

Rosefield Solar Farm

Environmental Statement

Volume 4
Appendix 7.4: Breeding Birds Survey Report
(2022)
(Clean)

EN010158/APP/6.4.3
Revision 3
Deadline 4
June 2026
Rosefield Energyfarm Limited

APFP Regulation 5(2)(a)
Planning Act 2008
Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009



Foreword

Survey information contained within this appendix **ES Volume 4 Appendix 7.4 – Breeding Bird Survey Report (2022) [EN010158/APP/6.4.3]** forms part of the Environmental Statement for information only. The breeding bird surveys detailed within this appendix were undertaken between March – June 2022 and were based on a superseded version of the Order Limits, which has since been revised. Therefore, the results detailed within this report were correct at the time of writing, however certain aspects of this report are now outdated.

Updated breeding bird surveys were undertaken between March-July 2024, the results of these surveys are found in **ES Volume 4, Appendix 7.12: Breeding Bird Survey Report (2024) [EN010158/APP/6.4.3]**, however the information contained within this report has been used to inform the desk study element of the updated survey report.

Table of Contents

1. Introduction	1
1.1. Background.....	1
1.2. Proposed Development	1
1.3. Site Description.....	1
1.4. Scope of the Report.....	2
2. Relevant Legislation and Policy	3
2.1. Legislative Context	3
2.2. Other Guidance	4
3. Methods	7
3.1. Desk Study	7
3.2. Field Survey.....	7
3.3. Assessment of Ornithological Importance.....	9
3.4. Assumptions and Limitations	14
4. Results	15
4.1. Desk Study	15
4.2. Field Survey.....	15
5. Evaluation	22
5.1. Desk Study	22
5.2. Field Survey.....	22
5.3. Species Abundance.....	25
5.4. Species Diversity	26
5.5. Species Distribution	26
5.6. Evaluation of Key Habitat Types for Breeding Birds	26
6. Conclusions	28
7. References.....	29
Annex A: Figures	
Annex B: Bird records received through the data	

1. Introduction

1.1. Background

- 1.1.1. This document has been updated at Deadline 4 to redact confidential information while providing the full report. The document references have not been updated from the original submission. Please refer to the **Guide to the Application [EN010158/APP/1.2.10]** for the list of current versions of documents.
- 1.1.2. In September 2021, Rosefield Energyfarm Ltd commissioned a Preliminary Ecological Appraisal (PEA) **[Ref. 1]** for the construction, operation (including maintenance), and decommissioning of the proposed Rosefield Solar Farm (hereafter referred to as the Proposed Development). This PEA identified that the habitat within the Proposed Development (the Site) was suitable to support birds during the breeding season and that further surveys were required to determine the presence or absence of protected or notable¹ bird species and the assemblage of breeding bird species. Therefore, surveys of breeding birds have been undertaken within the Site and an appropriate survey buffer (the survey area) to record the species, distribution and numbers of breeding birds.

1.2. Proposed Development

- 1.2.1. Rosefield Energyfarm Ltd is a proposed new solar energy farm, co-located with battery storage. The proposals include grid infrastructure to connect Rosefield Energyfarm Ltd to the National Grid via underground cable. The proposed generation capacity of the Proposed Development is above 50MW, which means it is a Nationally Significant Infrastructure Project (NSIP) and as such would require a Development Consent Order (DCO).

1.3. Site Description

- 1.3.1. The Proposed Development is located in three main sites (referred to hereafter as Parcel 1 (with a sub-parcel '1a'), Parcel 2 and Parcel 3) located in a triangle of Winslow, Steeple Claydon and Quainton, in the county of Buckinghamshire and in the geographical region of Aylesbury Vale. The Proposed Development is within the Upper Thames Clay Vales National Character Area (NCA), which comprises a broad belt of open, gently undulating lowland farmland on predominantly Jurassic and Cretaceous clays. There are contrasting landscapes, including enclosed pastures of the claylands with wet valleys, mixed farming, hedges, hedge

¹ A notable species is a species with no legal protection but is assigned a conservation designation

trees and field trees and more settled, open, arable lands. Mature field oak trees give a parkland feel in many places.

- 1.3.2. Parcel 1 is centred at Ordnance Survey national grid reference SP703242 (Knowl Hill), Parcel 1a at SP708230, Parcel 2 at SP730229 and Parcel 3 at SP753255. Parcel 1 makes up the largest area of the Proposed Development, to the east of Calvert, and consists predominately of arable fields with livestock pastures and woodland blocks. A smaller section, referred to as Parcel 1a, lies to the immediate south of Parcel 1. Parcel 2 contains predominantly arable fields surrounded by woodland blocks. Parcel 3 contains two livestock fields and is located adjacent to the National Grid East Claydon Substation. The Parcels are surrounded by arable, grassland and woodland. Together these three sites are referred to as the 'Site.'

1.4. Scope of the Report

- 1.4.1. The objective of the surveys for breeding birds, reported in this document, is to determine the presence, assemblage and distribution of breeding bird species, within the Site and relevant zones of influence to determine any potential impacts of the Proposed Development on breeding birds.
- 1.4.2. This report includes the following information:
- Relevant legislation and policy;
 - Methodologies for desk and field-based assessments undertaken in 2021 and 2022;
 - Limitations to the surveys undertaken and any assumptions made as a result of incomplete data;
 - Survey results;
 - The approach for determining the nature conservation importance of breeding bird populations recorded during the assessments; and
 - Conclusions and recommendations.

2. Relevant Legislation and Policy

2.1. Legislative Context

Wildlife and Countryside Act

- 2.1.1. The legislative provisions for the protection of wild birds in the UK are contained primarily in Sections 1-7 of the Wildlife and Countryside Act (WCA) 1981 (as amended) **[Ref. 2]**. Under the WCA, a wild bird is defined as any bird of a species that occurs in a wild state as a resident or a visitor to the European Territory of any member state.
- 2.1.2. When breeding, all birds, their nest, eggs and nestlings are afforded protection under the Wildlife and Countryside Act 1981, as updated by the 'Countryside Right of Way Act 2000' **[Ref. 4]**. Therefore, during the bird breeding season (typically March-August inclusive) it is an offence to:
- Intentionally kill, injure or take any wild bird;
 - Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
 - Intentionally take or destroy the eggs of any wild bird.
- 2.1.3. Additionally, special penalties exist for offences related to species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended) **[Ref. 4]**, for which there are additional offences for disturbing these birds at their nest, or their dependent young. Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. No licences are available for disturbance during a development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

Directive of the Conservation of Wild Birds

- 2.1.4. A number of bird species recorded within the UK (including those that are resident, overwintering and migratory) are protected under European legislation under the Directive of the Conservation of Wild Birds (EU Birds Directive) **[Ref. 5]**, which lists 193 species, or sub-species, of birds in Annex 1 which are:
- In danger of extinction;
 - Are rare, or have restricted local distribution;
 - Are vulnerable to specific changes in their habitat; or
 - Require particular attention for reasons of the specific nature of habitat.
- 2.1.5. This Directive is reflected in English law by the Conservation of Habitats and Species Regulations 2017 (as amended) **[Ref. 6]**. Although the UK is no longer a member state of the European Union, the 2019 amendments to the Conservation of Habitats and Species Regulations 2017 **[Ref. 7]** make it clear that provisions regarding the protection and designation of

Special Protection Areas (SPAs) are maintained. Species listed on Annex 1 are those for which the UK Government takes special conservation measures including the designation of land as SPAs to ensure the survival and reproduction of these species throughout their distributions. These sites are automatically included within the National Site Network; a network of core breeding and resting sites that are protected for rare and threatened species.

Priority Species

- 2.1.6. In addition to the above legislation, 49 bird species are listed as being Species of Principal Importance for conservation in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 **[Ref. 8]**. These species are of material consideration during the planning process. Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act. The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act, to have regard to the conservation of biodiversity in England when carrying out their normal functions.
- 2.1.7. The Joint Nature Conservation Committee (JNCC) UK Biodiversity Action Plan (UKBAP) **[Ref. 9]** was launched in 1994 and identified UK BAP priority species of conservation concern that are the most threatened in the UK and requiring action under the UKBAP and for which action plans have been published. However, the work undertaken for the UKBAP is now focussed at a country level, rather than UK level, and the UKBAP has subsequently been succeeded by the UK Post-2010 Biodiversity Framework (July 2012) **[Ref. 10]**. However, the UK list of priority species remains an important reference source and has been used to help draw up statutory lists of priority species in England, Scotland, Wales and Northern Ireland. For the purpose of this assessment, the UK BAP is still used as one of the criteria to assist in assigning national value to any given ecological receptor.

2.2. Other Guidance

Local Biodiversity Action Plan

- 2.2.1. The Site is located within the county of Buckinghamshire (see **Section 1.3**). The Buckinghamshire and Milton Keynes Forward to 2030 Biodiversity Action Plan (BMKBAP) **[Ref. 15]**, sets out measures that will help to reverse the decline of biodiversity within the area, although focus of the work is primarily on habitats. Whilst the BMKBAP is focussed on habitats, without species specific action plans in the county, UK Priority species **[Ref. 20]** that have been recorded within the county have been taken forward in this report as local priority species.

Birds of Conservation Concern

- 2.2.2. The Birds of Conservation Concern (BoCC) 5 **[Ref. 16]** is an assessment of the conservation status of all regularly occurring British birds. The lists (Red, Amber and Green), that indicate the level of conservation importance for each species, are derived from quantitative assessments from standardised criteria. The assessment is based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. The lists are drawn together by the UK's leading bird conservation organisations, including the Royal Society for the Protection of Birds (RSPB) and British Trust for Ornithology (BTO).
- 2.2.3. Red list species are of the most conservation concern and are those that:
- Are globally threatened (Critically Endangered, Endangered and Vulnerable, but not Near Threatened) under International Union for Conservation of Nature and Natural Resources (IUCN) guidelines;
 - Have shown a historical population decline between 1800 and 1995 and have not recovered;
 - Have suffered a severe breeding population decline of more than 50% in either the last 25 years or the longer-term (since 1969);
 - Have suffered a severe non-breeding population decline of more than 50%; and
 - Whose UK range in either the breeding or non-breeding season has declined by more than 50% between respective breeding and non-breeding atlases.
- 2.2.4. Amber list species include:
- Those that are threatened in Europe (Critically Endangered, Endangered and Vulnerable, but not Near Threatened as per IUCN Red List Guidelines);
 - Those that were previously red-listed for historical population decline, followed by an increase of at least 100% over 25 years or the longer-term period;
 - Those that have suffered a moderate breeding population decline of between 25% and 50% in either the last 25 years or the longer-term (since 1969);
 - Those that have suffered a moderate non-breeding population decline of between 25% and 50%;
 - Whose UK range in either the breeding or non-breeding season has declined by more than 50% between respective breeding and non-breeding atlases;

- Breeding or non-breeding rarities (UK population <300 breeding pairs or <900 non-breeding individuals);
- Breeding or non-breeding localisation whereby more than 50% of the UK population was found at ten or fewer sites in either the breeding or the non-breeding season; and
- Breeding or non-breeding international importance whereby the UK holds at least 20% of the European population in either the breeding or the non-breeding (WI) season of a particular species.

