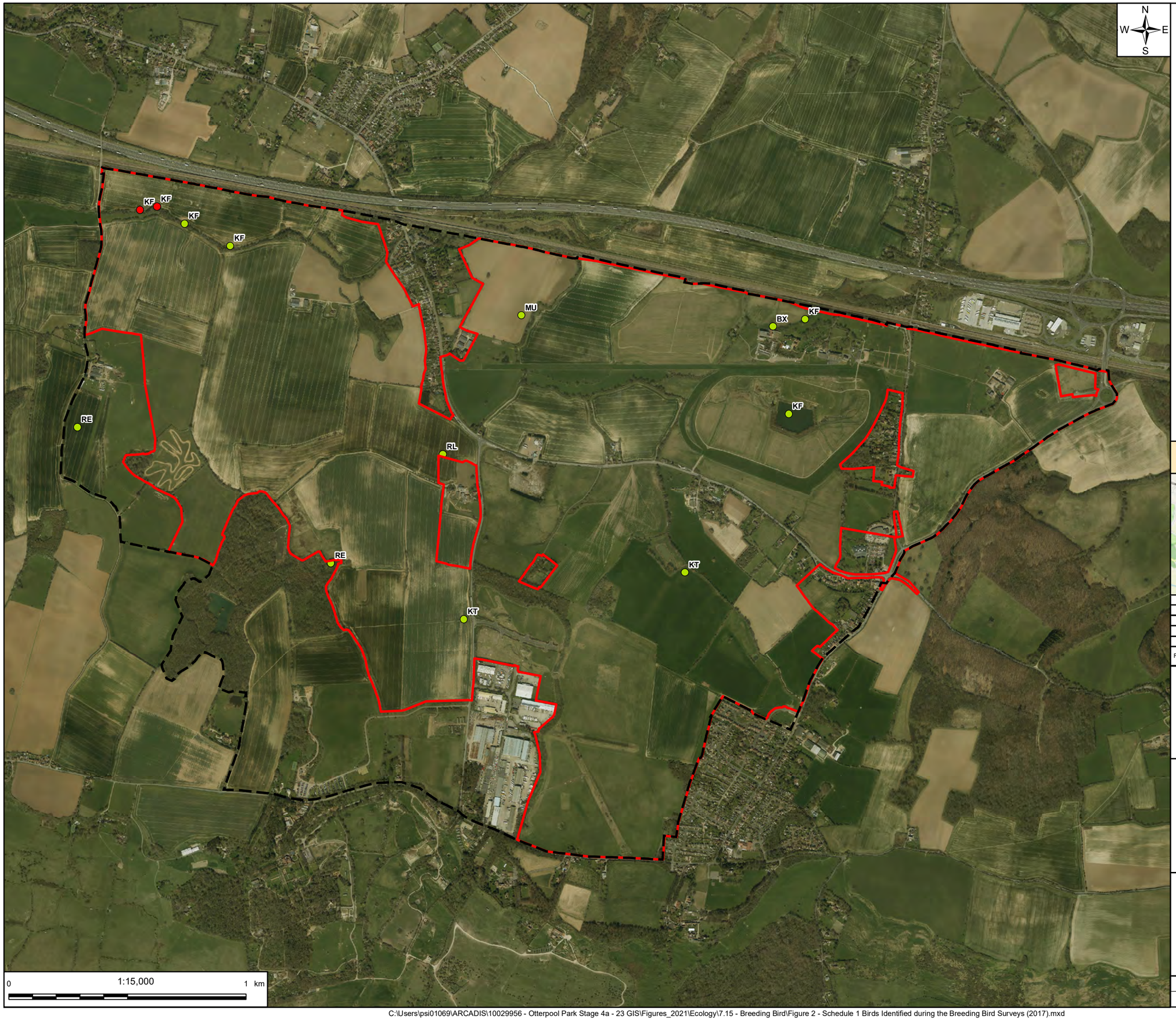
Figure 1
Breeding Bird Surveys All Results (2017)
Page 22 of 22

N.B. Access to the entire site has not been possible. This is a draft habitat map only. Not all trees are individually mapped and some areas have been mapped from aerial only.

scale	original size	datum	grid
1:2,500	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 1 - Breeding Bird Surveys All Results (2017).mxd

Figure 2: Schedule 1 Birds Identified During the Breeding Bird Surveys



Legend

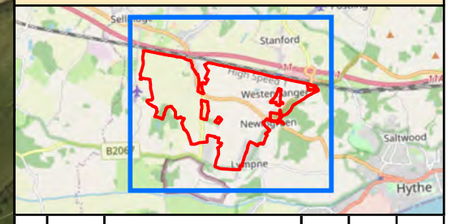
Outline Planning Application Boundary

Framework Masterplan Boundary

Birds Listed Under Schedule 1 (with BTO codes)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	06-01-2019	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 2
Schedule 1 Birds Identified
During the Breeding Bird Surveys (2017)

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

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 2 - Schedule 1 Birds Identified during the Breeding Bird Surveys (2017).mxd

Figure 3: 'Farmland' Birds Identified During the Breeding Bird Surveys

N
W E
S

Legend

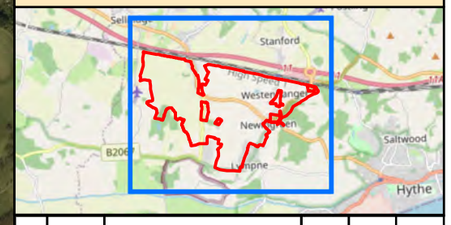
Outline Planning Application Boundary

Framework Masterplan Boundary

Farmland Birds (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS

80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 1 of 22

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

0 1:15,000 1 km

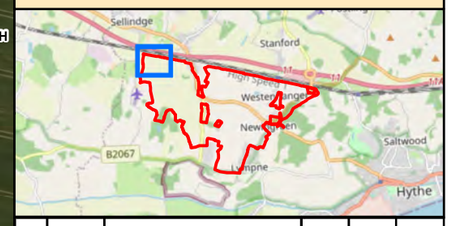
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 2 of 22

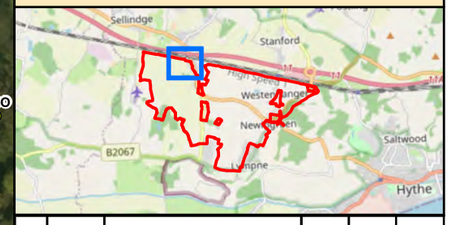
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 3 of 22

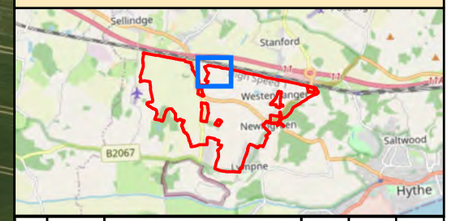
0 1:2,500

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 4 of 22

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

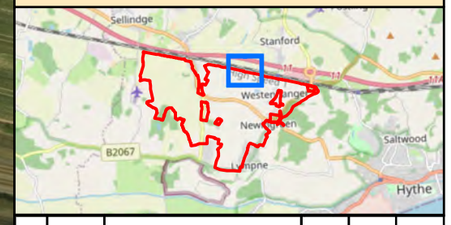
Outline Planning Application Boundary

Framework Masterplan Boundary

Farmland Birds (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 5 of 22

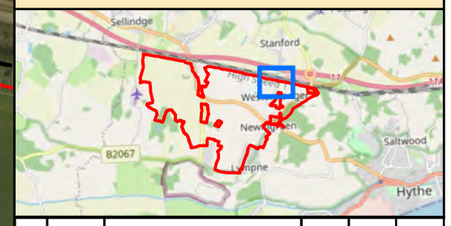
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 6 of 22

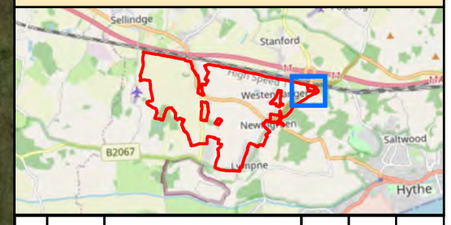
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 7 of 22

0 1:2,500

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

N
W E
S

Legend

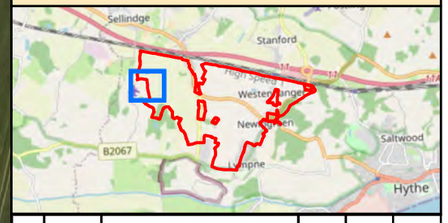
Outline Planning Application Boundary

Framework Masterplan Boundary

Farmland Birds (with BTO species code)

