

**A38 Derby Junctions**

**TR010022**

**Volume 6**

**6.3 Environmental Statement  
Appendices**

**Appendix 8.8d: Wintering Bird Survey  
in 2017/2018**

Regulation 5(2)(a)

Planning Act 2008

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

April 2019

## Infrastructure Planning

### Planning Act 2008

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

### A38 Derby Junctions Development Consent Order 202[ ]

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#### **6.3 Environmental Statement Appendices**

##### **Appendix 8.8d: Wintering Bird Survey in 2017/2018**

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# **A38 Derby Junctions**

## **Wintering Bird Survey 2017-2018 Report**

**Report Number: HE514503-ACM-EBD-A38\_SW\_PR\_ZZ-RP-EG-0015 P02 S4**  
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# 1 INTRODUCTION

## 1.1 Background and Scope

- 1.1.1 AECOM Infrastructure & Environment UK Limited (AECOM) has been commissioned by Highways England to provide design services with regards to the A38 Derby Junctions Scheme (referred to herein as the proposed scheme).
- 1.1.2 The proposed scheme concerns three junctions on the A38 in Derby as follows (refer to Figure 1 Appendix A):
- A38/ A5111 Kingsway junction;
  - A38/ A52 Markeaton junction; and
  - A38/ A61 Little Eaton junction.
- 1.1.3 The three junctions are situated along approximately 5.5km of the A38 west and north of the city of Derby.
- 1.1.4 In order to assist with the assessment of the proposed scheme's potential environmental effects, a range of environmental surveys have been undertaken since 2015 to define prevailing baseline conditions. The breeding bird surveys undertaken across the proposed scheme in 2015 identified grassland habitats to the south-west of Little Eaton junction as potentially suitable for wintering waterfowl and waders, particularly given the sightings of species such as lapwing, *Vanellus vanellus*, (a Bird of Conservation Concern Red List and NERC Section (S41) species), teal, *Anas crecca*, (Amber List) and little ringed plover, *Charadrius dubius* (Wildlife & Countryside Act (1981, as amended) Schedule 1) (refer to AECOM 2016a Breeding Bird Report for details)
- 1.1.5 The Wildlife and Countryside Act (1981), as amended, affords legal protection to all wild birds and under this Act it is an offence to kill, injure or take any wild bird. For proposals which have potential to kill or injure wild birds it is therefore necessary to understand how associated habitats are used by bird species during all seasons of the year. It was therefore, recommended that wintering bird surveys, comprising one visit per month from September 2015 to March 2016 (inclusive) were to be undertaken on suitable habitats associated with the Little Eaton junction section of the proposed scheme (refer to AECOM 2016b Wintering Bird Report for details). No further dedicated over-wintering bird surveys at other locations were considered necessary. Particular regard was given to the flooded fields located south-west of the junction where wetland birds were recorded during the breeding bird survey.
- 1.1.6 The wintering bird surveys undertaken in 2017 - 2018 as reported herein update the surveys completed between September 2015 and March 2016 to determine whether the site supports a comparable winter bird community. The aim of the wintering bird surveys is to quantify the baseline data and identify if any notable wetland bird species or assemblages of wetland bird species exist within the extent of the proposed scheme. Although the target species in this survey were wetland species (e.g. ducks, geese, waders and gulls), any other notable (Secondary) non-wetland species (e.g. NERC Section 41 (S41), Local Biodiversity Action Plan (LBAP) species, Amber and Red List (see Section 1.3.9)) present were also recorded (see Section 1.3 for details of relevant legislation). Previous wintering bird surveys were carried out for the proposed scheme between September 2015 and March 2016 and the site was

considered to be of local importance for wintering birds (refer to AECOM 2016b Wintering Bird Report for details).

- 1.1.7 The data gathered will assist in determining the potential significance of effects due to the proposed scheme on wintering birds, to be reported in the Environmental Statement.
- 1.1.8 Results of the wintering bird surveys are documented herein, together with recommendations (where necessary).

## **1.2 Little Eaton Study Site**

- 1.2.1 A plan showing the proposed scheme boundary (at the time of the survey) is presented in Figures 1 - 6 in Appendix A. For this series of surveys, wetland bird records within the flooded field located immediately south-west of Little Eaton junction represents an area of habitat of potential suitability to wintering birds (within the proposed scheme plus approximately 100m) – this area was given most consideration and is referred to as ‘Survey Area 1’. Other wetland species records outside the flooded field in neighbouring fields to the south (including a series of marshy grassland fields) and west (up to approximately 700m from the proposed scheme) have also been considered and are thus included in the survey area (and referred to as ‘Survey Area 2’). To ensure consistency with surveys conducted over winter 2015/16 surveys, the same Survey Area 1 was used. The southern boundary of Survey Area 2 was extended to include more suitable wintering bird habitat. The marshy grassland fields to the south were included and so Survey Area 2 has been extended from approximately 500m away from the proposed scheme in the 2015-16 surveys to approximately 700m away in the 2017-18 surveys.
- 1.2.2 The western boundary of the proposed scheme at Little Eaton junction borders the road bridge over the River Derwent. The existing A38 is on an embankment in this location, with the embankments themselves covered in areas of scrub and immature broadleaved plantation. A variety of grassland habitats exist at the base of the embankments in this location. The flooded field within the survey area (Survey Area 1) is approximately 4ha in size and is currently used for horse grazing. This field is surrounded by trees and scrub. A band of scattered trees and scrub separates the field from Survey Area 2 to the south and west, which consists of pasture and arable land and is approximately 40ha in extent.