2.2.5. Green list species are not of conservation concern and include all other commonly occurring birds in the UK.

2.2.6. The BoCC lists confer no legal status, however where any BoCC Red or Amber-listed species are present at a site, their conservation status should be taken into account when determining the likely impacts (and significance) of proposed plans and projects and in determining the level of mitigation that may be required when birds are to be affected by plans or projects.

3. Methods

3.1. Desk Study

- 3.1.1. A desk study was undertaken in September 2021 through Buckinghamshire and Milton Keynes Environmental Records Centre (BMKERC) to obtain records of protected and notable bird species within a 2km radius of the Proposed Development.
- 3.1.2. Only records up to ten years old from the request date were considered within the assessment, as any records older than ten years are unlikely to be still representative of bird species in the local area.

3.2. Field Survey

Survey Area

- 3.2.1. The survey area included all habitat within the Site and a minimum 50m survey buffer. Standardised survey buffers for assessing the impacts of development on bird populations do not exist, however, the survey area used provides information on the breeding birds within the area immediately surrounding the Site and includes areas contiguous with the Site, where birds may potentially be adversely affected. Depending on the sensitivity of the species, birds occurring outside of the survey area may also be adversely affected (such as those listed on Schedule 1 of the WCA) and therefore where any such species were recorded beyond the 50m survey buffer (up to 200m from the Site), these were also recorded. However, the 50m survey buffer is sufficient to determine the likely impacts of the Proposed Development on the majority of breeding bird species occurring or likely to occur in the area.
- 3.2.2. For ease of analysis in consideration of the size and locations of the Proposed Development, the survey area was split into compartment areas (**Figure 1 (Annex A)**).
- Parcel 1;
 - Sub-parcel 1a;
 - Parcel 2; and
 - Parcel 3.

Territory Mapping Survey – General Breeding Bird Assemblage

- 3.2.3. The survey was undertaken based on a standard territory mapping methodology for surveying breeding birds as detailed in Bibby *et al.* (2000) [**Ref. 17**] and Gilbert *et al.* (1998) [**Ref. 18**]. This method is based on the principle that many species during the breeding season are territorial. This is found particularly amongst passerines, where territories are often marked by conspicuous song, display and periodic disputes with neighbouring individuals.

- 3.2.4. Six survey visits, approximately two weeks apart, were undertaken between March and mid-June 2022, as detailed in **Table 3.1**.

Table 3.1. Survey dates for each site visit

Visit number	Survey Dates
1	28 th to 30 th March 2022
2	20 th to 22 nd April 2022
3	5 th to 6 th May 2022
4	24 th to 25 th May 2022
5	7 th to 8 th June 2022
6	23 rd to 24 th June 2022

- 3.2.5. Survey routes followed the length of all hedgerows, fence-lines and field margins (including paths, tracks and roads). Deviations into areas of set-aside, stubble fields, scrub, woodland and other uncultivated habitats were made, where possible. The routes did not include ploughed or cultivated fields, due to the possibility of trampling and damaging crops. Fields containing livestock were avoided for safety reasons.
- 3.2.6. Regular stopping points were included along the survey route to record any species that may be passing through the survey area. Survey routes were mapped, and the direction walked alternated on each visit, to ensure that all areas were covered at various times of day across the duration of the survey. Surveys were undertaken early in the morning, commencing just after sunrise and finishing before midday. Each survey was undertaken during appropriate weather conditions for survey when the weather was dry, warm and with little to no wind.
- 3.2.7. On each visit, the survey route was walked at a slow pace with start and finish times noted. All birds seen and heard were recorded directly onto paper maps or an ArcGIS base map using Collector software on hand-held Samsung Tablet devices, with a 1:10,000 scale Ordnance Survey base map of the survey area. All bird species were recorded and mapped across the entire survey area. Specific codes were used to record bird behaviour, including singing, calling, flights and movements between areas, carrying food, nest building, aggressive encounters and other bird behaviour.
- 3.2.8. The expected outcome from the surveys is that mapped registrations fall into clusters, approximately coinciding with territories. A cluster is generally a spatially distinct group of registrations that represent the activity of not more than one pair. Ideally, clusters include registrations of territorial behaviour across all visits and are clearly demarcated from adjacent clusters by simultaneous recording of neighbouring birds. Where

a species has closely packed territories, the mapping of simultaneously singing birds becomes essential. Territory boundaries are assumed to be between such birds.

- 3.2.9. Territory mapping methods produce analysis maps of non-overlapping ellipses encircling clusters of records thought to relate to separate pairs of breeding birds. These ellipses may not show the entire extent of the pairs' actual breeding territory which may be significantly larger; however, they are likely to show those areas in which the pair is most active.
- 3.2.10. On completion of the surveys, analysis maps were produced for each species, consisting of all registrations recorded during surveys. From these species maps, the number of territories was calculated by identifying the number of clusters present.
- 3.2.11. For late-arriving (to the UK) trans-Saharan migrants, *e.g.* Spotted Flycatcher *Muscicapa striata*, for which fewer potential contacts are possible, only one registration is required to form a territory cluster. A number of species are not territorial and are dealt with appropriately, *e.g.* Linnet, where data represent aggregations or loose colonies.
- 3.2.12. Standard registration mapping techniques were also used to record non-breeding species.
- 3.2.13. The following definitions were used to identify the breeding territory status of each species recorded:
- Confirmed: includes species for which territories were positively identified as a result of the number of registrations recorded; the location of an active nest; or the presence of recently fledged young/downy young;
 - Probable: includes a species pair observed in suitable nesting habitat during surveys; or agitated behaviour/anxiety calls from adults (suggesting the presence of a nest or young nearby). Behaviour was observed on insufficient occasions to confirm the presence of a territory;
 - Possible: includes species observed during surveys in suitable nesting habitat; or a singing male present (or breeding calls heard) in suitable breeding habitat; or
 - Non-breeding: species-specific information was used to determine fly-over species, or species suspected to be summering non-breeder.

3.3. Assessment of Ornithological Importance

- 3.3.1. The assessment of the ornithological importance of the Site during the breeding season was made by evaluating any species afforded special statutory protection or those included on one, or more, of the lists of species of conservation interest, as detailed in **Section 5**. These include:
- Species listed on Annex 1 of the EU Birds Directive [**Ref. 19**];
 - Species listed on Schedule 1 of the WCA, 1981 (as amended) [**Ref. 4**];

- Priority bird species in the UK [Ref. 20] or in Buckinghamshire [Ref. 15]; and
- Species included in the Birds of Conservation Concern (BoCC) Red and Amber Lists [Ref. 16].

Species Abundance

- 3.3.2. In addition to evaluating a site based on its populations of breeding birds in relation to legal status, rarity and biodiversity importance, consideration has to be given to the value of the survey area for the population of individual species that it supports. This can be done by comparing the population present within the survey area with the national and county breeding population for certain species. National estimates for breeding birds are published in a paper: '*Population estimates of birds in Great Britain and the United Kingdom*' [Ref. 21]. The BTO Bird Atlas 2007-2011 (Balmer *et. al.*, 2013) [Ref. 22] was also reviewed for species information on a national level.
- 3.3.3. Information on populations of nationally rare species was sourced from the most recently published paper by the Rare Breeding Birds Panel (RBBP) [Ref. 23].
- 3.3.4. County-level estimates on the breeding bird populations of the majority of species in Buckinghamshire were also obtained from county avifauna reports, where this information was available.

Species Diversity

- 3.3.5. The number of species recorded in an area is a simple measure of diversity that can indicate its importance at each season of the year.
- 3.3.6. **Table 3.2** presents the breeding species diversity criteria as outlined in Fuller (1980) [Ref. 24], which provides a method for assessing the ornithological interest of sites for conservation during the bird breeding season, based on the number of species present.

Table 3.2: Breeding species diversity criteria (Fuller, 1980)

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

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

- 3.3.8. Local Wildlife Sites (LWS) (or County Wildlife Sites (CWS)) are among the most important places for wildlife in Buckinghamshire, together with legally protected land such as Sites of Special Scientific Interest (SSSIs).
- 3.3.9. As stated in the *Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire*, an LWS in Buckinghamshire can be selected based on meeting the following specific criteria for birds [Ref. 25]:
- Criterion A: sites which support one or more 'notable' species; and
 - Criterion 5.7.B: sites which support a significant assemblage of breeding birds associated with a habitat present on the site and exceeding the published indices [Ref. 25].

Importance of the Breeding Bird Population

- 3.3.10. To support a focussed assessment of the population of breeding birds within the Site, their biodiversity value has been defined with reference to the geographical level at which it matters. The frames of reference used in this report were made using the values presented in the '*Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater, Coastal and Marine*' (CIEEM, 2018) (hereafter referred to as the CIEEM Guidelines) [Ref. 26]; and professional judgement
- 3.3.11. The CIEEM guidelines use a framework, linked to a geographical scale at which the receptor has been valued (*i.e.* international, national, regional, county, local or site) and this method represents best practice guidance. This assessment criteria, set out in **Table 3.3**, has been used in conjunction with species rarity, abundance and diversity within the survey area to assess the biodiversity importance of the breeding bird populations recorded during the field surveys.