Confirmed Breeder

Other



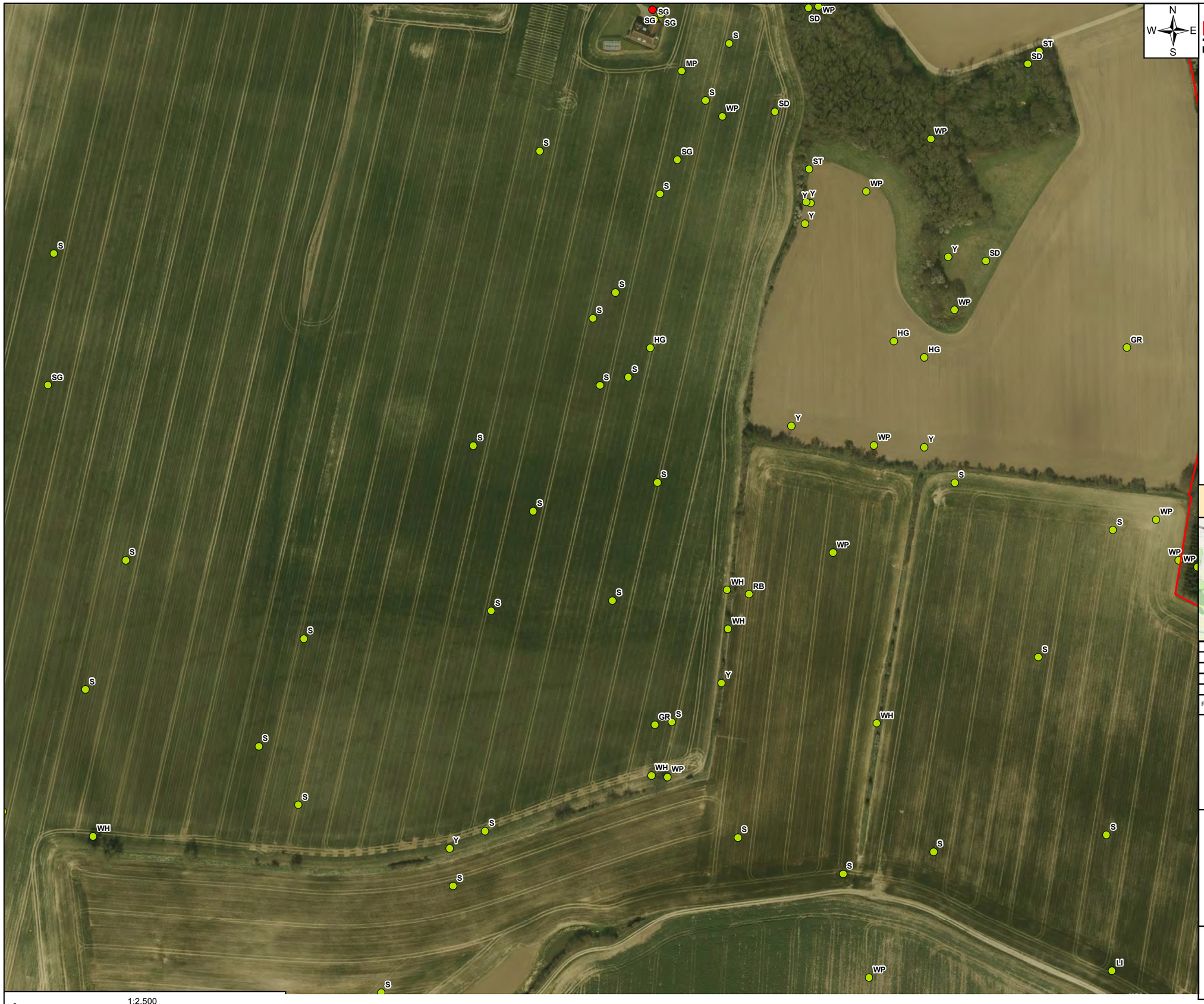
REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 8 of 22

0 1:2,500 1



N
W E
S

Legend

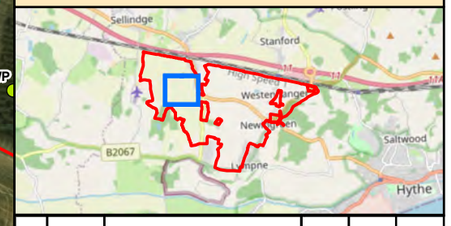
Outline Planning Application Boundary

Framework Masterplan Boundary

Farmland Birds (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

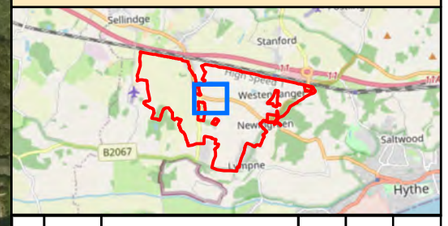
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Layer Credits: Contains Ordnance Survey data © Crown copyright 2021 OS 0100031673



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

N
W E
S

Legend

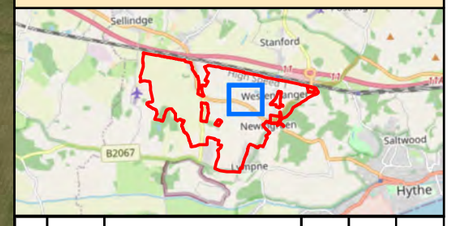
Outline Planning Application Boundary

Framework Masterplan Boundary

Farmland Birds (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 11 of 22

0 1:2,500

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

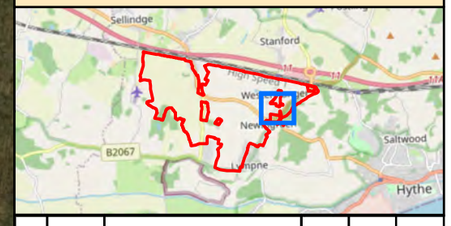
Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other

Layer Credits: Contains Ordnance Survey data © Crown copyright 2021 OS 0100031673



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 12 of 22

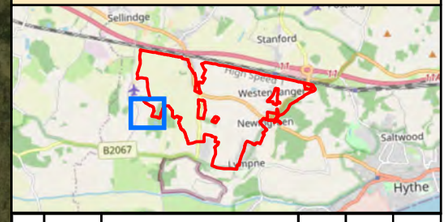
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

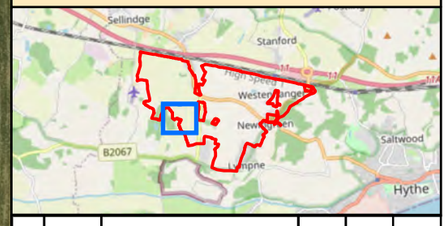
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Layer Credits: Contains Ordnance Survey data © Crown copyright 2021 OS 0100031673



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 14 of 22

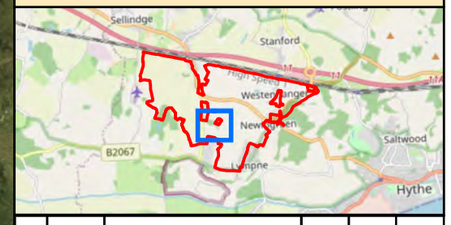
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 15 of 22

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

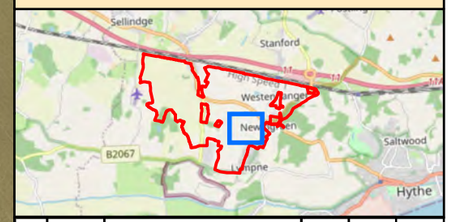
Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other

Layer Credits: Contains Ordnance Survey data © Crown copyright 2021 OS 0100031673



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 16 of 22

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

N
W E
S

Legend

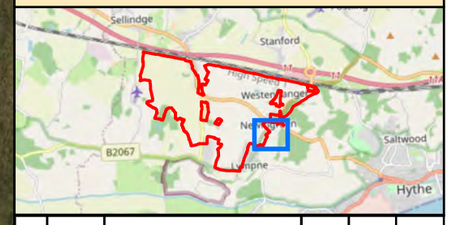
Outline Planning Application Boundary

Framework Masterplan Boundary

Farmland Birds (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 17 of 22

0 1:2,500

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

N
W E
S

Legend

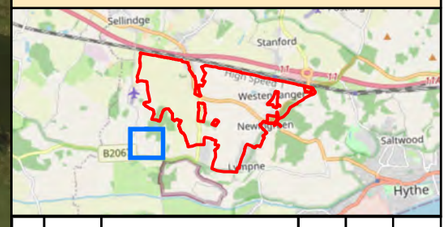
Outline Planning Application Boundary

Framework Masterplan Boundary

Farmland Birds (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 18 of 22

0 1:2,500

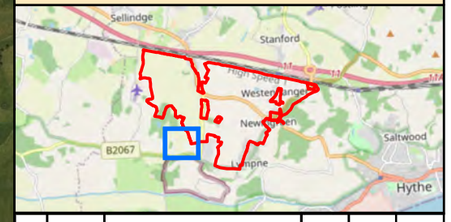
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)

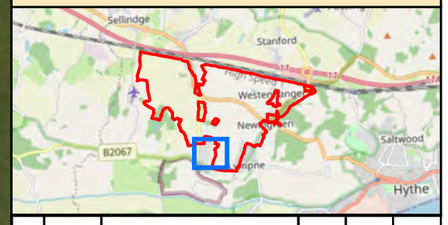
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

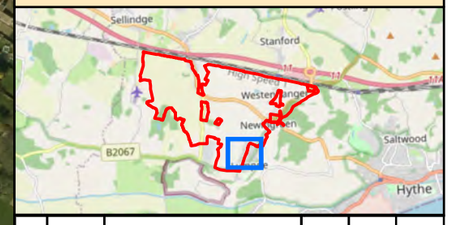
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 20 of 22

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Layer Credits: Contains Ordnance Survey data © Crown copyright 2021 OS 0100031673



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 21 of 22

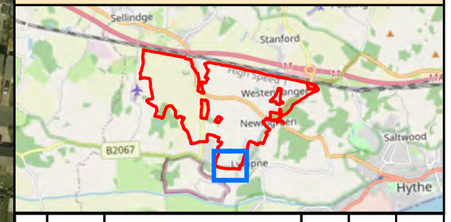
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Farmland Birds (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 3
Farmland Birds Identified during the Breeding Bird Surveys (2017)
Page 22 of 22

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 3 - Farmland Birds Identified during the Breeding Bird Surveys (2017).mxd

Figure 4: Notable Birds and Birds of Conservation Concern Observed During the Breeding Bird Surveys

N
W E
S

Legend

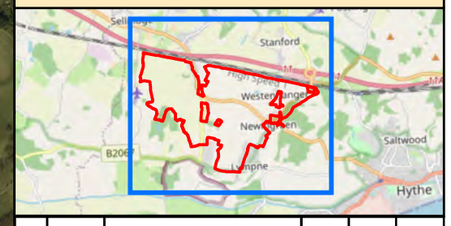
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS

80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 1 of 22

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

0 1:15,000 1 km

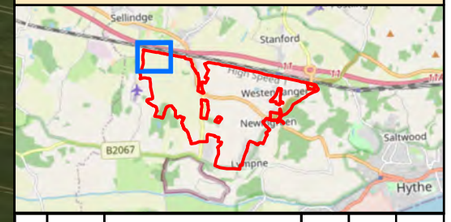
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 2 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

N
W E
S

Legend

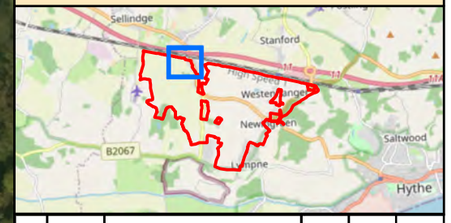
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 3 of 22

0 1:2,500 1 km

N
W E
S

Legend

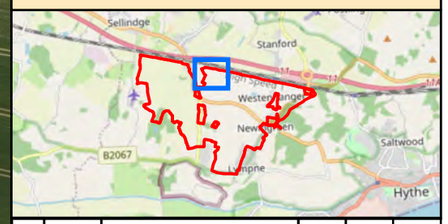
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 4 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

N
W E
S

Legend

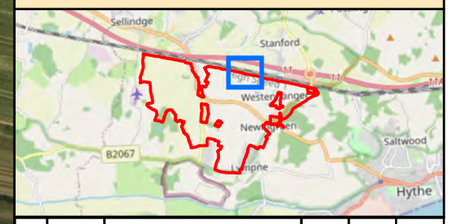
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 5 of 22

0 1:2,500 1 km

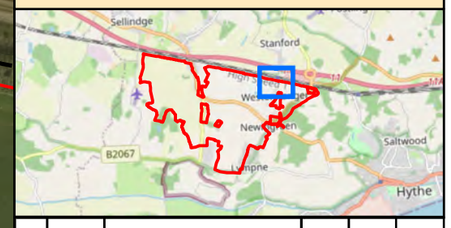
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)

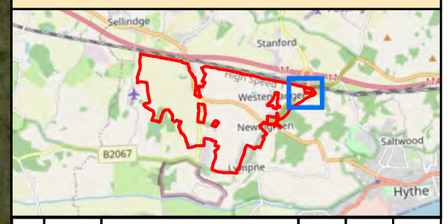
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 7 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

N
W E
S

Legend

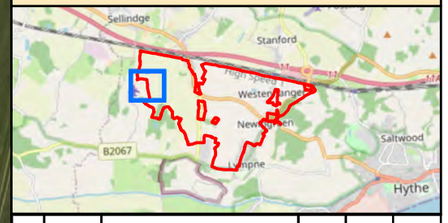
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



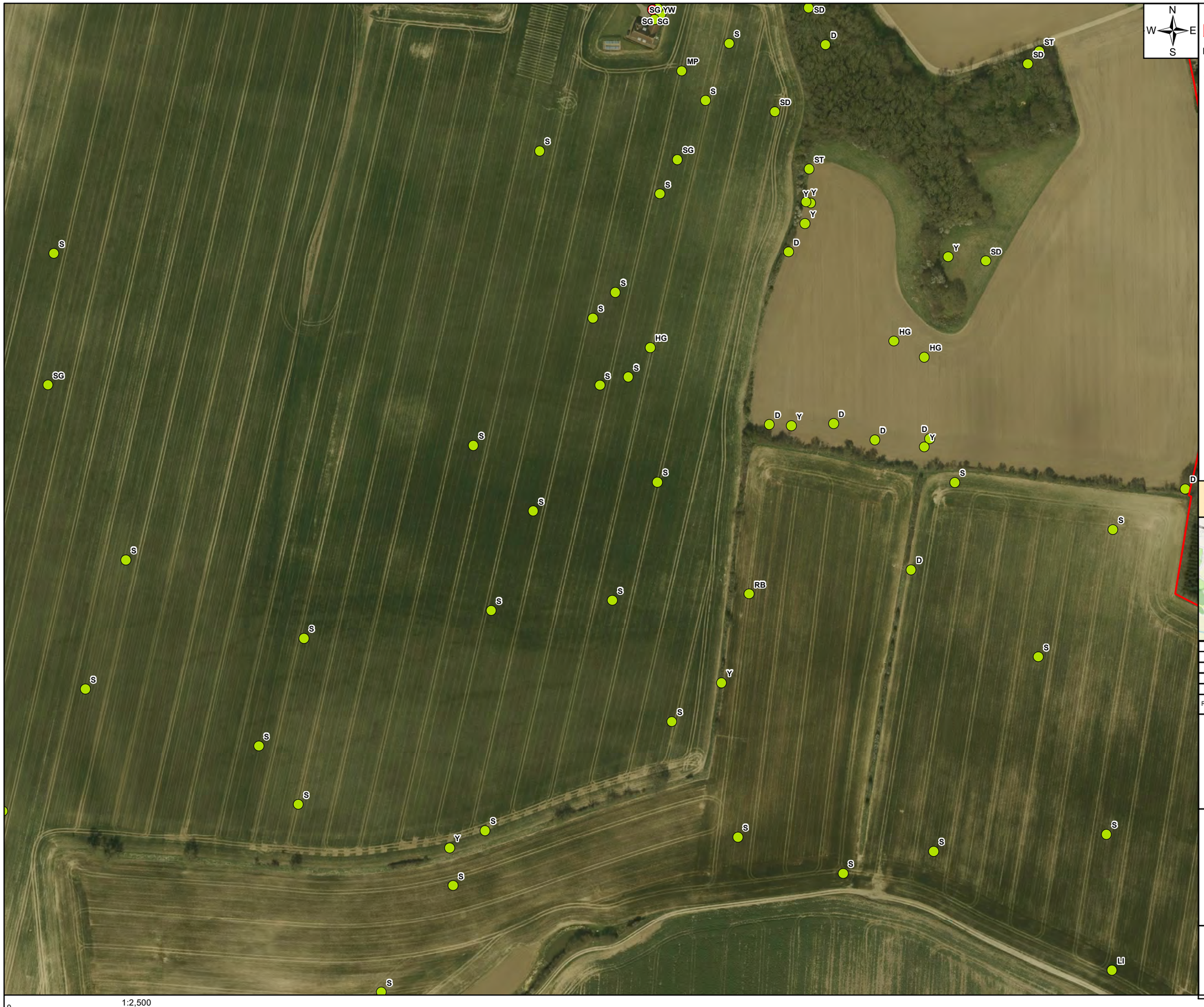
REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 8 of 22

0 1:2,500 1 km



Legend

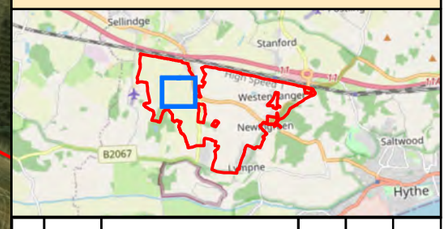
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS

80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 9 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

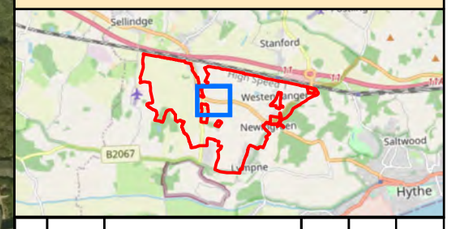
Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other

Layer Credits: Contains Ordnance Survey data © Crown copyright 2021 OS 0100031673



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

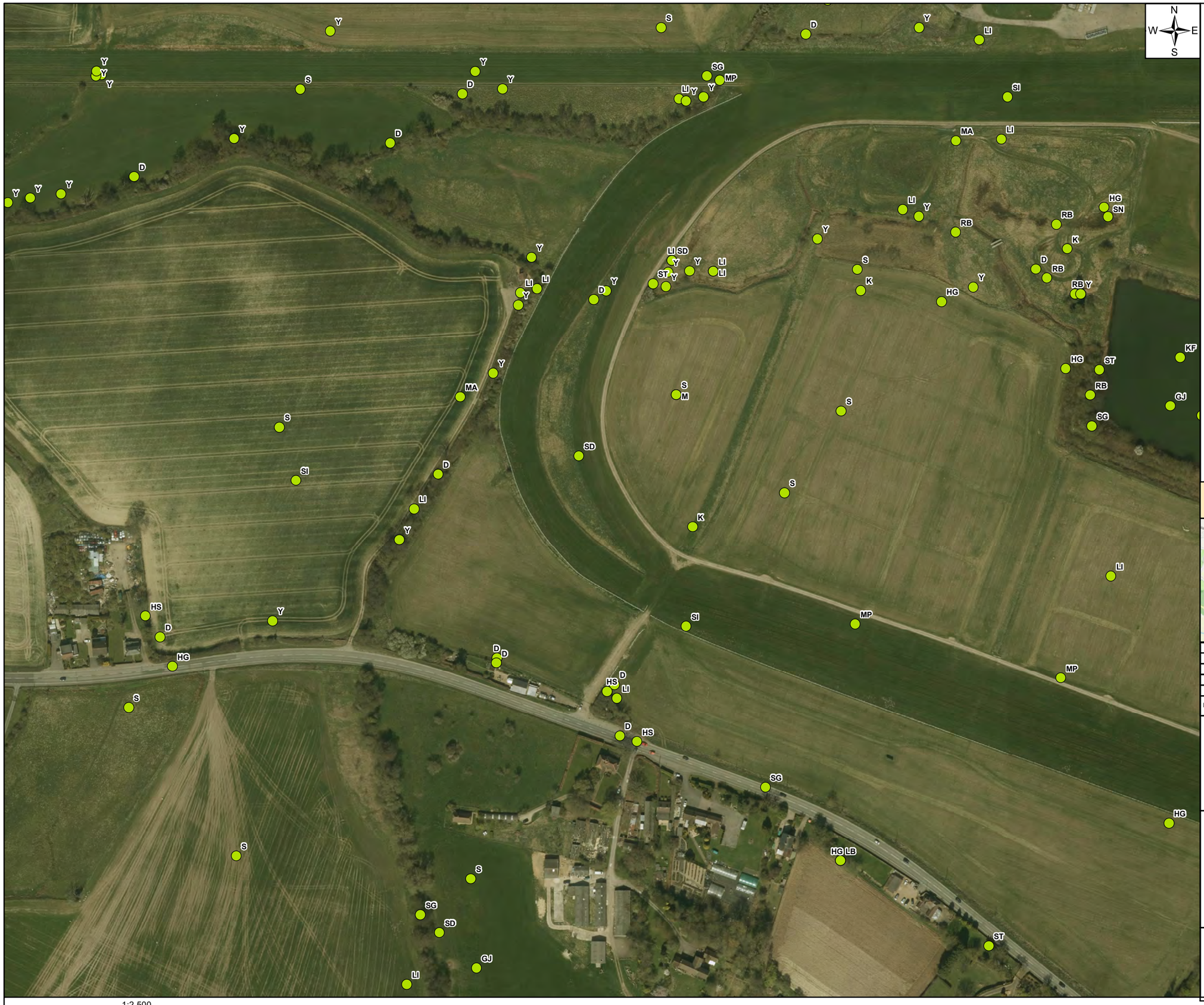
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 10 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