## **1.3 Relevant Legislation and Policy**

- 1.3.1 Key legislation for birds in the UK includes:
- Wildlife and Countryside Act (WCA) 1981 (as amended); and
  - Council Directive 79/409/EEC on the conservation of wild birds (the EC Birds Directive).
- 1.3.2 Annex 1 of the EC Birds Directive lists rare and vulnerable species of regularly occurring or migratory wild birds that are subject to special conservation measures. The Directive also provides for the designation of Specially Protected Areas (SPAs) for the protection of these species, which form part of the Natura 2000 network of sites protected by European wildlife legislation. Given the habitats present within Survey Area 1 and 2 and the immediate surrounding area, and the fact that there are no European designated sites close to Survey Area 1 and 2, it is reasonable to

assume that the Survey Areas and adjacent habitats do not support such notable populations of rare and vulnerable species.

- 1.3.3 Part 1 of the WCA sets out how the provisions of the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention'), the EC Birds Directive and the EC Habitats Directive are implemented in Great Britain. Under Part 1, Section 1 of the WCA it is an offence to:
- kill, injure or take any wild bird;
  - take, damage or destroy the nest of any wild bird while it is being built or in use;
  - take, damage or destroy the nest of a wild bird included in Schedule ZA1 under the Natural Environment and Rural Communities Act (2006) which includes even when the nest is disused;
  - take or destroy the eggs of any wild bird.
- 1.3.4 Through the National Planning Policy Framework (NPPF) and Section 40 of the NERC Act 2006 (NERC), local planning authorities have a duty to consider species listed as being of principal importance for nature conservation in England on Section 41 (S41) of the Act when considering a planning application (termed 'NERC S41' species in this report).
- 1.3.5 The Post-2010 Biodiversity Framework covers the period 2011 – 2020 and replaces the UK Biodiversity Action Plan (UK BAP); which was launched in 1994 with the main aim '*To conserve and enhance biological diversity within the UK, and to contribute to the conservation of global biodiversity through all appropriate mechanisms*'.
- 1.3.6 The Lowland Derbyshire Local Biodiversity Action Plan (LBAP) contains all the species and habitats that are identified as being in need of conservation, enhancement or restoration in Derbyshire (outside the Peak District). These species were recorded if seen during the survey.
- 1.3.7 Eaton *et al.* (2015) published lists of Birds of Conservation Concern (BoCC). Red List species are those whose breeding population or range is rapidly declining (50% or more in the last 25 years), recently or historically, and those of global conservation concern. Amber List species are those whose breeding population is in moderate decline (25 – 49% in the last 25 years), rare breeders, internationally important and localised species and those of unfavourable conservation status in Europe. Green List species are those not of immediate conservation concern. Non-native species are classified as Not Assessed. These lists confer no legal status; however, they are useful when assessing the significance of predicted impacts and determining the level of mitigation that may be required when birds are affected by development or any other activity. Furthermore, inclusion on the Red List is a factor in determining the species for which BAPs are developed.
- 1.3.8 The BoCC, policy and legal status for birds recorded during the survey is given in the results table presented in Section 3.2 and Appendix C.
- 1.3.9 Highways England, through the Road Investment Strategy (RIS), has set an aspiration that the operation, maintenance, and enhancement of the Strategic Road Network (SRN) should move to a position that delivers no net loss of biodiversity; and, in the long term, Highways England should deliver a net gain in biodiversity across its broader range of works. Highways England published a Biodiversity Plan in

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2015 to show how it will work with service providers to halt overall biodiversity loss, and maintain and enhance habitats and ecological networks. The Government requires Highways England to demonstrate progress against the Biodiversity Plan, to secure an ongoing annual reduction in the loss of net biodiversity due to its activities. The Biodiversity Plan provides a general plan to protect and increase biodiversity.



## 2 METHODOLOGY

### 2.1 Survey Method

- 2.1.1 Survey Areas 1 and 2 were visited on six occasions during the winter and passage period (October 2017 – March 2018) using a ‘look – see’ method (Gilbert *et al.* 1998), where birds using the Survey Areas were counted. On each visit, a survey team, including an experienced AECOM ornithologist, used high powered optical equipment to survey the open habitats, and walked along a pre-determined transect route. The transect included field boundaries so that smaller, cryptic and elusive species were more readily detected. All the fields located south-west of the Little Eaton junction (Survey Area 2) were surveyed for target bird species, although the emphasis was particularly on the flooded field adjacent to Little Eaton junction (Survey Area 1).
- 2.1.2 The pastoral fields to the east of Little Eaton junction were also visually checked (using optical equipment) for target species, from a public footpath. All target species registrations (and notable non-wetland species) were recorded onto base maps using standard British Trust for Ornithology (BTO) codes. All surveys were carried out in the morning, with some starting around sunrise to ensure that species such as plovers, which are also active outside daylight hours, would have been recorded. The survey duration was typically 2 hours. Surveys were carried out as far as possible on days with little or no wind, rain or mist in order to maximise the potential for detection of birds by sound as well as sight and also to avoid the possibility of bird activity being suppressed by inclement weather conditions.