Table 3.3: Importance of ornithological features

Importance of ornithological features	Descriptors and examples of criteria
International or European	Resident or regularly occurring populations of species which may be considered of value at an international or European level¹ where: ▪ the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; ▪ the population forms a critical part² of a wider population at this scale; or

Importance of ornithological features	Descriptors and examples of criteria
	the species is at a critical phase³ of its life cycle at this scale.
UK or National	Priority species identified in the UK Post-2010 Biodiversity Framework i.e. UK Biodiversity Action Plan (BAP), including those published in accordance with Section 41 of the NERC Act (2006) and those considered to be of principal importance for the conservation of biodiversity. Resident or regularly occurring populations of species which may be considered of value at a UK or a national level⁴ where: - the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; - the population forms a critical part of a wider population at this scale; or - the species is at a critical phase of its life cycle at this scale.
Regional	Resident or regularly occurring populations of species which may be considered of value at a regional level⁵ where: - the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; - the population forms a critical part of a wider population at this scale; or - the species is at a critical phase of its life cycle at this scale.
County or Unitary Authority or District	Resident or regularly occurring populations of species which may be considered of value at a County (or District)⁶ level where: the loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale;

Importance of ornithological features	Descriptors and examples of criteria
	- the population forms a critical part of a wider population at this scale; or, - the species is at a critical phase of its life cycle at this scale.
Local	Populations and, or communities of species considered to appreciably enrich the habitat resource within the local context (such as veteran trees), including features of value for migration, dispersal or genetic exchange.
Site**	Populations of common and widespread species.

¹ Such species include those listed within the Directive 2009/147/EC on the Conservation of Wild Birds (*i.e.* EC Birds Directive) (codified version of Council Directive 79/409/EEC as amended).

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

³ Seasonal activity or behaviour upon which survival or reproduction depends.

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

⁵ A geographical area for Regional importance has not been defined. A feature is of Regional importance when it is of greater geographical importance than within the county of Buckinghamshire but does not reach the threshold to be of National importance.

⁶ Such species include those at county level (*i.e.* Buckinghamshire) including unitary authority area *i.e.* District level.

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

3.4. Assumptions and Limitations

Desk Study

- 3.4.1. The aim of a desk study was to help characterise the baseline context of the Proposed Development and provide valuable background information that would not be captured by site surveys alone. Information obtained during the course of the desk study was dependent upon people and organisations having made and submitted records for the area of interest. As such, a lack of records for a particular species does not necessarily mean that the species does not occur in the study area. Likewise, the presence of records of species does not automatically mean that these still occur within the area of interest or are relevant in the context of the Proposed Development.

Field Survey

- 3.4.2. It is considered that sufficient representatives of all habitat types and species were covered within the entirety of the survey period, to allow for a comprehensive assessment of bird species and assemblages present within the Proposed Development boundary.

4. Results

4.1. Desk Study

- 4.1.1. Records of 123 protected and, or notable bird species from the last ten years were returned within 2km of the Site (as presented in **Annex B**).

4.2. Field Survey

- 4.2.1. A total of 57 species (including species listed on Schedule 1 of the WCA and Annex 1 of the EU Birds Directive) were recorded during surveys of breeding birds between March and June 2022.
- 4.2.2. Of the 57 species recorded within the survey area, territories of 39 species were confirmed and territories of a further ten species were considered to be probable or possible within the survey area, resulting in a breeding bird assemblage of 49 species. Records relating to the remaining eight species were of non-breeding species.
- 4.2.3. A summary of the breeding and conservation status of the 57 species recorded during the survey, with the numbers of territories identified (or thought likely in the case of probable and possible records) is provided in **Table 4.1**.
- 4.2.4. For species which are widespread throughout the survey area (e.g. Blue Tit *Cyanistes caeruleus*), common within Buckinghamshire and the UK and not of conservation concern (i.e. not listed on one or more of the lists of conservation concern as detailed in this report), the number of breeding territories of these species (including probable or possible) have not been calculated and these are referred to in **Table 4.1** as being present (P). Where non-breeding species were recorded as present, within one of the Proposed Development locations, these are referred to in **Table 4.1** using a tick (✓) to denote presence.
- 4.2.5. Breeding territory information for records of 'possible' breeders was also not calculated, due to the low number of registrations of birds; however, an estimation of the possible number of territories is included in parentheses in **Table 4.1**.

Table 4.1: Breeding status, number of territories and conservation status of birds recorded within the survey area for each Proposed Development area

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Proposed Development Area				Total number of breeding territories (where applicable)
			Parcel 1	Parcel 1a	Parcel 2	Parcel 3	
Greylag Goose <i>Anser anser</i>	BoCC Amber	Non-breeding	-	✓	-	✓	0
Mallard <i>Anas platyrhynchos</i>	BoCC Amber	Confirmed	✓	-	1	✓	1
Red-legged Partridge <i>Alectoris rufa</i>	-	Confirmed	(1)	(1)	2	-	2-4
Grey Partridge <i>Perdix perdix</i>	BoCC Red, Priority Species, LBAP	Probable	-	-	(1)	-	(1)
Pheasant <i>Phasianus colchicus</i>	-	Probable	P	P	P	P	P
Little Egret <i>Egretta garzetta</i>	Annex 1	Non-breeding	-	-	-	✓	0
Red Kite <i>Milvus milvus</i>	Annex 1, WCA Sch. 1	Confirmed					
Buzzard <i>Buteo buteo</i>	-	Confirmed	(1)	1	-	-	1-2
Moorhen <i>Gallinula chloropus</i>	BoCC Amber	Confirmed	1	-	-	-	1

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Proposed Development Area				Total number of breeding territories (where applicable)
			Parcel 1	Parcel 1a	Parcel 2	Parcel 3	
Stock Dove <i>Columba oenas</i>	BoCC Amber	Confirmed	1		(1)	(1)	1-3
Wood Pigeon <i>Columba palumbus</i>	BoCC Amber	Confirmed	2	2	5	2	11
Cuckoo <i>Cuculus canorus</i>	Priority Species, BoCC Red, LBAP	Possible	(1)	-	-	-	(1)
Barn Owl <i>Tyto alba</i>	WCA Sch. 1	Possible					
Little Owl <i>Athene noctua</i>	-	Confirmed	1	-	-	-	1
Great Spotted Woodpecker <i>Dendrocopus major</i>	-	Confirmed	1	✓	1		2
Green Woodpecker <i>Picus viridis</i>	-	Confirmed	1	-	1	-	2
Kestrel <i>Falco tinnunculus</i>	BoCC Amber	Non-breeding					
Hobby <i>Falco subbuteo</i>	WCA Sch. 1	Confirmed					
Jay <i>Garrulus glandarius</i>	-	Probable	(1)	✓	-	-	(1)
Magpie <i>Pica pica</i>	-	Possible	(1)	-	✓	(1)	(2)
Jackdaw <i>Corvus monedula</i>	-	Confirmed	2	-	(1)	(2)	2-5

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Proposed Development Area				Total number of breeding territories (where applicable)
			Parcel 1	Parcel 1a	Parcel 2	Parcel 3	
Carion Crow <i>Corvus corone</i>	-	Probable	(1)	✓	(1)	✓	(2)
Raven <i>Corvus corax</i>	-	Confirmed	1	-	-	1	2
Coal Tit <i>Periparus ater</i>	-	Probable	(1)	-	-	-	(1)
Marsh Tit <i>Poecile palustris</i>	Priority Species, BoCC Red, LBAP	Possible	(2)	-	-	-	(2)
Blue Tit <i>Cyanistes caeruleus</i>	-	Confirmed	P	P	P	P	P
Great Tit <i>Parus major</i>	-	Confirmed	P	P	P	P	P
Skylark <i>Alauda arvensis</i>	Priority Species, BoCC Red, LBAP	Confirmed	16	1	17	-	34
Swallow <i>Hirundo rustica</i>	-	Non-breeding	-	-	-	-	0
Long-tailed Tit <i>Aegithalos caudatus</i>	-	Confirmed	P	P	P	-	P
Willow Warbler <i>Phylloscopus trochilus</i>	BoCC Amber	Confirmed	1	-	(1)	-	1-2
Chiffchaff <i>Phylloscopus collybita</i>	-	Confirmed	P	P	P	P	P
Blackcap <i>Sylvia atricapilla</i>	-	Confirmed	P	P	P	P	P

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Proposed Development Area				Total number of breeding territories (where applicable)
			Parcel 1	Parcel 1a	Parcel 2	Parcel 3	
Garden Warbler <i>Sylvia borin</i>	-	Confirmed	1	-	1	-	2
Lesser Whitethroat <i>Sylvia curruca</i>	-	Confirmed	4	1	1	-	5-6
Whitethroat <i>Sylvia communis</i>	BoCC Amber	Confirmed	12	1	18	-	P
Goldcrest <i>Regulus regulus</i>	-	Confirmed	-	-	1	-	1
Wren Troglodytes <i>troglodytes</i>	BoCC Amber	Confirmed	27	5	39	5	76
Treecreeper <i>Certhia familiaris</i>	-	Confirmed	1	-	(1)	-	1-2
Starling <i>Sturnus vulgaris</i>	Priority Species, BoCC Red, LBAP	Non-breeding	✓	-	-	-	0
Blackbird <i>Turdus merula</i>	-	Confirmed	P	P	P	P	P
Song Thrush <i>Turdus philomelos</i>	Priority Species, BoCC Amber, LBAP	Confirmed	6	1	4	2	13
Mistle Thrush <i>Turdus viscivorus</i>	BoCC Red	Possible	-	-	(1)	-	(1)

Species (English name) and scientific name	Conservation status (where applicable)	Breeding status	Proposed Development Area				Total number of breeding territories (where applicable)
			Parcel 1	Parcel 1a	Parcel 2	Parcel 3	
Spotted Flycatcher <i>Muscicapa striata</i>	Priority Species, BoCC Red, LBAP	Confirmed	-	-	1	-	1
Robin <i>Erithacus rubecula</i>	-	Confirmed	P	P	P	P	P
House Sparrow <i>Passer domesticus</i>	Priority Species, BoCC Red, LBAP	Confirmed	-	-	✓	-	0
Dunnock <i>Prunella modularis</i>	Priority Species, BoCC Amber, LBAP	Confirmed	15	1	14	2	32
Yellow Wagtail <i>Motacilla flava</i>	Priority Species, BoCC Red, LBAP	Confirmed	1	-	1	-	2
Pied Wagtail <i>Motacilla alba</i>	-	Non-breeding	✓	-	-	-	0
Meadow Pipit <i>Anthus pratensis</i>	BoCC Amber	Non-breeding	-	-	✓	-	0
Chaffinch <i>Fringilla coelebs</i>	-	Confirmed	P	P	P	P	P
Bullfinch <i>Pyrrhula pyrrhula</i>	Priority Species, BoCC Amber, LBAP	Confirmed	-	-	1	-	1

Species (English name) and scientific name	Conservation status (where applicable)		Breeding status	Proposed Development Area				Total number of breeding territories (where applicable)
				Parcel 1	Parcel 1a	Parcel 2	Parcel 3	
Greenfinch <i>Chloris chloris</i>	BoCC Red		Non-breeding	✓	-	✓	-	0
Linnet <i>Linaria cannabina</i>	Priority Species, BoCC Red, LBAP		Confirmed	1	-	3	-	4
Goldfinch <i>Carduelis carduelis</i>	-		Confirmed	P	P	P	P	P
Yellowhammer <i>Emberiza citrinella</i>	Priority Species, BoCC Red, LBAP		Confirmed	12	2	16	2	32
Reed Bunting <i>Emberiza schoeniclus</i>	Priority Species, BoCC Amber, LBAP		Confirmed	1	-	3	-	4
Total number of species				44	24	42	22	57
Total number of breeding species				40	20	37	18	49

5. Evaluation

5.1. Desk Study

5.1.1. Records of 123 bird species were returned from the BMKERC desk study. Of these 122 species (of which some species are assigned to more than one list):

- 20 are listed on Annex 1 of the EC Birds Directive **[Ref. 19]**;
- 32 are listed as Priority Species **[Ref. 20]**;
- 38 species are included on the BoCC Red List **[Ref. 16]**; and
- 48 species are included on the BoCC Amber List **[Ref. 16]**.