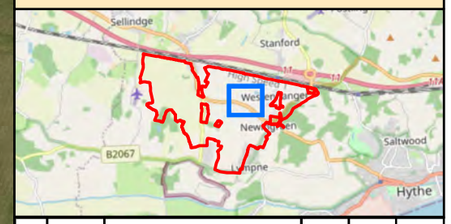


Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 11 of 22

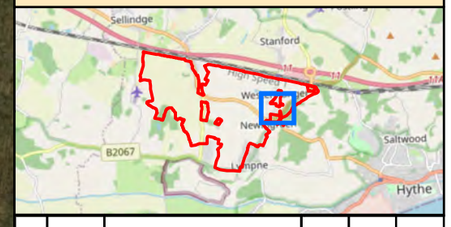
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

N
W E
S

Legend

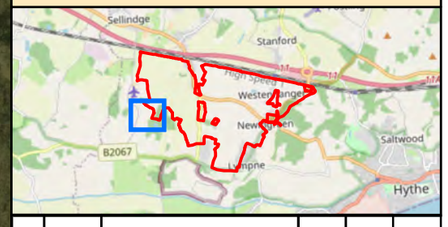
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 13 of 22

0 1:2,500 1 km

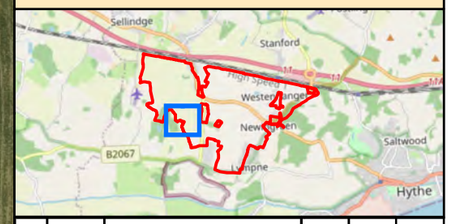
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 14 of 22

0 1:2,500 1 km

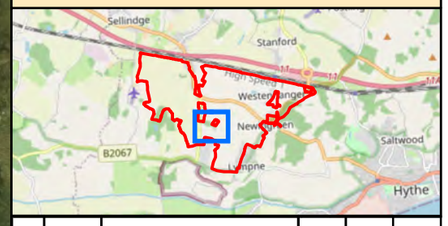
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 15 of 22

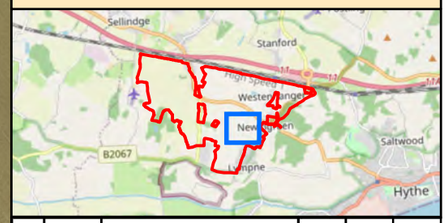
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

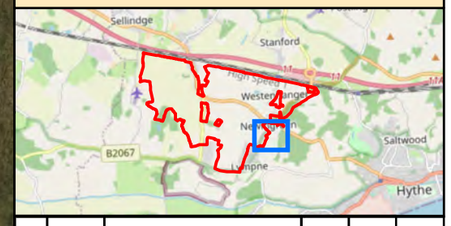
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 17 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

N
W E
S

Legend

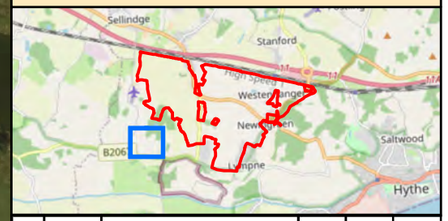
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS

80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 18 of 22

0 1:2,500 1 km

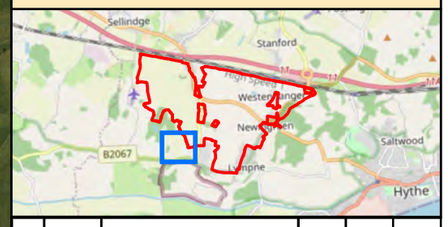
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 19 of 22

0 1:2,500 1 km

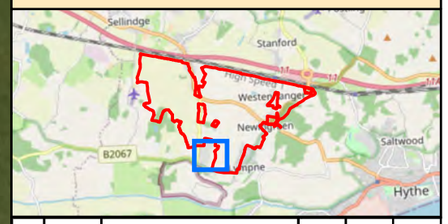
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 20 of 22

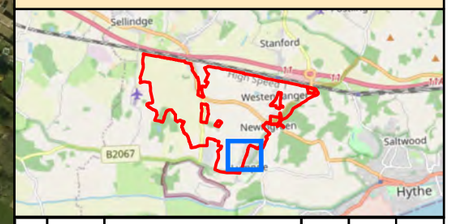
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

- Confirmed Breeder
- Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 21 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Legend

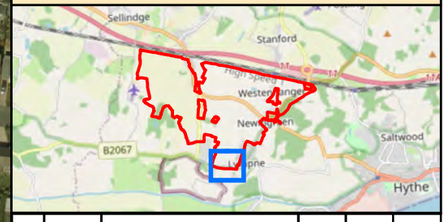
Outline Planning Application Boundary

Framework Masterplan Boundary

Notable Birds of Conservation Concern (with BTO species code)

Confirmed Breeder

Other



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 4
Notable Birds and Birds of Conservation Concern Observed during the Breeding Bird Surveys (2017)
Page 22 of 22

0 1:2,500 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 4 - Notable birds and birds of conservation concern observed during the breeding bird surveys (2017).mxd

Figure 5: Summary of all Birds Considered to be Breeding on Site

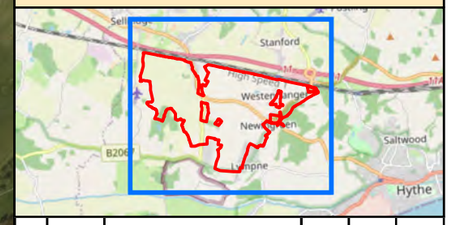
N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary

All Breeding Bird Data (with BTO code)

- Confirmed Breeder
- Probable Breeder
- Possible Breeder



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	27-12-2018	FOR INFORMATION	EP	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 5
Summary of All Birds Considered to be Breeding On Site (2017)

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

0 1:15,000 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 5 - Summary of all birds considered to be breeding on site (2017).mxd