### 2.2 Valuation of Importance

- 2.2.1 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. An area’s importance is determined by a number of factors, including geographical location, diversity of habitats present and size. Fuller (1980) details the diversity criteria, for bird species diversity, as shown in Table 1. The number of species recorded in an area is a simple measure of diversity that can indicate its importance or conservation value at each season of the year. It is appreciated that in some instances the specific species present (e.g. those of the greatest conservation concern) may be the most important determination of a site’s conservation value but nevertheless determining the overall species diversity within an area does provide another measure of conservation value. It should be noted that Fuller’s analysis was developed in the 1970s, and species diversity has subsequently declined significantly (Eaton *et al.*, 2015). As a result, Fuller’s thresholds are likely to be too high in relation to contemporary bird population sizes.

**Table 1: Bird Species Diversity Criteria**

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

Although these criteria are principally concerned with breeding populations, they are used here as an indication of the importance of the wintering bird population

- 2.2.2 Fuller’s criteria, plus professional judgement, have been used to assess the importance of Survey Area 1 for wintering birds.

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- 2.2.3 In addition to evaluating Survey Area 1 based on its winter bird assemblage, consideration is given to the value of the Survey Area for the populations of individual species that it supports. This was done by comparing the population present within Survey Area 1 with national and county wintering populations for certain species.
- 2.2.4 National population estimates have been referred to as published in Musgrove *et al.* (2013).
- 2.2.5 At the county level, reference is made to Derbyshire Wildlife Site Selection Guidelines 2003 – Birds. In Derbyshire, a Local Wildlife Site (LWS) can be designated on the basis of the site fulfilling either of the following criteria, associated with winter bird populations (Derbyshire Biodiversity, 2003):
1. Any site from which the following have been recorded:
    - (i) 60 breeding and wintering bird species; or
    - (ii) 100 breeding, winter and passage bird species.
  2. Any site that supports a significant wintering wildfowl population, which is a site that the Derbyshire Ornithological Society and the Wildfowl and Wetlands Trust have assessed to be one of the most significant sites in the county.

## **2.3 Survey Limitations**

- 2.3.1 Access was granted to Survey Area 1 for all visits. The neighbouring fields to the south-west of the flooded field by Little Eaton junction (Survey Area 2) were surveyed from public rights of way. This is not considered to represent a significant limitation to the survey, as target species could be easily detected in the large open fields. For the March 2018 visit, access was not given to the marshy grassland fields in the south of Survey Area 2. However, this grassland is a considerable distance from the proposed scheme (700m). Furthermore, as access was only denied for one visit, this is not considered a major limitation due to 5 surveys being successfully carried out at this location.

### 3 RESULTS

#### 3.1 Survey Dates and Conditions

3.1.1 For survey details refer to Table B1 in Appendix B.

#### 3.2 Bird Survey Records

3.2.1 Figures 1 - 6 in Appendix A show the location of the target species observations recorded within (and adjacent to) Survey Area 1 and 2, during the course of the surveys. Tables C1 and C2 in Appendix C show the number of target species observations recorded during the course of the survey period.

3.2.2 The mean number of each target species recorded using Survey Areas 1 and 2 during the 2017 - 18 winter and passage period are shown in Table 2.

**Table 2: Wintering Bird Species at Little Eaton Junction**

Species Common Name <sup>1</sup>	Latin Name	Mean number of target species recorded in Survey Area 1	Mean number of target species recorded in Survey Area 2
Lapwing R,NERC,LEAP	<i>Vanellus vanellus</i>	55 (peak 168; 5 survey occasions)	32 (peak 164; 5 survey occasions)
Black-headed gull A	<i>Chroicocephalus ridibundus</i>	27 (peak 67; 5 survey occasions)	59 (peak 135; 6 survey occasions)
Common gull <sup>A</sup>	<i>Larus canus</i>	1 (peak 3; 1 survey occasion)	1 (peak 3; 2 survey occasions)
Common snipe <sup>A</sup>	<i>Gallinago gallinago</i>	0	7 (peak 18; 3 survey occasions)
Great black-backed gull <sup>A</sup>	<i>Larus marinus</i>	0	1 (peak 2; 2 survey occasions)
Green sandpiper <sup>A</sup>	<i>Tringa ochropus</i>	1 (peak 1; 2 survey occasions)	0
Greylag goose <sup>A</sup>	<i>Anser anser</i>	1 (peak 3; 1 survey occasion)	33 (peak 113; 4 survey occasions)
Kingfisher <sup>A, W&amp;CA</sup>	<i>Alcedo atthis</i>	0	1 (peak 1; 1 survey occasion)
Mallard <sup>A</sup>	<i>Anas platyrhynchos</i>	9 (peak 27; 5 survey occasions)	14 (peak 30; 5 survey occasions)
Mute swan <sup>A</sup>	<i>Cygnus olor</i>	2 (peak 4; 4 survey occasions)	1 (peak 3; 2 survey occasions)
Oystercatcher <sup>A</sup>	<i>Haematopus ostralegus</i>	0	1 (peak 1; 1 survey occasion)
Shoveler <sup>A</sup>	<i>Anas clypeata</i>	2 (peak 6; 3 survey occasions)	1 (peak 4; 1 survey occasion)
Teal <sup>A</sup>	<i>Anas crecca</i>	41 (peak 72; 6 survey occasions)	4 (peak 17; 2 survey occasions)
Wigeon <sup>A</sup>	<i>Anas penelope</i>	1 (peak 1; 1 survey occasion)	0
Coot <sup>G</sup>	<i>Fulica atra</i>	2 (peak 3; 4 survey occasions)	2 (peak 5; 2 survey occasions)