5.2. Field Survey

5.2.1. Breeding territories of 39 species were confirmed within the whole Proposed Development survey area during surveys for breeding birds in 2022 and a further ten species were probably or possibly on breeding territories within the survey area, resulting in a breeding bird assemblage of 49 species.

5.2.2. From the breeding assemblage of 49 species, recorded during field surveys:

- One species is included on Annex 1 of the EU Birds Directive;
- Three species are included on Schedule 1 of the Wildlife and Countryside Act (1981, as amended);
- 13 species are listed as a Priority Species in the UK;
- 10 species are included on the BoCC Red List; and
- 11 species are included on the BoCC Amber List.

5.2.3. The number of confirmed (and probable or possible) territories of bird species of conservation interest within each Proposed Development area are included in **Table 5.1**.

Table 5.1: Number of breeding species of conservation interest recorded within each Proposed Development area

Conservation Designation	Parcel 1	Sub-parcel 1a	Parcel 2	Parcel 3
Annex 1				
WCA Schedule 1				

Conservation Designation	Parcel 1	Sub-parcel 1a	Parcel 2	Parcel 3
Priority Species	10	4	10	3
BoCC Red	6	2	7	1
BoCC Amber	9	5	10	5

Specially Protected Species

Annex 1 Species

- 5.2.4. One species (Red Kite) listed on Annex 1 [Ref. 19] of the EU Birds Directive [Ref. 5] were breeding within the survey area.
- 5.2.5. Little Egret is also listed on Annex 1 of the EU Birds Directive, but was not breeding within the survey area. There is no habitat within the survey area to support breeding Little Egret (which rely on large waterbodies and their margins (such as mature trees) for breeding). Little Egret was recorded on two occasions at Parcel 3, flying over the Site.

Schedule 1 Listed Species

- 5.2.6. Three species included on Schedule 1 of the WCA, 1981 (as amended) were confirmed to be holding breeding territories within the survey area in 2022 or were thought to have probable/possible territories. These were: Hobby (one territory), Red Kite (minimum of seven territories) and Barn Owl (one possible territory).
- 5.2.7. An occupied Hobby nest was recorded in a hedgerow tree [REDACTED].
- 5.2.8. High numbers (peak of 63 birds on 24th May 2022) of Red Kite were recorded across the Site, [REDACTED]. An occupied nest was recorded [REDACTED]. Whilst no other Red Kite nests were recorded within the survey area, there were a minimum of seven territories recorded and the woodland habitats, coupled with the large numbers of birds in the area, suggest that the majority of nesting attempts were within woodland blocks rather than on woodland edge or in isolated trees.
- 5.2.9. Barn Owl was recorded calling [REDACTED] although breeding was not confirmed. However, the habitat on site, which includes grassland margins and mature trees (some with cavities) is likely to support this species and therefore this calling bird has been included as a possible territory.

Species of Conservation Importance

Priority Species

- 5.2.10. 13 species (Grey Partridge, Cuckoo, Marsh Tit, Skylark, Song Thrush, Spotted Flycatcher, House Sparrow, Dunnock, Yellow Wagtail, Bullfinch, Linnet, Yellowhammer and Reed Bunting) with breeding territories confirmed or having probable, or possible breeding territories within the survey area are listed as Species of Principal Importance prepared under Section 41 of the Natural Environment and Rural Communities Act 2006.
- 5.2.11. Of the 13 priority species recorded across the Site, the number of breeding territories confirmed (or thought probable or possible), within each Site (see **Section 1.3**) were (see also **Table 5.1**):
- Ten within Parcel 1 (Cuckoo, Marsh Tit, Skylark, Song Thrush, Dunnock, Yellow Wagtail, Bullfinch, Linnet, Yellowhammer and Reed Bunting);
 - Four within Sub-Parcel 1a (Skylark, Song Thrush, Dunnock and Yellowhammer);
 - Ten within Parcel 2 (Grey Partridge, Skylark, Song Thrush, Spotted Flycatcher, Dunnock, Yellow Wagtail, Bullfinch, Linnet, Yellowhammer and Reed Bunting); and
 - Three within Parcel 3 (Song Thrush, Dunnock and Yellowhammer).

Birds of Conservation Concern

- 5.2.12. Breeding territories were confirmed, or thought probable, or possible for ten species (Grey Partridge, Cuckoo, Marsh Tit, Skylark, Mistle Thrush, Spotted Flycatcher, House Sparrow, Yellow Wagtail, Linnet and Yellowhammer) within the survey area that are included on the BoCC Red List.
- 5.2.13. Of the ten BoCC Red listed species recorded across the Site, the number of breeding territories confirmed (or thought probable or possible), within each Site (see **Section 1.3**) area were (see also **Table 5.1**):
- Six within Parcel 1 (Cuckoo, Marsh Tit, Skylark, Yellow Wagtail, Linnet and Yellowhammer);
 - Two within Sub-Parcel 1a (Skylark, and Yellowhammer);
 - Seven within Parcel 2 (Grey Partridge, Skylark, Mistle Thrush, Spotted Flycatcher, Yellow Wagtail, Linnet and Yellowhammer); and
 - One within Parcel 3 (Yellowhammer).
- 5.2.14. Breeding territories were confirmed, or thought probable, or possible for eleven species (Mallard, Moorhen, Stock Dove, Woodpigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock, Bullfinch and Reed Bunting) within the survey area that are included on the BoCC Amber List.

- 5.2.15. Of the eleven BoCC Amber listed species recorded across the Site, the number of breeding territories confirmed (or thought probable or possible), within each Site (see **Section 1.3**) were (see also **Table 5-1**):
- nine within Parcel 1 (Moorhen, Stock Dove, Wood Pigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock and Reed Bunting);
 - five within Sub-parcel 1a (Wood Pigeon, Whitethroat, Wren, Song Thrush and Dunnock);
 - ten within Parcel 2 (Mallard, Stock Dove, Wood Pigeon, Willow Warbler, Whitethroat, Wren, Song Thrush, Dunnock, Bullfinch and Reed Bunting); and
 - five within Parcel 3 (Stock Dove, Wood Pigeon, Wren, Song Thrush and Dunnock).
- 5.2.16. Inclusion on the BoCC Red or Amber list does not confer any statutory protection. However, the species concerned are all of conservation importance and considered to be under varying levels of threat in a UK context.

5.3. Species Abundance

- 5.3.1. In addition to evaluating a site based on its populations of breeding birds in relation to legal status, rarity and conservation value, consideration has to be given to the value of the site for the population of individual species that it supports. This can be done by comparing the population present on site with the national and county breeding population for that species.
- 5.3.2. No species is present within the survey area in numbers of national significance (i.e., 1% of the national population) when compared to national population estimates as given in Woodward et, al. (2020).
- 5.3.3. The breeding populations of Red Kite (minimum seven) and Barn Owl (one possible territory) recorded within the survey area are unlikely to represent a significant proportion (i.e., 1%) of the Buckinghamshire breeding population, but may represent a population of value at a district level. The single territory of Hobby potentially represents or approaches a significant proportion of the county population, although this species is a secretive breeder in hedgerows and woodland and is often only detected once breeding has completed and the young have fledged. Breeding is likely to occur in more inaccessible farmland areas around Buckinghamshire than is reported by the RBBP and therefore it is likely that the true population in Buckinghamshire is under-recorded and likely to be greater than that reported.
- 5.3.4. No other species recorded in the survey area were recorded in a figure approaching 1% of the county breeding population estimates in Buckinghamshire. The numbers of individuals of the majority of each species recorded were all relatively low and did not represent significant proportions (i.e. 1 % or more) of the county populations in Buckinghamshire.

- 5.3.5. Therefore, besides Hobby, species' populations within the Site boundary are considered to be of no more than local importance.

5.4. Species Diversity

- 5.4.1. To measure species diversity, the breeding assemblage (49) recorded in the survey area was evaluated against the criteria developed by Fuller [Ref. 24] and taking into consideration that species diversity has declined significantly since the criteria were developed. The breeding assemblage score of 49 species would regard the value of the whole Proposed Development area, as being of **county** importance for breeding birds.
- 5.4.2. Evaluation of the breeding species assemblage and numbers recorded during surveys, with respect to criteria for selection of Local Wildlife Sites (of County value) in Buckinghamshire [Ref. 25] indicates that the Site:
- does not support any 'notable' species listed in the 'Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire' [Ref. 25]; and
 - does not support an assemblage of breeding birds with a value equal to or exceeding the published indices [Ref. 25] associated with the habitats present on the Site.

5.5. Species Distribution

- 5.5.1. The location of Schedule 1 species, Priority species, BoCC Red and Amber-listed bird species, (see Table 5.2) are presented in Figures 2a-2s (Annex A). In general, concentrations of species were found within the most suitable habitats to support each individual species' needs (i.e. species reliant on waterbodies were found on Site close to water, species that require woodland habitat, were found within woodland habitat on Site, etc).

5.6. Evaluation of Key Habitat Types for Breeding Birds

- 5.6.1. A summary of the broad habitat types present in the survey area and their key ornithological features, are presented in Table 5.2.