Figure 6: Results of Building Assessments for Barn Owl Nesting Potential

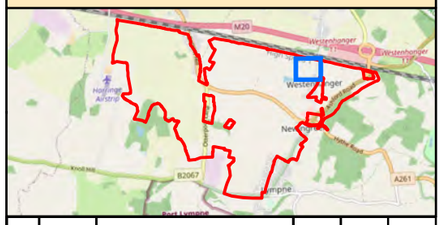
N
W E
S

1j
1i
1h
2g
2h
2j
1aa
1a
1b
1c
1d
1e
1f (b)
1f (a)
1g
1k
1l

0 1:1,250 50 Meters

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

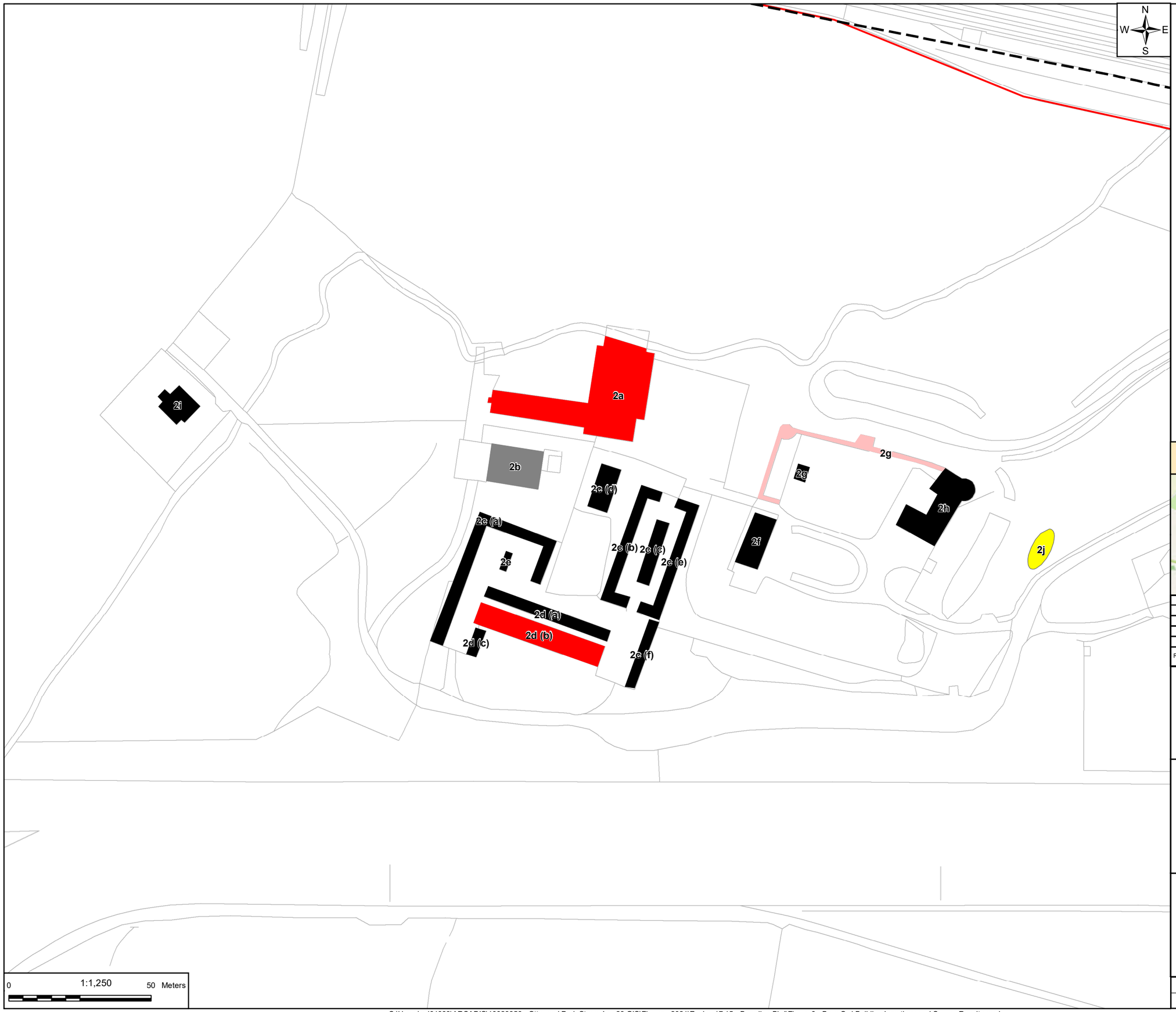
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 1 of 17

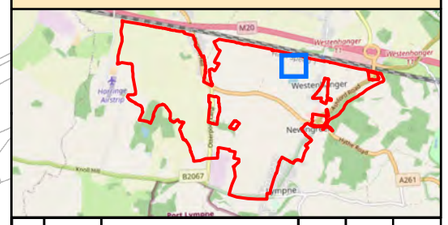
scale	original size	datum	grid
1:1,250	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

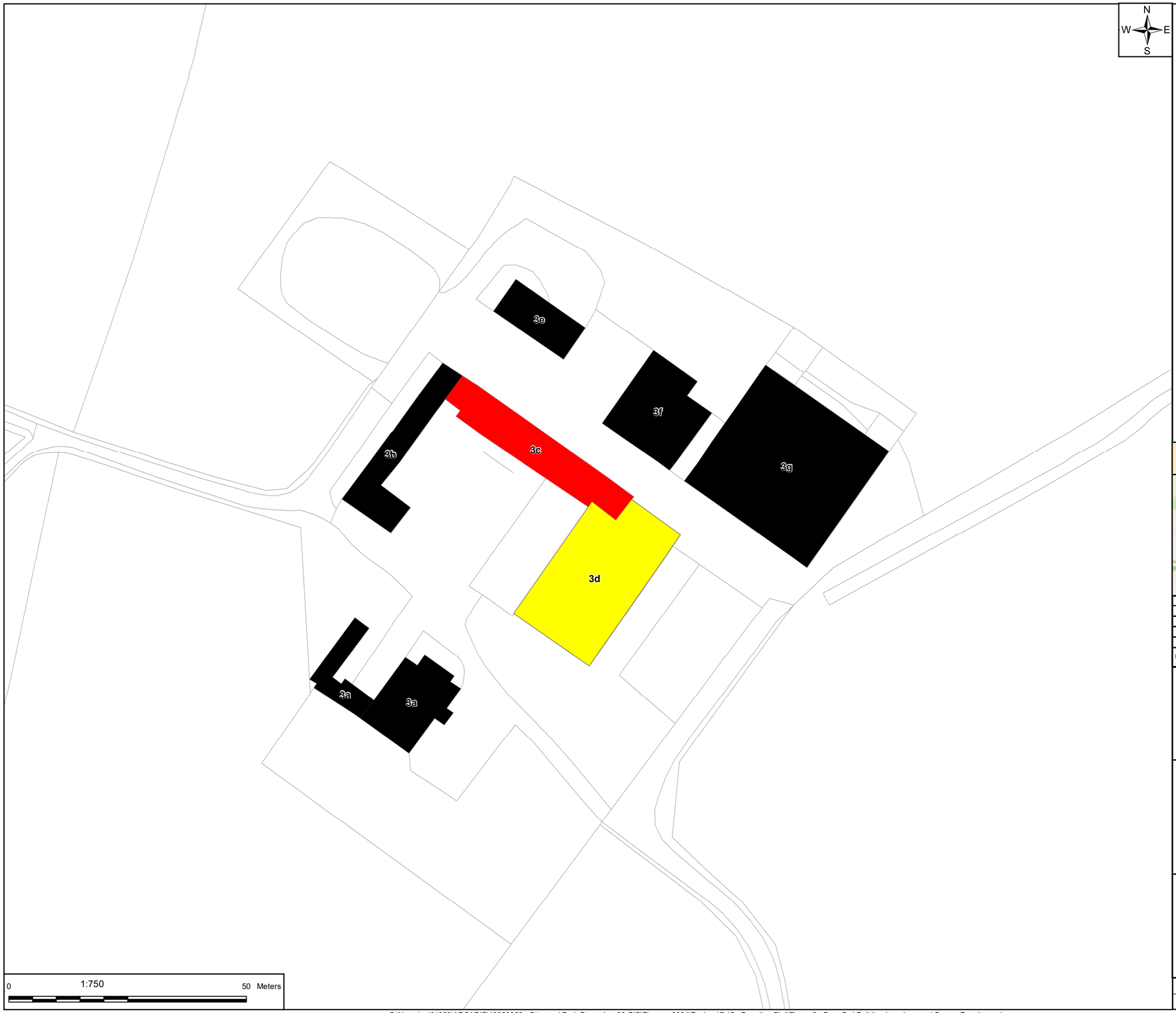
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 2 of 17

scale	original size	datum	grid
1:1,250	A3	Sx	OSGB

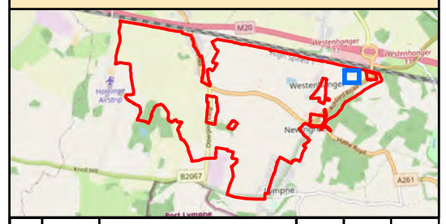
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd



N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 3 of 17

0 1:750 50 Meters

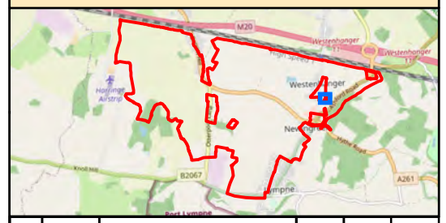
scale	original size	datum	grid
1:750	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 4 of 17

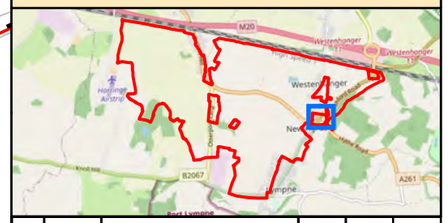
scale	original size	datum	grid
1:500	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

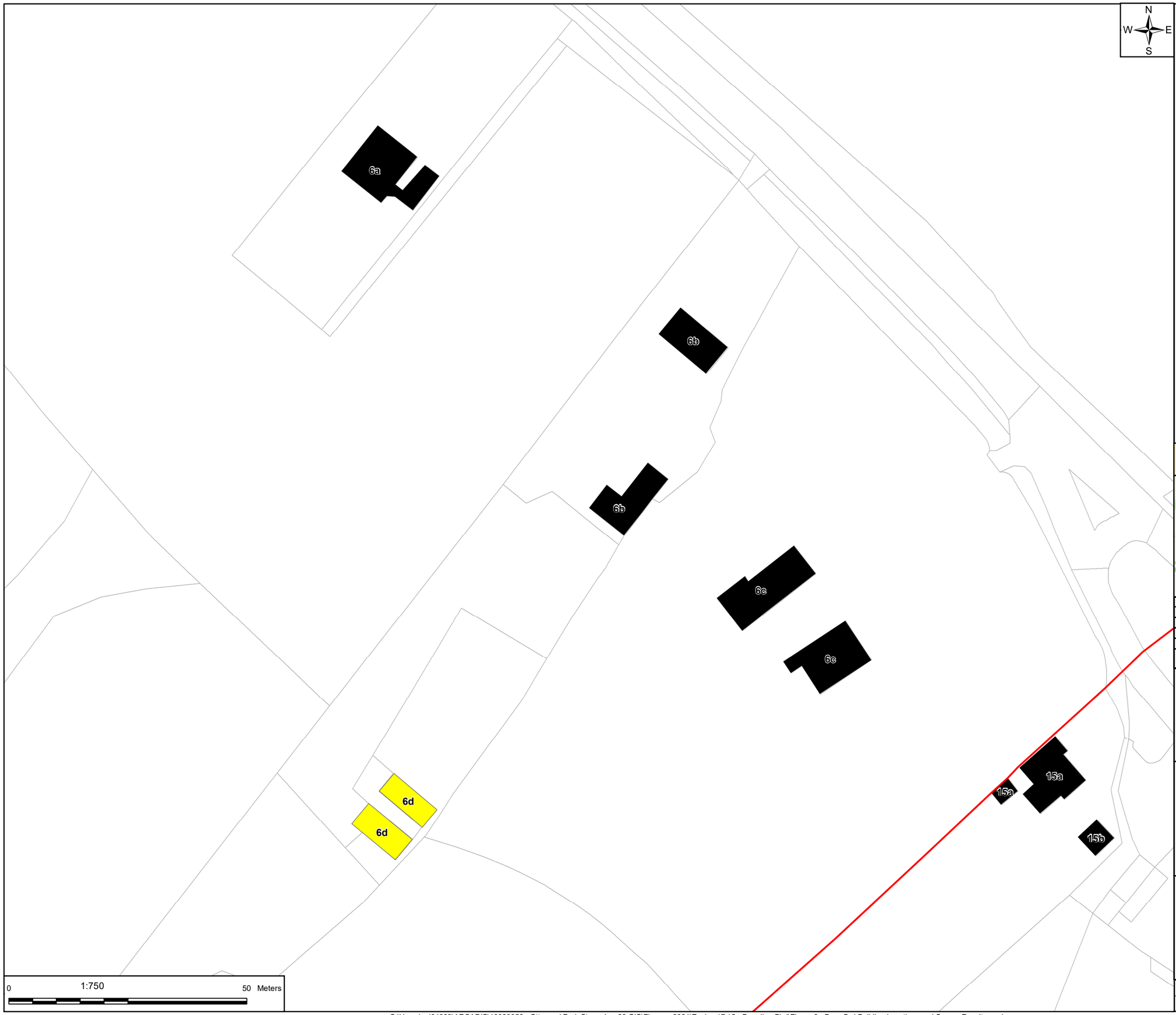
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 5 of 17