Species Common Name <sup>1</sup>	Latin Name	Mean number of target species recorded in Survey Area 1	Mean number of target species recorded in Survey Area 2
Cormorant <sup>A</sup>	<i>Phalacrocorax carbo</i>	0	1 (peak 1; 1 survey occasion)
Grey heron <sup>G</sup>	<i>Ardea cinerea</i>	0	1 (peak 1; 3 survey occasions)
Little egret <sup>G</sup>	<i>Egretta garzetta</i>	0	1 (peak 1; 4 survey occasions)
Moorhen <sup>G</sup>	<i>Gallinula chloropus</i>	1 (peak 2; 2 survey occasions)	1 (peak 2; 2 survey occasions)
Water rail <sup>G</sup>	<i>Rallus aquaticus</i>	0	1 (peak 1; 1 survey occasion)
Aylesbury duck <sup>N/A</sup>	<i>Anas platyrhynchos domesticus</i>	0	1 (peak 1; 1 survey occasion)
Canada goose <sup>N/A</sup>	<i>Branta canadensis</i>	0	1 (peak 6; 1 survey occasion)
Egyptian goose <sup>N/A</sup>	<i>Alopochen aegyptiaca</i>	0	2 (peak 7; 1 survey occasion)

<sup>1</sup>G- Green list, A- Amber list, R- Red list, N/A- Not Assessed (non-native), NERC S41 species, LBAP species, W&CA – Wildlife & Countryside Act 1981 Schedule 1 Species. Numbers in brackets represent the peak numbers of individuals recorded; followed by the number of times out of a possible seven survey visits that the species was recorded within that specific habitat. The species are ordered by conservation status, and then in alphabetical order.

- 3.2.3 Twenty-three target species were recorded across the survey visits. Of these, 12 were recorded within Survey Area 1. Eight of the 12 species recorded using Survey Area 1 were present in small numbers (typically a peak of 2 individuals); Of the other 4 species, which used Survey Area 1 in greatest numbers, the most notable populations were a peak of 168 Red List and LBAP lapwing in December and a peak of 72 Amber List teal in February. Of the target species recorded using Survey Area 1, lapwing, teal, mute swan (*Cygnus olor*), coot (*Fulica atra*) and mallard (*Anas platyrhynchos*) were recorded regularly, using this area in 4 to 6 of the 6 survey visits. The other 7 species were recorded using Survey Area 1 on only one occasion during the survey period.
- 3.2.4 Twenty-one target species were recorded in Survey Area 2. This included 11 species not found in Survey Area 1, such as kingfisher (*Alcedo atthis*), oystercatcher (*Haematopus ostralegus*) and common snipe (*Gallinago gallinago*) (the first two having low numbers (both peaks of 1) and only 1 occurrence). There was a lower mean, and peak, number of lapwing in Survey Area 2 compared to Survey Area 1 (mean of 55 in Survey Area 1 as compared to 32 in Survey Area 2). Greylag goose (*Anser anser*) and 3 species of gull (black-headed gull (*Chroicocephalus ridibundus*), common gull (*Larus canus*) and great black-backed gull (*Larus marinus*)) were also present in Survey Area 2. Within Survey Area 2, the most regularly recorded species were lapwing, black-headed gull, greylag goose, mallard and little egret which were all recorded on at least 4 of the 6 survey visits. Canada goose (*Branta canadensis*) and Egyptian goose (*Alopochen aegyptiaca*) were recorded in Survey Area 2 on one survey occasion, though only in small numbers (peaks of 6 and 7 respectively).

3.2.5 Other notable (Secondary) species recorded within Survey Area 1 during the course of the surveys were 5 Red List redwing (*Turdus iliacus*) and 10 Red List and LBAP starling (*Sturnus vulgaris*), both in December. Secondary species observed within Survey Area 2 include 11 Red List mistle thrush (*Turdus viscivorus*), 4 Amber List meadow pipit (*Anthus pratensis*), 15 redwing, 40 starling and 17 fieldfare (*Turdus pilaris* – red-list) during the December 2017 survey; 1 mistle thrush, 1 meadow pipit, 34 starling, and 8 redwing during the January 2018 survey; 2 redwing during the March 2018 survey.

### 3.3 Valuation of Importance

3.3.1 Based on Fuller's Criteria and professional judgement, the wintering bird assemblage recorded within Survey Area 1 and 2 is considered to be of no more than local importance. Only wetland species (23 in total) were recorded during the course of the surveys, but even with inclusion of other bird species (recorded incidentally during the surveys) the Survey Areas were unlikely to be of any more than local importance to wintering birds. Results for Survey Areas 1 and 2 have been combined as a precaution so that the site's value is not underestimated as movement of birds between the two Survey Areas is highly likely. The wintering bird assemblage within the Survey Areas is considered to be of only local importance.

3.3.2 No wintering bird population within Survey Area 1 or 2 approaches the 1% level of the national population, which would have constituted a nationally significant wintering bird population.

3.3.3 Additionally, the wintering bird species assemblage recorded during the course of the 2017 - 18 surveys is not sufficiently diverse to fulfil either of the Derbyshire LWS designation criteria (as detailed in Section 2.2).