Table 5.2: Key ornithological features of habitat within the survey area

Broad Habitat Type	Key Ornithological Features
Waterbodies (ponds and agricultural reservoirs)	Supports species associated with wetland features, such as Mallard (and other waterfowl).
Arable farmland	The predominant habitat type occurring across the Site. Supports a number of notable breeding species of conservation concern, including Skylark.

Broad Habitat Type	Key Ornithological Features
Scrub / hedgerows	Scrub and hedgerows across the Site. Supports breeding species of conservation concern, such as Yellowhammer and Linnet.
Mature trees / woodland	Parcels of woodland and individual trees scattered throughout the Site. Supports species such as Green Woodpecker, as well as species often found in scrub/hedgerows.

6. Conclusions

- 6.1.1. A breeding assemblage of 49 species was recorded within the survey area, with the importance of the survey area being of up to County importance for breeding birds.
- 6.1.2. Three species (Red Kite, Barn Owl and Hobby), listed on Schedule 1 of the Wildlife and Countryside Act (1981), were recorded as having confirmed or possible (Barn Owl only) territories on site. Red Kite is also listed on Annex 1 of the EU Birds Directive.
- 6.1.3. Thirteen species are listed as a priority species in the UK Biodiversity Action Plan and as a species of principal importance under Section 41 of the NERC Act, ten species are included on the BoCC Red list and eleven species are included on the BoCC Amber list.
- 6.1.4. No species were present within the survey area in numbers of national significance, i.e. 1% or more of the UK population, when compared to national population estimates as given in a paper by Woodward *et al.* (2020).
- 6.1.5. The single territory of Hobby is likely to represent a significant proportion of the county population. Therefore, a single territory of Hobby is of county importance.

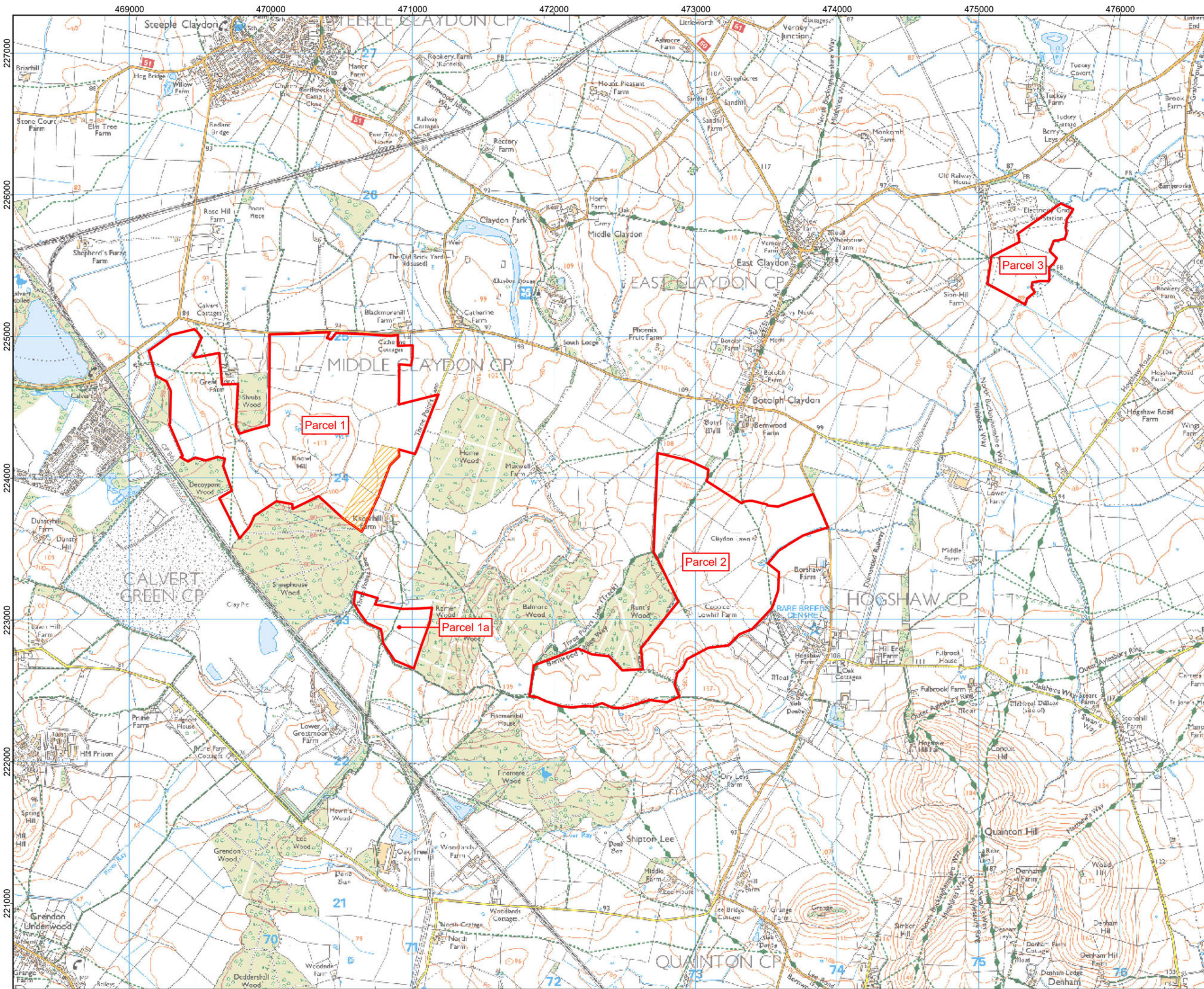
7. References

- Ref. 1** AECOM, 2021. Rosefield Solar Farm Ecological Appraisal.
- Ref. 2** HMSO. (1981). Wildlife & Countryside Act 1981 (as amended).
<https://www.legislation.gov.uk/ukpga/1981/69>
- Ref. 3** HMSO (2000). Countryside and Rights of Way Act 2000. HMSO, London.
- Ref. 4** Anon. (1981). The Wildlife & Countryside Act. HMSO, London.
- Ref. 5** EC (2009). Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version). EC, Brussels.
- Ref. 6** HMSO (2018). Conservation of Habitats and Species Regulations 2017 (as amended). HMSO, London.
- Ref. 7** HMSO. (2019). The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
<https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents>
- Ref. 8** Anon. (2006). The Natural Environment and Rural Communities Act. HMSO, London.
- Ref. 9** Anon. (2008). UK Biodiversity Action Plan.
- Ref. 10** JNCC, UK Post-2010 Biodiversity Framework, 2012, available at
<http://jncc.defra.gov.uk/page-6189> (Accessed July 2020).
- Ref. 11** National Planning Policy Framework 2021. Available at:
<https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Ref. 12** DECC (2021). Draft Overarching National Policy Statement for Energy (EN-1). Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015233/en-1-draft-for-consultation.pdf
- Ref. 13** DECC (2021) Draft National Policy Statement for Renewable Energy Infrastructure (EN-3), Available at:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015236/en-3-draft-for-consultation.pdf
- Ref. 14** DECC (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5), Available at:
<https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure>
- Ref. 15** Natural Environment Partnership. (2020). Forward to 2030: Biodiversity Action Plan. Forward to 2030 – Buckinghamshire & Milton Keynes Natural Environment Partnership (bucks.mknep.co.uk).
- Ref. 16** Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5. British Birds 114: 723-747.

- Ref. 17** Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). Bird Census Techniques: 2nd edition. Academic Press, London.
- Ref. 18** Gilbert G., Gibbons D.W., and Evans J. (1998) Bird Monitoring Methods: A manual of techniques for key UK species. RSPB, Bedfordshire.
- Ref. 19** European Commission. Wild Birds: Threatened bird species in Annex I
[REDACTED]
[REDACTED]
- Ref. 20** JNCC. (2007). List of UK BAP Priority Bird Species. chrome-
<https://data.jncc.gov.uk/data/98fb6dab-13ae-470d-884b-7816afce42d4/UKBAP-priority-birds.pdf>
- Ref. 21** Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. & Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. British Birds 113: 69-104.
- Ref. 22** Balmer, D., Gillings, G., Caffrey, B., Swann, B., Downie, I. and Fuller, R., (2013). Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland. BTO.
- Ref. 23** Eaton M. and the Rare Breeding Birds Panel (2020) Rare breeding birds in the United Kingdom in 2018. British Birds 113, 727-804.
- Ref. 24** Fuller, R.J. (1980). A Method for Assessing the Ornithological Interest of Sites for Conservation. Biological Conservation 17, 229-239.
- Ref. 25** BMERC and TVERC. (2009). Criteria for the Selection of Local Wildlife Sites in Berkshire, Buckinghamshire and Oxfordshire.
- Ref. 26** CIEEM (2018). Guidelines for Ecological Impact Assessment in the United Kingdom: Terrestrial, Freshwater, Coastal and Marine.

Annex A: Figures



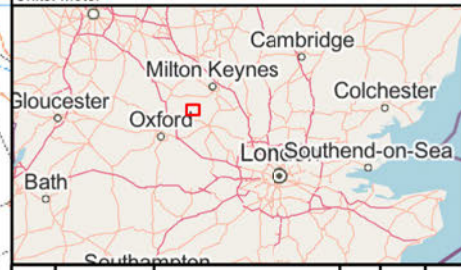


LEGEND:

- Site boundary
- BNG - NO SOLAR

NOTES:
Reproduced from Ordnance Survey digital map data © Crown copyright 2024. All rights reserved. Licence number 0100031673.