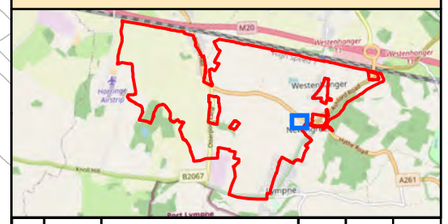
scale	original size	datum	grid
1:1,250	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

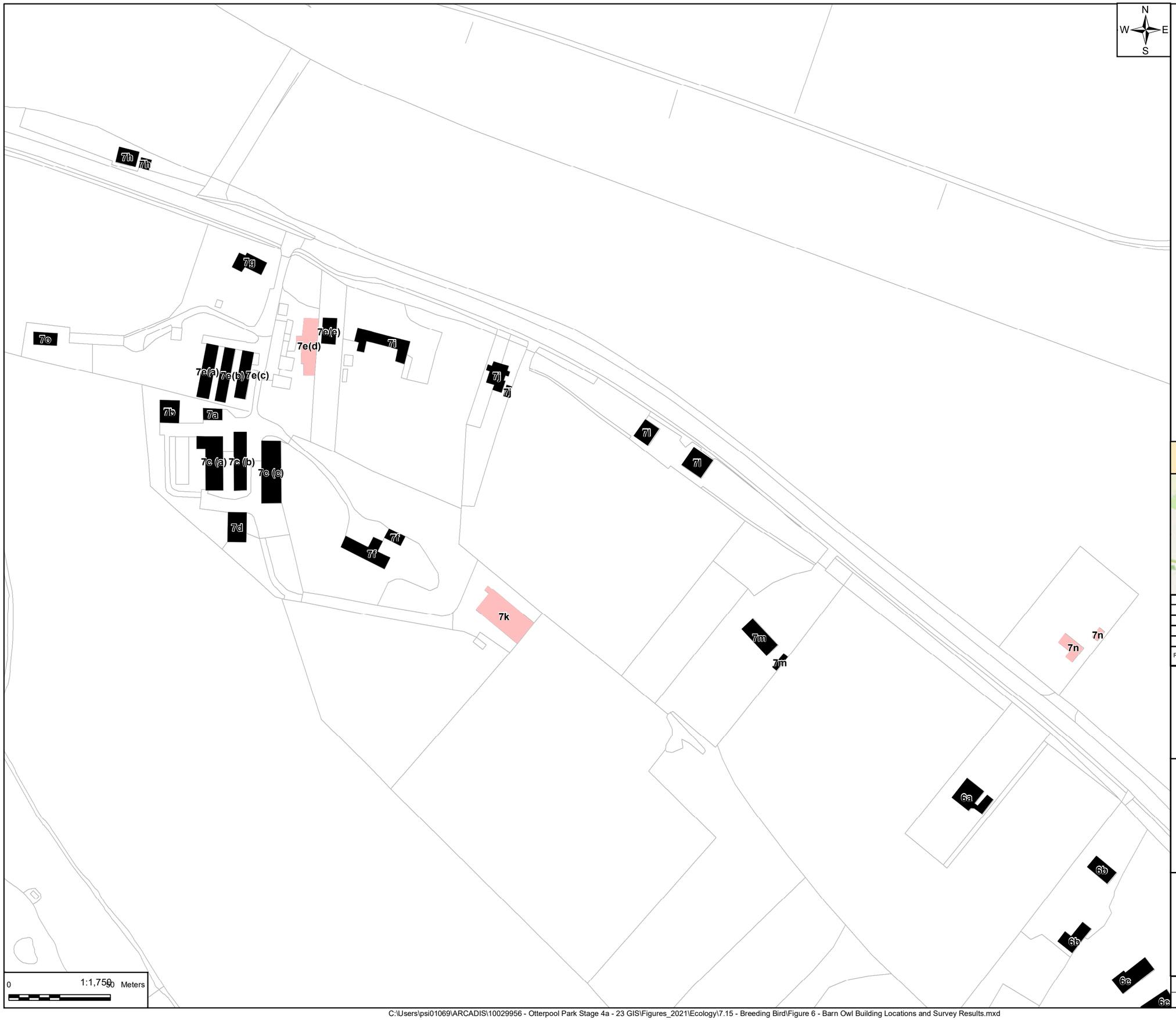
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 6 of 17

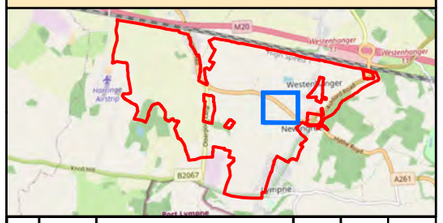
scale	original size	datum	grid
1:750	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 7 of 17

scale	original size	datum	grid
1:1,750	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

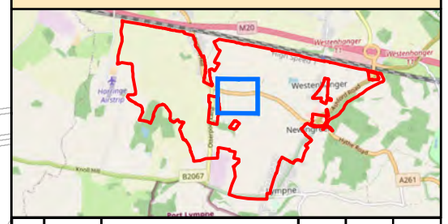
N
W E
S

8a
8c
8d
8b
8f
8e(a)
8e(b)
8g
17a
11a

0 80 Meters
1:2,000

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

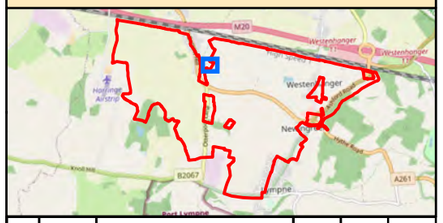
Figure 6
Barn Owl Building Locations and Survey Results
Page 8 of 17

scale	original size	datum	grid
1:2,000	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

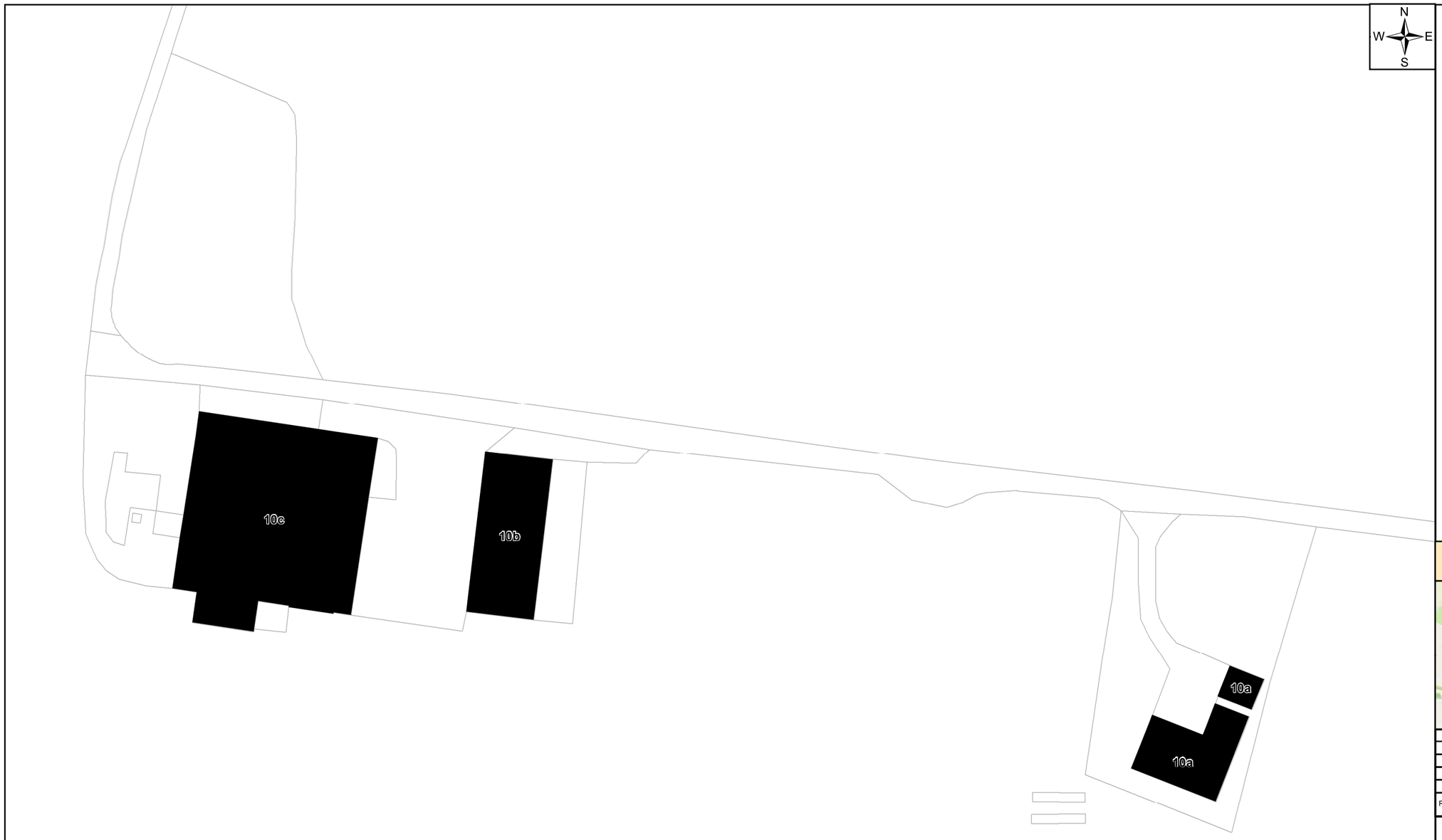
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results