### 3.4 Comparison to 2015-16 Survey Data

3.4.1 Table 3 below compares data for surveys completed between October 2017 – March 2018 with data previously collected for surveys between September 2015 and March 2016 in both survey areas.

**Table 3: Target Species at Little Eaton Junction – Comparison to 2015/16 Results**

	Latin Name	Mean number of target species recorded within Survey Area 1		Mean number of target species recorded within Survey Area 2	
		Sep 2015 – Mar 2016	Oct 2017 – Mar 2018	Sep 2015 – Mar 2016	Oct 2017 – Mar 2018
Lapwing R,NERC,LBAP	<i>Vanellus vanellus</i>	5 (Peak 26 ;4 survey occasions)	55 (peak 168; 5 survey occasions)	12 (Peak 56; 4 survey occasions)	32 (peak 164; 5 survey occasions)
Black-headed gull <sup>A</sup>	<i>Chroicocephalus ridibundus</i>	1 (Peak 4; 1 survey occasion)	27 (peak 67; 5 survey occasions)	42 (Peak 150; 5 survey occasions)	59 (peak 135; 6 survey occasions)
Common gull <sup>A</sup>	<i>Larus canus</i>	0	1 (peak 3; 1 survey occasion)	1 (Peak 2;1 survey occasion)	1 (peak 3; 2 survey occasions)
Common snipe <sup>A</sup>	<i>Gallinago gallinago</i>	0	0	0	7 (peak 18; 3 survey occasions)

.	Latin Name	Mean number of target species recorded within Survey Area 1		Mean number of target species recorded within Survey Area 2	
		Sep 2015 – Mar 2016	Oct 2017 – Mar 2018	Sep 2015 – Mar 2016	Oct 2017 – Mar 2018
Great black-backed gull <sup>A</sup>	<i>Larus marinus</i>	0	0	0	1 (peak 2; 2 survey occasions)
Green sandpiper <sup>A</sup>	<i>Tringa ochropus</i>	0	1 (peak 1; 2 survey occasions)	0	0
Greylag goose <sup>A</sup>	<i>Anser anser</i>	0	1 (peak 3; 1 survey occasion)	8 (Peak 33; 2 survey occasions)	33 (peak 113; 4 survey occasions)
Kingfisher <sup>A</sup> , W&CA	<i>Alcedo atthis</i>	0	0	0	1 (peak 1; 1 survey occasion)
Lesser black-backed gull <sup>A</sup>	<i>Larus fuscus</i>	0	0	1 (Peak 2; 1 survey occasion)	0
Mallard <sup>A</sup>	<i>Anas platyrhynchos</i>	6 (Peak 22; 3 survey occasions)	9 (peak 27; 5 survey occasion)	2 (Peak 5; 2 survey occasions)	14 (peak 30; 5 survey occasions)
Mute swan <sup>A</sup>	<i>Cygnus olor</i>	1 (Peak 2; 1 survey occasion)	2 (peak 4; 4 survey occasions)	0	1 (peak 3; 2 survey occasions)
Oystercatcher <sup>A</sup>	<i>Haematopus ostralegus</i>	0	0	0	1 (peak 1; 1 survey occasion)
Shoveler <sup>A</sup>	<i>Anas clypeata</i>	1 (Peak 2; 1 survey occasion)	2 (peak 6; 3 survey occasions)	0	1 (peak 4; 1 survey occasion)
Teal <sup>A</sup>	<i>Anas crecca</i>	10 (Peak 47; 4 survey occasions)	41 (peak 72; 6 survey occasions)	8 (Peak 51; 1 survey occasion)	4 (peak 17; 2 survey occasions)
Wigeon <sup>A</sup>	<i>Anas penelope</i>	0	1 (peak 1; 1 survey occasion)	0	0
Coot <sup>G</sup>	<i>Fulica atra</i>	1 (Peak 2; 1 survey occasion)	2 (peak 3; 4 survey occasions)	0	2 (peak 5; 2 survey occasions)
Cormorant <sup>A</sup>	<i>Phalacrocorax carbo</i>	0	0	0	1 (peak 1; 1 survey occasion)
Grey heron <sup>G</sup>	<i>Ardea cinerea</i>	1 (Peak 2; 1 survey occasion)	0	0	1 (peak 1; 3 survey occasions)
Little egret <sup>G</sup>	<i>Egretta garzetta</i>	0	0	0	1 (peak 1; 4 survey occasions)
Moorhen <sup>G</sup>	<i>Gallinula chloropus</i>	1 (Peak 1; 1 survey occasion)	1 (peak 2; 2 survey occasions)	0	1 (peak 2; 2 survey occasions)

	Latin Name	Mean number of target species recorded within Survey Area 1		Mean number of target species recorded within Survey Area 2	
		Sep 2015 – Mar 2016	Oct 2017 – Mar 2018	Sep 2015 – Mar 2016	Oct 2017 – Mar 2018
Water rail <sup>G</sup>	<i>Rallus aquaticus</i>	0	0	0	1 (peak 1; 1 survey occasion)
Aylesbury duck <sup>N/A</sup>	<i>Anas platyrhynchos domesticus</i>	0	0	0	1 (peak 1; 1 survey occasion)
Canada goose <sup>N/A</sup>	<i>Branta canadensis</i>	0	0	2 (Peak 7; 2 survey occasions)	1 (peak 6; 1 survey occasion)
Egyptian goose <sup>N/A</sup>	<i>Alopochen aegyptiaca</i>	0	0	0	2 (peak 7; 1 survey occasion)

<sup>1</sup>G- Green list, A- Amber list, R- Red list, N/A- Not Assessed (non-native), NERC S41 species, LBAP species, W&CA – Wildlife & Countryside Act 1981 Species. Numbers in brackets represent the peak numbers of individuals recorded; followed by the number of times out of a possible seven survey visits that the species was recorded within that specific habitat. The species are ordered by conservation status, and then in alphabetical order.