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



Rev	Date	Description	Drm	Chk	App
00	23/04/2024	Final	HW	BF	NS

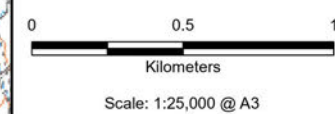
Rosefield Solar Farm



DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Site Location

FIGURE NUMBER:
Figure 1



REV 00

169500

170000

170500

171000

171500

172000

172500

173000

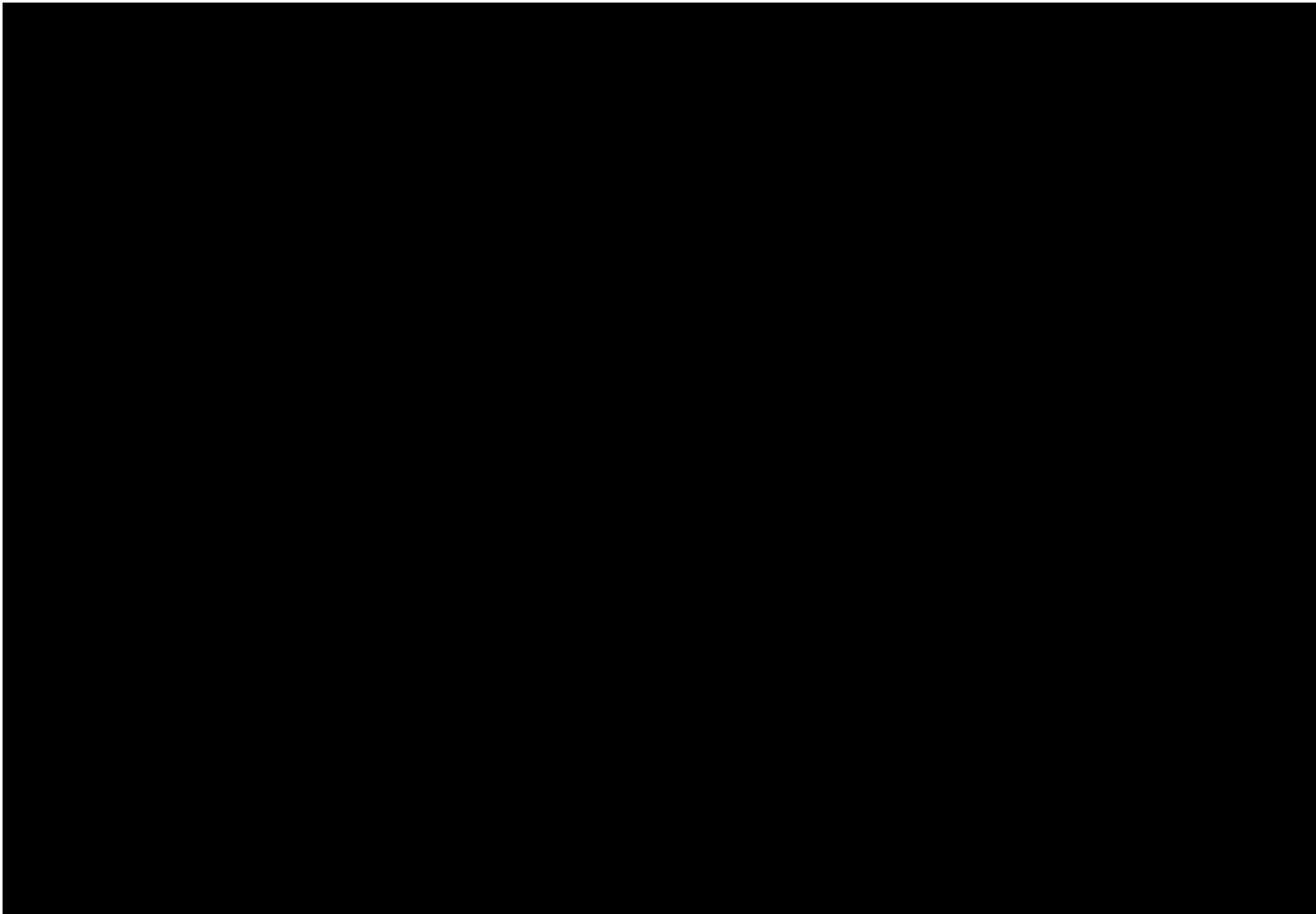
173500

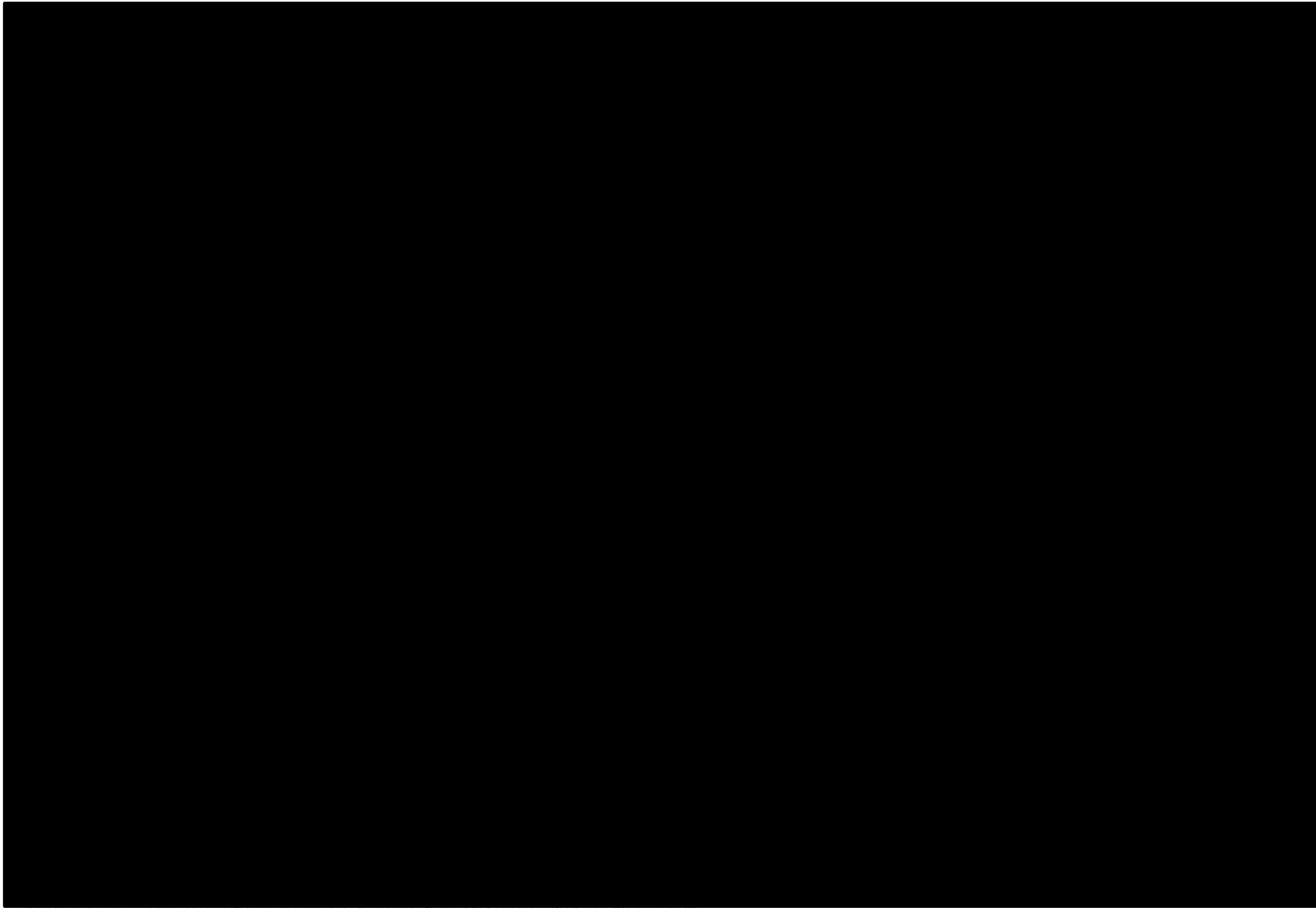
174000

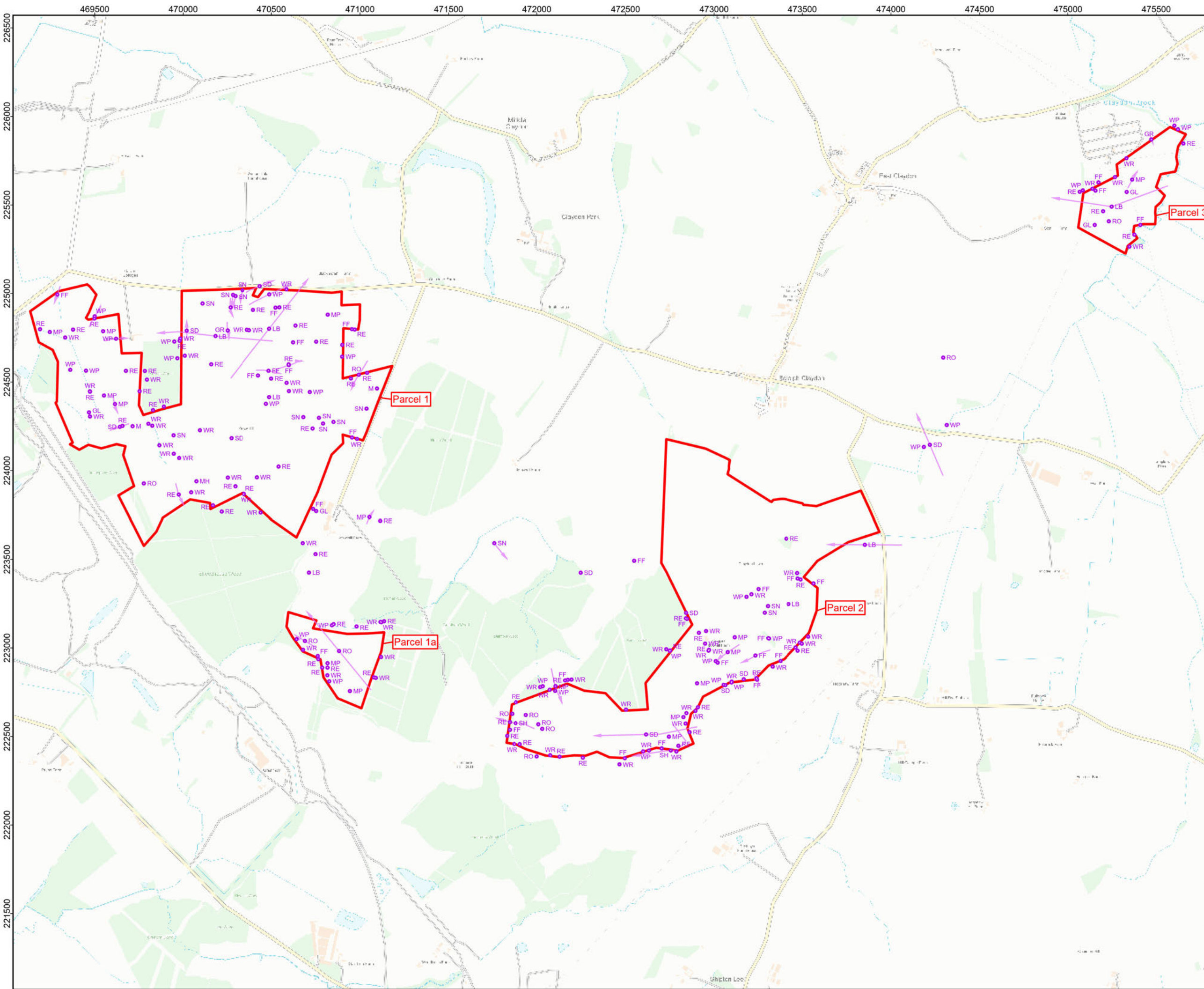
174500

175000

175500







LEGEND:

- Site boundary
- Bird Survey Record, Conservation Species
- Flight Path (approximate)

Species

- SH, Sparrowhawk
- MH, Moorhen
- SN, Snipe
- LB, Lesser Black-backed Gull
- SD, Stock Dove
- WP, Woodpigeon
- RO, Rook
- WR, Wren
- FF, Fieldfare
- RE, Redwing
- M, Mistle Thrush
- GL, Grey Wagtail
- MP, Meadow Pipit
- GR, Greenfinch

NOTES:

Contains Ordnance Survey Data © Crown Copyright and database right 2024.

Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri, National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



00	24/04/2024	Final	HW	BF	NS
Rev	Date	Description	Drn	Chk	App

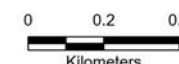
Rosefield Solar Farm



DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Distribution of Species of Conservation
Concern 2021/22, BoCC Red/Amber Species

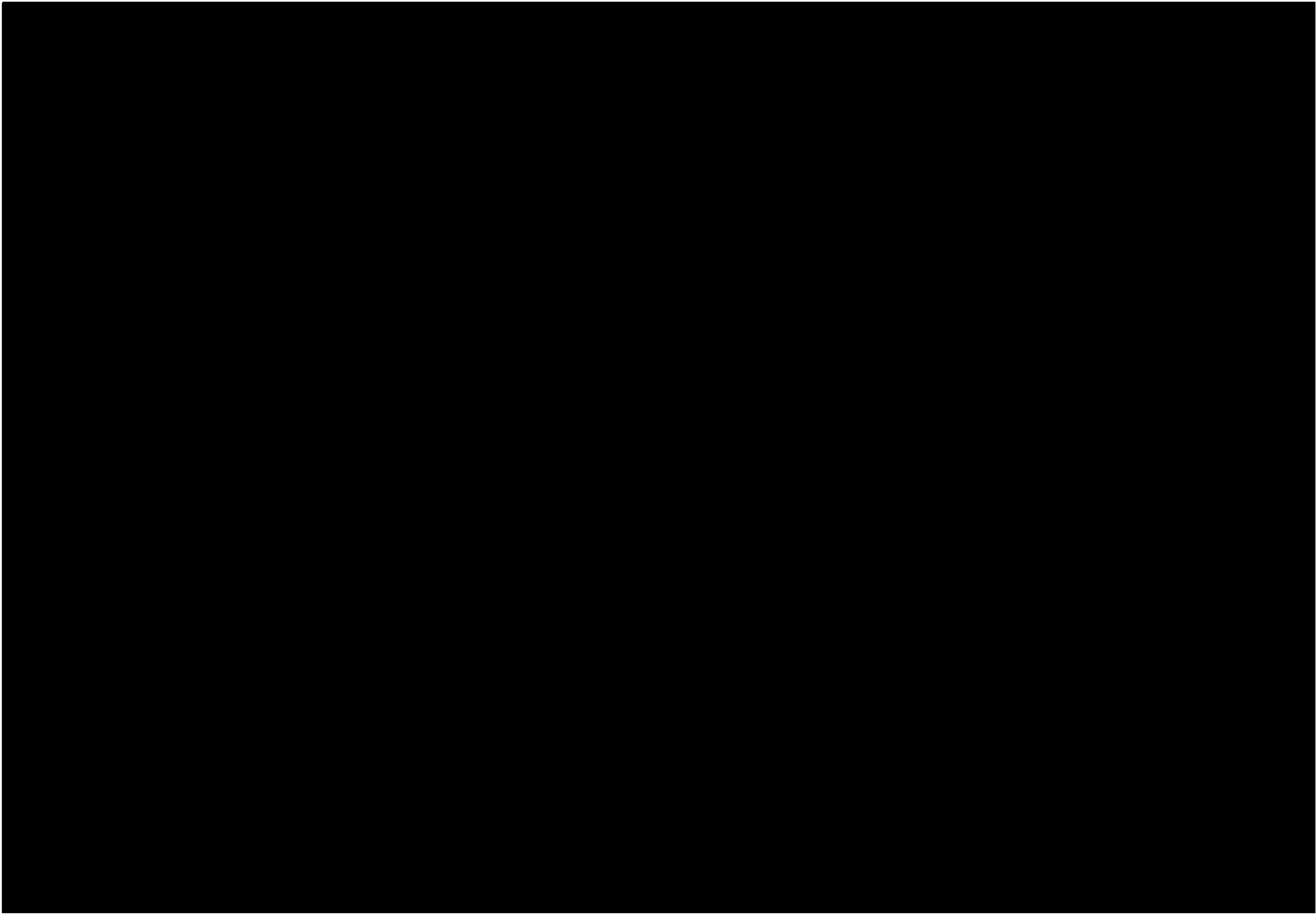
FIGURE NUMBER:
Figure 2.3

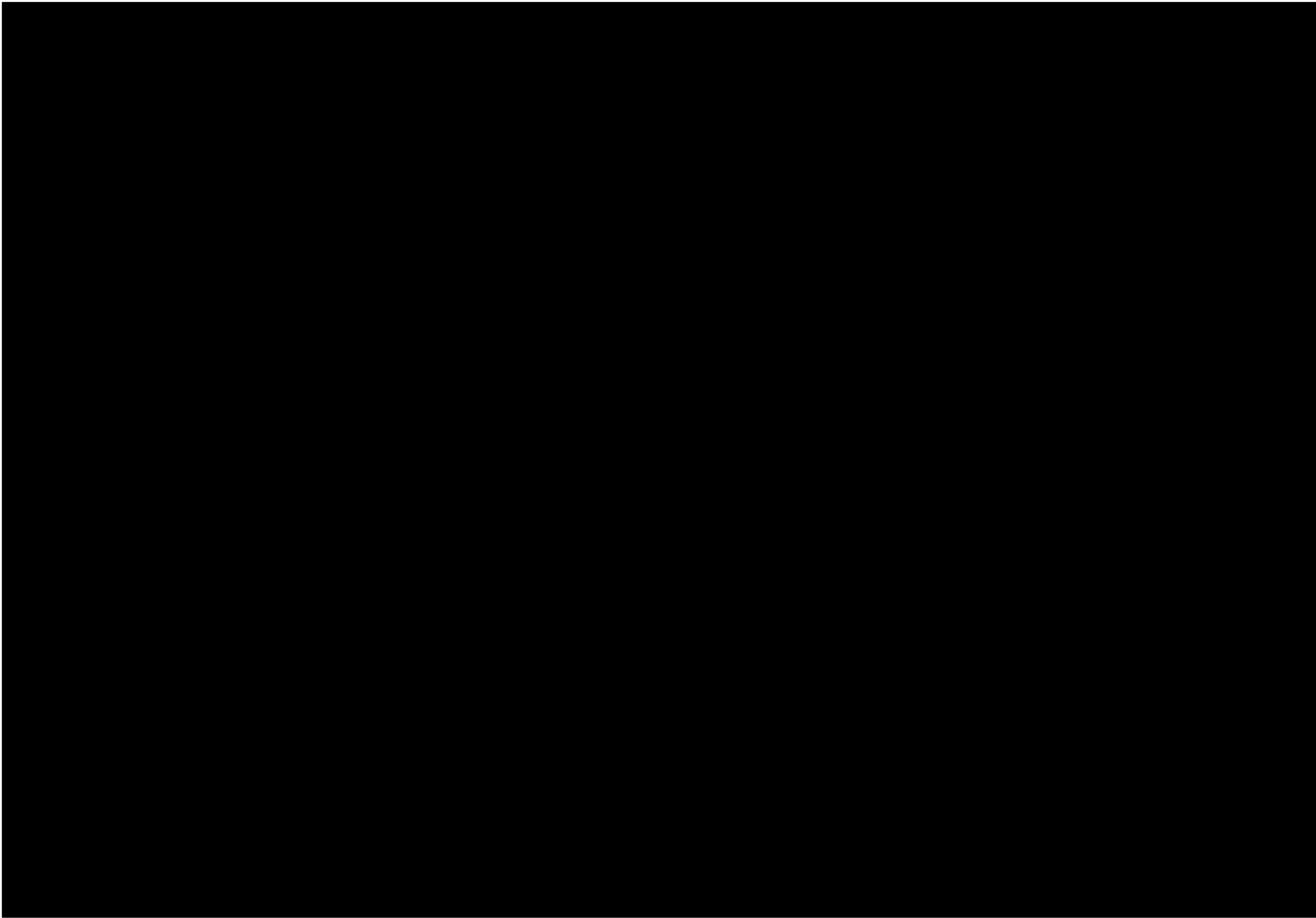


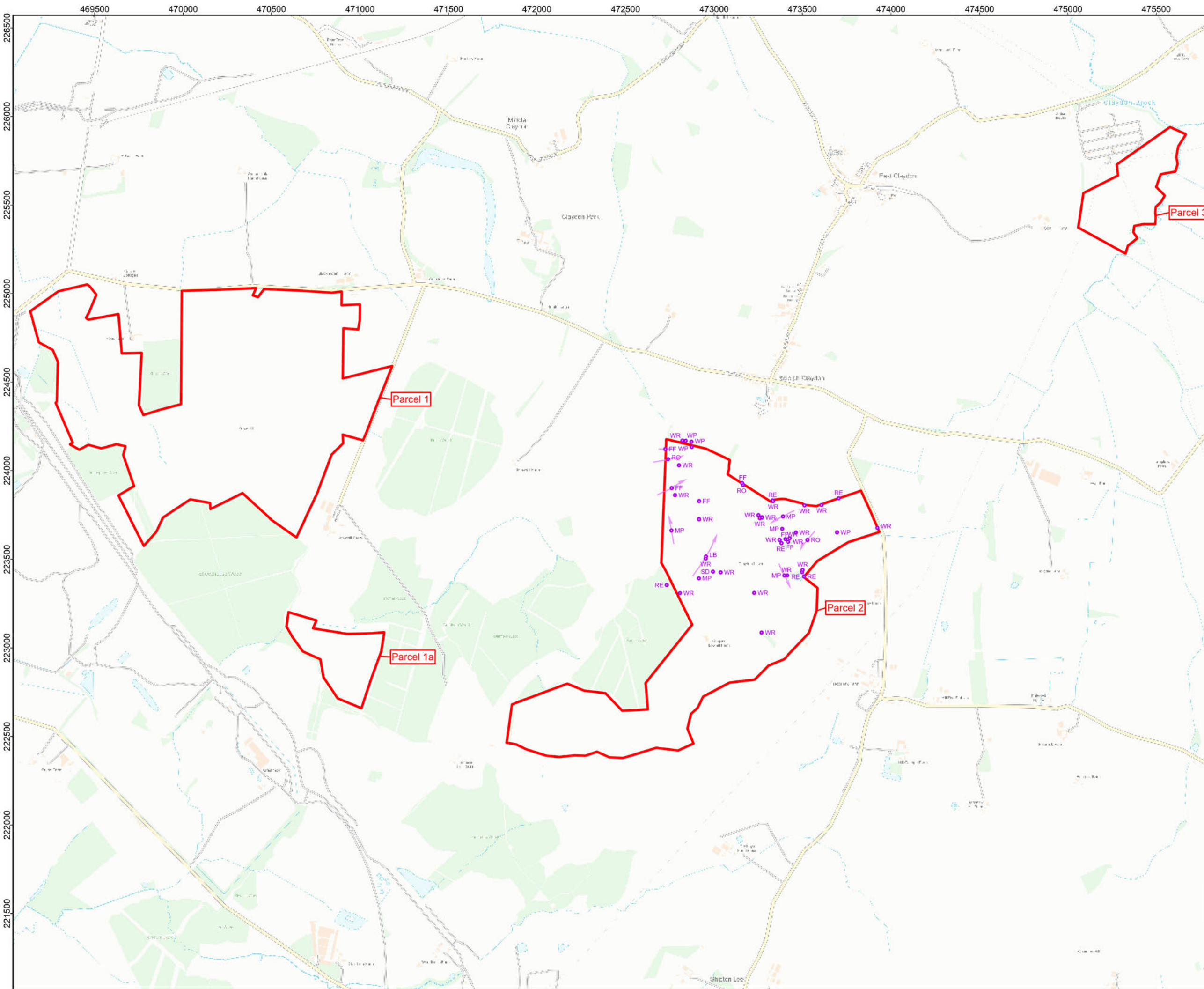
Scale: 1:20,000 @ A3



REV 00







- LEGEND:**
- Site boundary
 - Bird Survey Record, Conservation Species
 - Flight Path (approximate)

- Species**
- LB, Lesser Black-backed Gull
 - SD, Stock Dove
 - WP, Woodpigeon
 - RO, Rook
 - WR, Wren
 - FF, Fieldfare
 - RE, Redwing
 - MP, Meadow Pipit

NOTES:
Contains Ordnance Survey Data © Crown Copyright and database right 2024.
Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps contributors, Map layer by Esri, National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



00	24/04/2024	Final	HW	BF	NS
Rev	Date	Description	Drn	Chk	App

Rosefield Solar Farm

DOCUMENT:
ROSEFIELD SOLAR FARM

TITLE:
Distribution of Species of Conservation Concern 2022/23, BoCC Red/Amber Species

FIGURE NUMBER:
Figure 2.6

00.20.4

Kilometers

Scale: 1:20,000 @ A3

REV 00

Annex B: Bird records received through the data search



Annex B: Bird records received through the data

Scientific name	Common (English) Name
<i>Aix galericulata</i>	Mandarin Duck
<i>Acanthis cabaret</i>	Lesser Redpoll
<i>Accipiter gentilis</i>	Goshawk
<i>Actitis hypoleucos</i>	Common Sandpiper
<i>Alauda arvensis</i>	Skylark
<i>Alcedo atthis</i>	Kingfisher
<i>Anas acuta</i>	Pintail
<i>Anas crecca</i>	Teal
<i>Anas platyrhynchos</i>	Mallard
<i>Anser albifrons</i>	White-fronted Goose
<i>Anser anser</i>	Greylag Goose
<i>Anthus pratensis</i>	Meadow Pipit
<i>Anthus trivialis</i>	Tree Pipit
<i>Apus apus</i>	Swift
<i>Asio flammeus</i>	Short-eared Owl
<i>Aythya farina</i>	Pochard
<i>Aythya marila</i>	Scaup
<i>Botaurus stellaris</i>	Bittern
<i>Branta bernicla</i>	Brent Goose
<i>Branta canadensis</i>	Canada Goose
<i>Branta leucopsis</i>	Barnacle Goose
<i>Bucephala clangula</i>	Goldeneye
<i>Calidris alba</i>	Sanderling
<i>Calidris alpina</i>	Dunlin
<i>Calidris pugnax</i>	Ruff
<i>Cettia cetti</i>	Cetti's Warbler
<i>Charadrius dubius</i>	Little Ringed Plover
<i>Charadrius hiaticula</i>	Ringed Plover
<i>Chlidonias niger</i>	Black Tern
<i>Chroicocephalus ridibundus</i>	Black-headed Gull

Scientific name	Common (English) Name
<i>Circus aeruginosus</i>	Marsh Harrier
<i>Circus cyaneus</i>	Hen Harrier
<i>Coccothraustes coccothraustes</i>	Hawfinch
<i>Columba oenas</i>	Stock Dove
<i>Coturnix coturnix</i>	Quail
<i>Cuculus canorus</i>	Cuckoo
<i>Cygnus cygnus</i>	Whooper Swan
<i>Cygnus olor</i>	Mute Swan
<i>Delichon urbicum</i>	House Martin
<i>Dryobates minor</i>	Lesser Spotted Woodpecker
<i>Emberiza citrinella</i>	Yellowhammer
<i>Emberiza schoeniclus</i>	Reed Bunting
<i>Falco columbarius</i>	Merlin