scale	original size	datum	grid
1:750	A3	Sx	OSGB

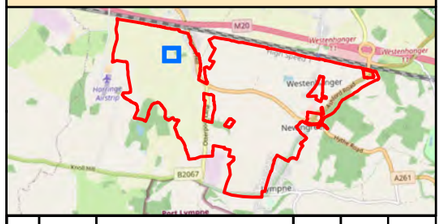
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd



N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 10 of 17

0 1:750 50 Meters

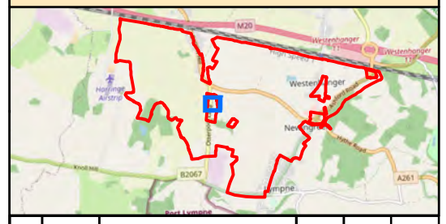
scale	original size	datum	grid
1:750	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 11 of 17

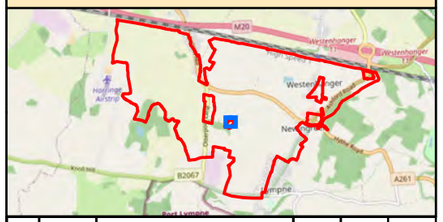
scale	original size	datum	grid
1:750	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

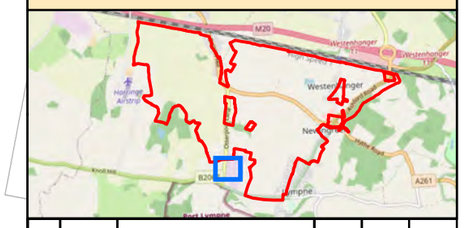
Figure 6
Barn Owl Building Locations and Survey Results
Page 12 of 17

scale	original size	datum	grid
1:500	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 13a of 17

scale	original size	datum	grid
1:1,250	A3	Sx	OSGB

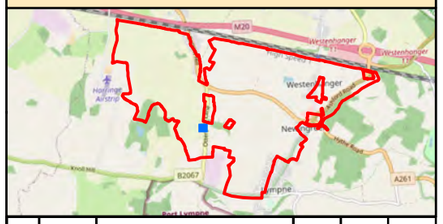
N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)

13t

0 1:250 50 Meters



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

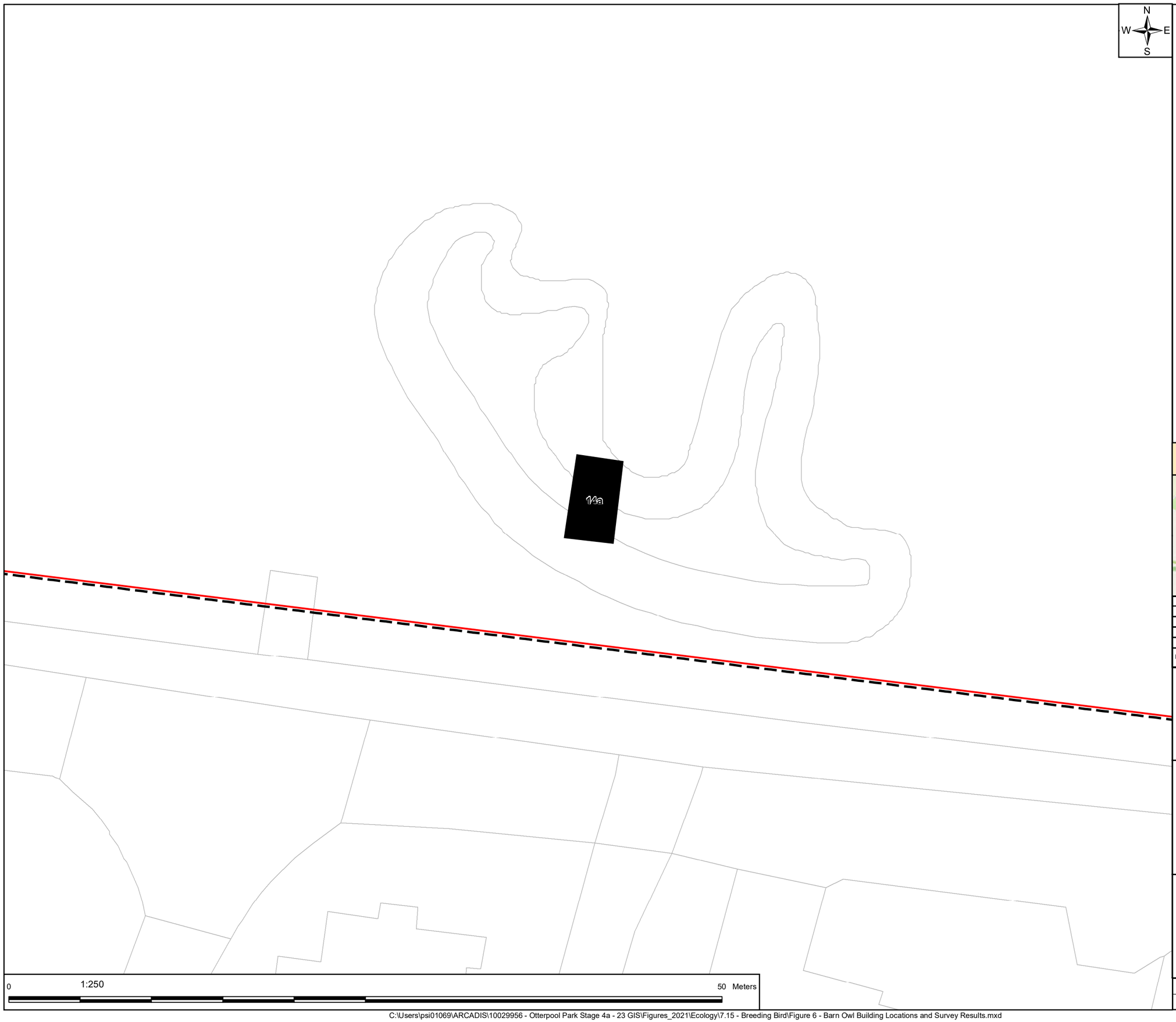
ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 13b of 17

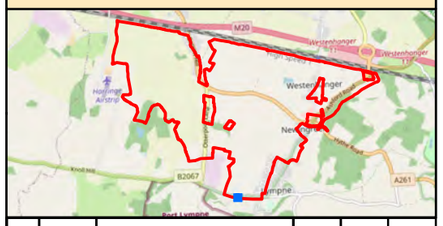
scale	original size	datum	grid
1:250	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

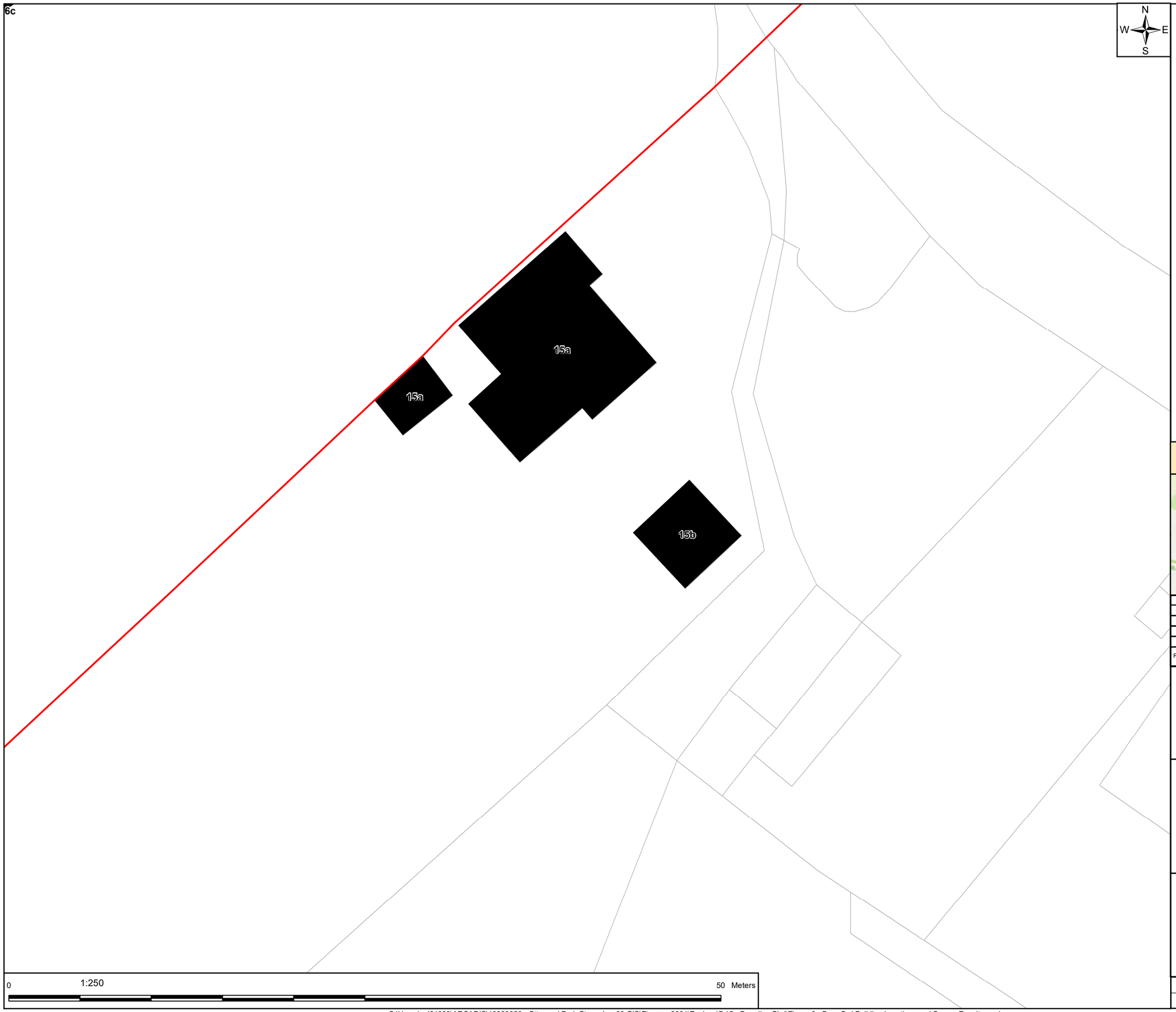
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 14 of 17