3.4.2 There has been a marked increase in species diversity overall (23 species overall in 2017/18 compared to 13 species for 2015/16) with species such as water rail (*Rallus aquaticus*), little egret (*Egretta garzetta*), great black-backed gull, green sandpiper (*Tringa ochropus*), kingfisher and oystercatcher being found in 2017/18 surveys but not 2015/16 (albeit in small numbers). In Survey Area 1, 12 species were encountered in 2017/18 compared to 9 species in 2015/16 surveys; and in Survey Area 2, 21 species were recorded in 2017/18 compared to 8 species in 2015/16 surveys. Wigeon (*Anas penelope*), greylag goose, green sandpiper and common gull are the only new species found in Survey Area 1 in 2017/18 surveys but not 2015/16 surveys. Grey heron (*Ardea cinerea*) was the only target species found in Survey Area 1 in 2015/16 but not in 2017/18.

3.4.3 For species found across both survey periods there has mostly been an increase in population numbers for the 2017/18 surveys. Most notably, mean lapwing number using Survey Area 1 has increased from 5 in 2015/16 to 55 in 2017/18 (also an increase in peak lapwing number from 26 in 2015/16 to 168 in 2017/18). Numbers of lapwing using Survey Area 2 has also increased in 2017/18 compared to 2015/16 with mean numbers increasing from 12 (2015/16) to 32 (2017/18) and peak numbers increasing from 56 (2015/16) to 164 (2017/18). Teal experienced an increase in Survey Area 1 with mean numbers increasing from 10 in 2015/16 to 41 in 2017/18 (peak numbers also increased from 47 in 2015/16 to 72 in 2017/18). There was a slight decrease though in Survey Area 2 with mean number of teal decreasing from 8 (2015/16) to 4 (2017/18) and peak numbers decreasing from 51 (2015/16) to 17 (2017/18). Black-headed gull showed an increase in number in both Survey Area 1 and 2 with mean number increasing from 1 (2015/16) to 27 (2017/18) in Survey Area 1 and from 42 (2015/16) to 59 (2017/18) in Survey Area 2. Peak numbers for black-headed gull also increased in Survey Area 1 from 1 (2015/16) to 67 (2017/18), but there was a slight decrease from 150 (2015/16) to 135 (2017/18) in Survey Area 2. Overall, 7 of 8 target species recorded during both survey periods increased in mean

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number in Survey Area 1, and 4 of 7 species experienced a similar trend in Survey Area 2. A potential factor to note in the increase of species diversity and abundance in Survey Area 2 is the increase in size from the previous 2015/16 surveys (from up to 500m from the proposed scheme to 700m). This is unlikely to account for a large difference though as the majority of sightings were from within 500m from the proposed scheme in Survey Area 2.

- 3.4.4 Overall species richness and abundance is largely comparable between the 2015/16 and 2017/18 datasets. There have however been some notable increases in abundances between the datasets, particularly for lapwing, black-headed gull and teal in Survey Area 1 and lapwing, black-headed gull and greylag goose in Survey Area 2 in 2017/18 compared to 2015/16.



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## 4 SUMMARY

- 4.1.1 Wintering bird surveys, focusing on Target species (wildfowl, waders, gulls, kingfishers), were undertaken from October 2017 through to March 2018. These were completed as an update and comparison to surveys completed previously between September 2015 and March 2016. The surveys identified the presence of 23 target species within the Survey Areas (1 and 2), adjacent to Little Eaton junction.
- 4.1.2 Survey Area 1 (which is partly within the proposed scheme) supported considerable sized populations (50+ individuals) of 3 target species; lapwing, black-headed gull and teal. Large populations of lapwing, black-headed gull and greylag goose were recorded in Survey Area 2 (peaks of 100+ individuals), which stretches to approximately 700m from the proposed scheme.
- 4.1.3 Survey Area 1 and 2 are considered to be of local importance for wintering birds, with no species approaching the 1% level of the national population. Wintering bird species assemblages were also not sufficiently diverse to fulfil Derbyshire LWS designation criteria.
- 4.1.4 There has been a notable increase in species diversity between 2015/16 surveys and 2017/18 surveys, although the majority of new species recorded are in low abundances (all 4 new species in Survey Area 1 had a mean of 1, and 13 of 14 new species in Survey Area 2 had means of 2 or less). Lapwing, teal and black-headed gull all had a considerable increase in numbers in Survey Area 1 from 2015/16 surveys (at least a 4x increase in mean for each) so Survey Area 1 may be more important for wintering birds than previously suggested, although still only of local importance.
- 4.1.5 The results of this updated wintering bird survey will be used to inform the design of an appropriate ecological mitigation strategy to be reported in the Environmental Statement.

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## 5 REFERENCES

AECOM (2016a) A38 Derby Junctions: Breeding Bird Survey Report. Prepared by AECOM for Highways England. March 2016.