<i>Falco peregrinus</i>	Peregrine
<i>Falco Subbuteo</i>	Hobby
<i>Falco tinnunculus</i>	Kestrel
<i>Ficedula hypoleuca</i>	Pied Flycatcher
<i>Fringilla montifringilla</i>	Brambling
<i>Gallinago gallinago</i>	Snipe
<i>Gavia immer</i>	Great Northern Diver
<i>Haematopus ostralegus</i>	Oystercatcher
<i>Hydrobates pelagicus</i>	Storm Petrel
<i>Hydrocoloeus minutus</i>	Little Gull
<i>Ichthyaetus melanocephalus</i>	Mediterranean Gull
<i>Jynx torquilla</i>	Wryneck
<i>Larus argentatus</i>	Herring Gull
<i>Larus cachinnans</i>	Caspian Gull
<i>Larus canus</i>	Common Gull
<i>Larus fuscus</i>	Lesser Black-backed Gull
<i>Larus glaucoides</i>	Iceland Gull
<i>Larus hyperboreus</i>	Glaucous Gull
<i>Larus marinus</i>	Great Black-backed Gull

Scientific name	Common (English) Name
<i>Larus michahellis</i>	Yellow-legged Gull
<i>Limosa lapponica</i>	Bar-tailed Godwit
<i>Limosa limosa</i>	Black-tailed Godwit
<i>Linaria cannabina</i>	Linnet
<i>Locustella naevia</i>	Grasshopper Warbler
<i>Luscinia megarhynchos</i>	Nightingale
<i>Mareca penelope</i>	Wigeon
<i>Mareca strepera</i>	Gadwall
<i>Melanitta nigra</i>	Common Scoter
<i>Milvus milvus</i>	Red Kite
<i>Morus bassanus</i>	Gannet
<i>Motacilla cinerea</i>	Grey Wagtail
<i>Motacilla flava</i>	Yellow Wagtail
<i>Muscicapa striata</i>	Spotted Flycatcher
<i>Netta rufina</i>	Red-crested Pochard
<i>Numenius arquata</i>	Curlew
<i>Numenius phaeopus</i>	Whimbrel
<i>Nycticorax nycticorax</i>	Night-heron
<i>Oceanodroma leucorhoa</i>	Leach's Petrel
<i>Pandion haliaetus</i>	Osprey
<i>Panurus biarmicus</i>	Bearded Tit
<i>Passer domesticus</i>	House Sparrow
<i>Passer montanus</i>	Tree Sparrow
<i>Perdix perdix</i>	Grey Partridge
<i>Phoenicurus phoenicurus</i>	Redstart
<i>Phylloscopus trochilus</i>	Willow Warbler
<i>Pluvialis squatarola</i>	Grey Plover
<i>Podiceps auritus</i>	Slavonian Grebe
<i>Podiceps grisegena</i>	Red-necked Grebe
<i>Podiceps nigricollis</i>	Black-necked Grebe
<i>Poecile montanus</i>	Willow Tit
<i>Poecile palustris</i>	Marsh Tit

Scientific name	Common (English) Name
<i>Prunella modularis</i>	Dunnock
<i>Pyrrhula pyrrhula</i>	Bullfinch
<i>Regulus ignicapilla</i>	Firecrest
<i>Rissa tridactyla</i>	Kittiwake
<i>Saxicola rubetra</i>	Whinchat
<i>Scolopax rusticola</i>	Woodcock
<i>Spatula clypeata</i>	Shoveler
<i>Spatula querquedula</i>	Garganey
<i>Sterna hirundo</i>	Common Tern
<i>Sterna paradisaea</i>	Arctic Tern
<i>Streptopelia turtur</i>	Turtle Dove
<i>Strix aluco</i>	Tawny Owl
<i>Sturnus vulgaris</i>	Starling
<i>Tadorna ferruginea</i>	Ruddy Shelduck
<i>Tadorna tadorna</i>	Shelduck
<i>Thalasseus sandvicensis</i>	Sandwich Tern
<i>Tringa erythropus</i>	Spotted Redshank
<i>Tringa glareola</i>	Wood Sandpiper
<i>Tringa nebularia</i>	Greenshank
<i>Tringa ochropus</i>	Green Sandpiper
<i>Tringa totanus</i>	Redshank
<i>Turdus iliacus</i>	Redwing
<i>Turdus philomelos</i>	Song Thrush
<i>Turdus pilaris</i>	Fieldfare
<i>Turdus torquatus</i>	Ring Ouzel
<i>Turdus viscivorus</i>	Mistle Thrush
<i>Tyto alba</i>	Barn Owl
<i>Upupa epops</i>	Hoopoe
<i>Vanellus vanellus</i>	Lapwing



rosefieldsolarfarm.co.uk