scale	original size	datum	grid
1:250	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

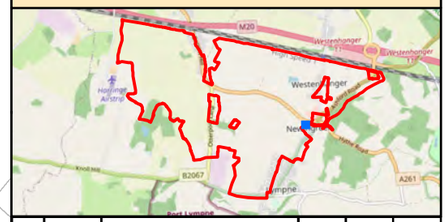
6c



N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS

80Fen
80 Fenchurch Street
London
EC3M 4BY

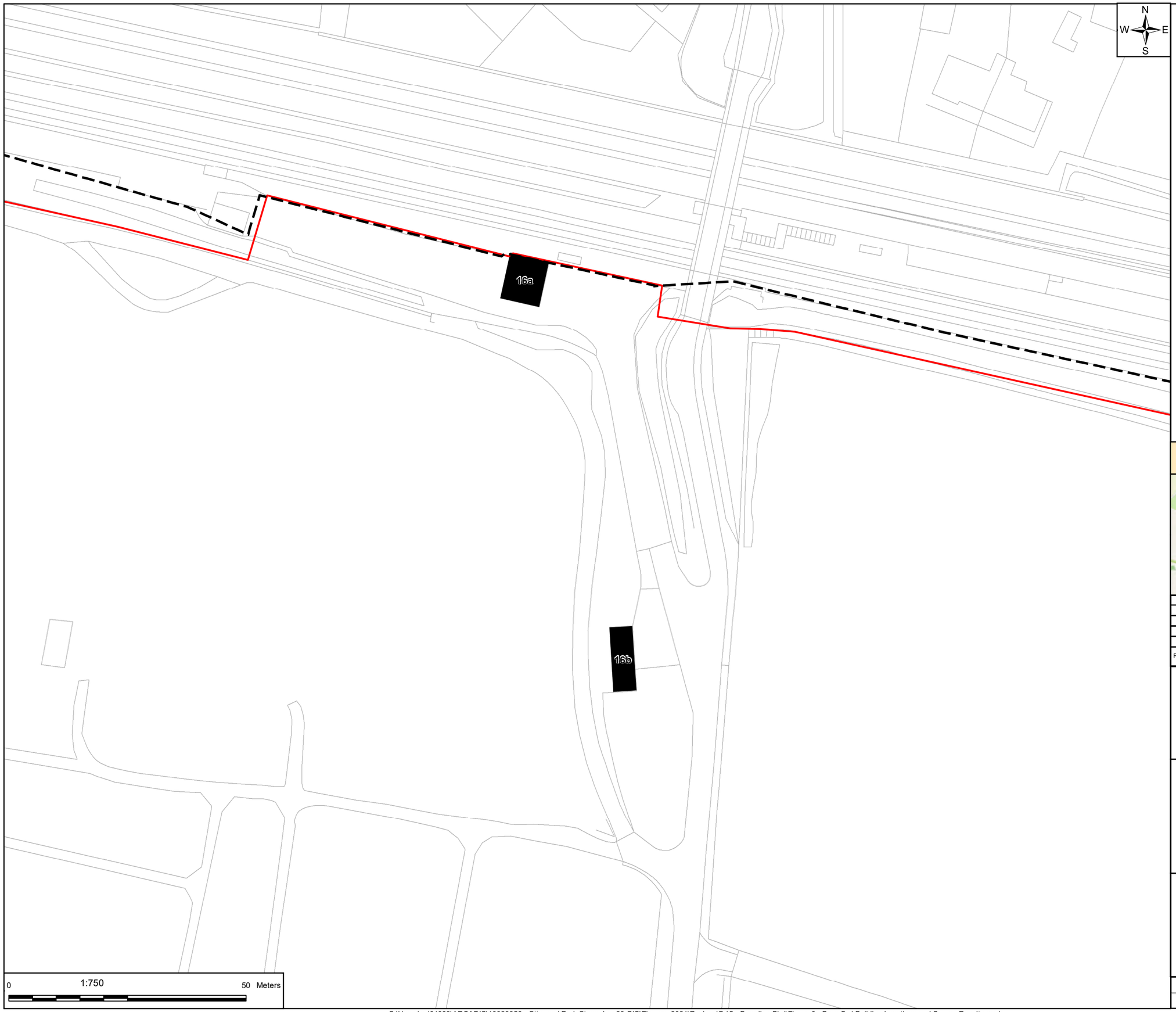
OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 15 of 17

scale	original size	datum	grid
1:250	A3	Sx	OSGB

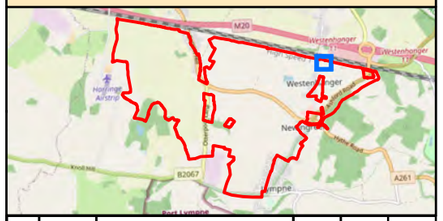
0 1:250 50 Meters

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd



Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

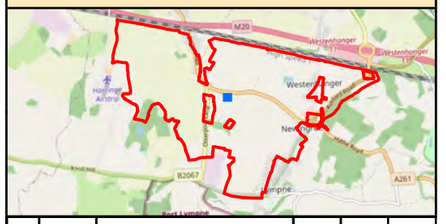
Figure 6
Barn Owl Building Locations and Survey Results
Page 16 of 17

scale	original size	datum	grid
1:750	A3	Sx	OSGB

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Potential Nest Site (evidence of usage by barn owls)
- Potential Nest Site with Potential Evidence (anecdotal or inconclusive evidence)
- Potential Nest Site, not Possible to Make a Determination on Likelihood of Use
- Potential Nest Site – Considered Unlikely to be Utilised by Barn Owls
- Negligible or Very Unlikely Potential to Support Nesting Barn Owls
- Unknown (Lack of Access)



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 6
Barn Owl Building Locations and Survey Results
Page 17 of 17

scale	original size	datum	grid
1:250	A3	Sx	OSGB

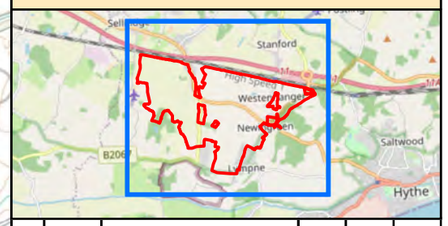
C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 6 - Barn Owl Building Locations and Survey Results.mxd

Figure 7: Assessment of Barn Owl Foraging Area Present on Site

N
W E
S

Legend

- Outline Planning Application Boundary
- Framework Masterplan Boundary
- Type 1 Habitat
- Type 2 Habitat
- Type 3 Habitat
- Other Habitats



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	18-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 7
Barn Owl Habitat Suitability

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

0 1:15,000 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 7 - Barn Owl Habitat Suitability.mxd

Figure 8: Heat Map of Breeding Bird Activity Recorded on the Site in 2017

N
W E
S

Legend

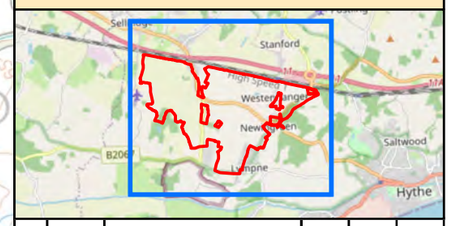
Outline Planning Application Boundary

Framework Masterplan Boundary

Breeding Bird Heatmap

High : 90.60

Low : 4.01



REV	Date	Description	Drawn	Check	Approv
02	07-03-2022	FOR INFORMATION	PS	BM	MG
01	28-12-2018	FOR INFORMATION	PN	BM	MG

ARCADIS
80Fen
80 Fenchurch Street
London
EC3M 4BY

OTTERPOOL PARK
COUNTRYSIDE · CONNECTED · CREATIVE

Figure 8
Heatmap - Birds recorded during the 2017 Breeding Bird Surveys

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

0 1:15,000 1 km

C:\Users\psi01069\ARCADIS\10029956 - Otterpool Park Stage 4a - 23 GIS\Figures_2021\Ecology\7.15 - Breeding Bird\Figure 8 - Heatmap - Birds recorded during the 2017 Breeding Bird Surveys.mxd