AECOM (2016b) A38 Derby Junctions: Wintering Bird Survey Report. Prepared by AECOM for Highways England. June 2016.

Derbyshire Biodiversity (2003) Derbyshire Wildlife Site Selection Guidelines 2003-Birds. <http://www.derbyshirebiodiversity.org.uk/sites/handbook/volume2/birds.pdf> Accessed 4 April 2016.

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.

Fuller, R.J. (1980) A Method of Assessing the Ornithological Interest of Sites for Conservation. *Biological Conservation* 17: 229 - 239.

Gilbert, G., Gibbons, D.W. and Evans, J. (1998) *Bird Monitoring Methods: A Manual of Techniques for key UK species*. RSPB, Sandy.

Highways England (June 2015) *Our Plan to Protect and Increase Biodiversity*. Highways England publications code PR34/15.

Musgrove, A., Aebischer, N., Eaton, M., Hearn, R., Newson, S., Noble, D., Parsons, M., Risely, K. and Stroud, D. (2013) Population Estimates of Birds in Great Britain and the United Kingdom. *British Birds* 106: 64 - 100.

Lowland Derbyshire Biodiversity Action Plan (2015) *Derbyshire Biodiversity: Species-Birds*. <http://derbyshirebiodiversity.org.uk/lbaps/lowland-derbyshire.php> Accessed 13 July 2015.

## **Appendix A      Figures**

**Figure 1: Little Eaton – Wintering Bird Survey Target Species Results October 2017**

**Figure 2: Little Eaton - Wintering Bird Survey Target Species Results November 2017**

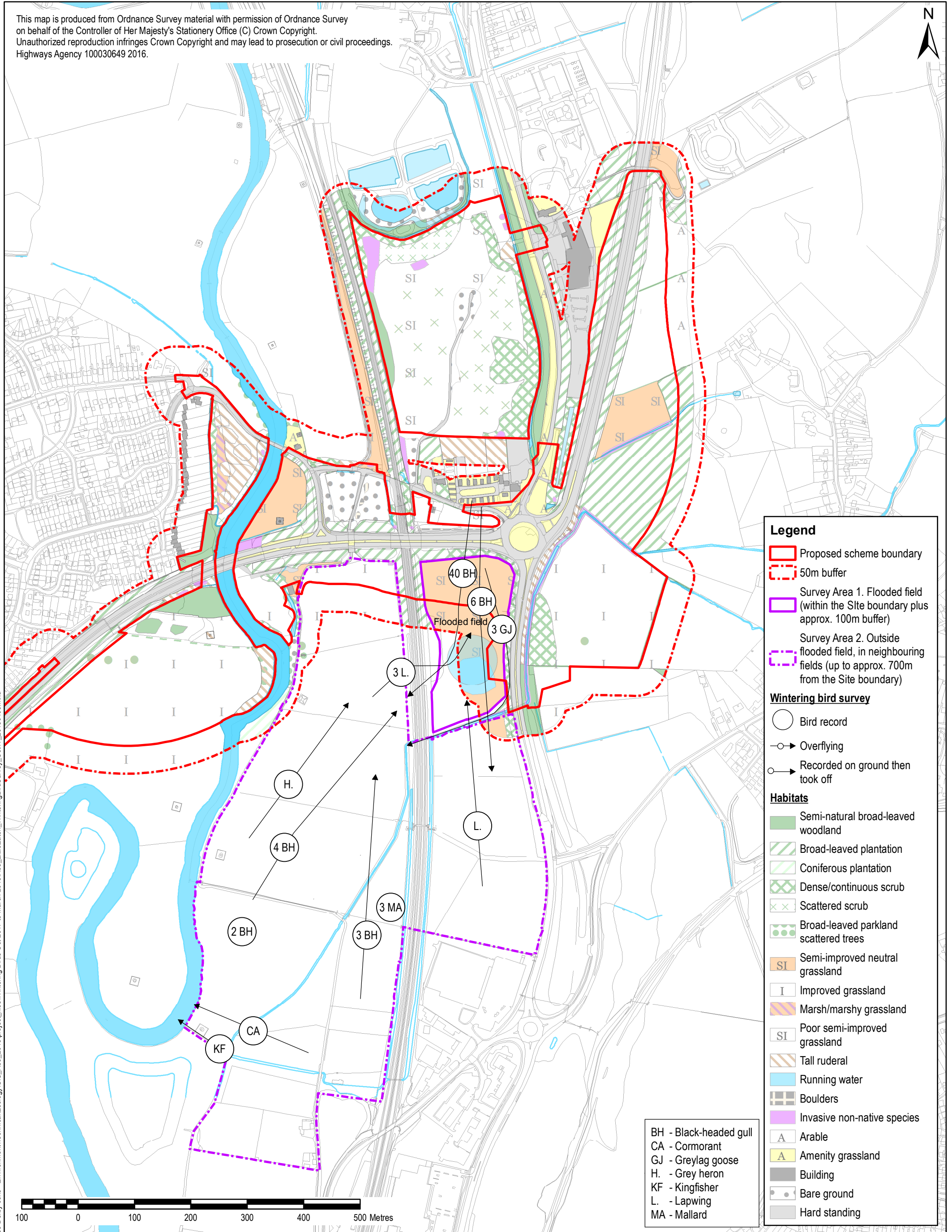
**Figure 3: Little Eaton - Wintering Bird Survey Target Species Results December 2017**

**Figure 4: Little Eaton - Wintering Bird Survey Target Species Results January 2018**



**Figure 5: Little Eaton - Wintering Bird Survey Target Species Results February 2018**

**Figure 6: Little Eaton - Wintering Bird Survey Target Species Results March 2018**

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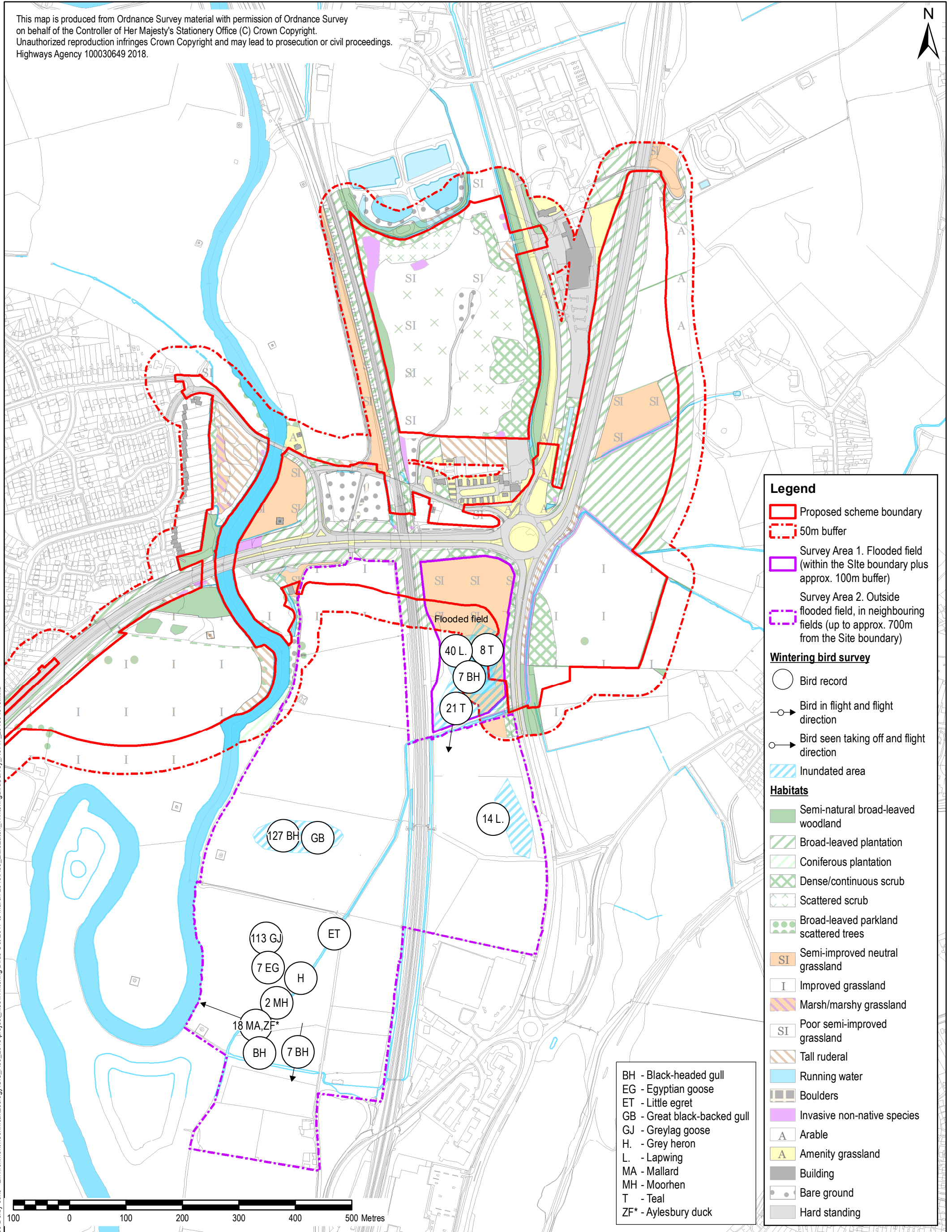
BH - Black-headed gull  
CA - Cormorant  
GJ - Greylag goose  
H. - Grey heron  
KF - Kingfisher  
L. - Lapwing  
MA - Mallard

Project Title/Drawing Title  A38 DERBY JUNCTIONS LITTLE EATON WINTERING BIRD TARGET SPECIES SURVEY OCTOBER 2017	Project Number 60533462		A38 Derby Junctions Project Highways England, Floor 5 2 Colmore Square 38 Colmore Circus Birmingham B4 6BN		
	Drawn CAA	Checked CC			Approved KW
	Date 26/06/2018	Scale @ A3 1:6,000	Purpose of issue FINAL	AECOM Royal Court Basil Close, Chesterfield Derbyshire. S41 7SL +44 (0) 1246 209221 +44 (0) 1246 209229 www.aecom.com	
	Drawing Number Figure 1		Rev 1F		
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#### Legend

- Proposed scheme boundary
- 50m buffer
- Survey Area 1. Flooded field (within the Site boundary plus approx. 100m buffer)
- Survey Area 2. Outside flooded field, in neighbouring fields (up to approx. 700m from the Site boundary)

#### Wintering bird survey

- Bird record
- Bird in flight and flight direction
- Bird seen taking off and flight direction
- Inundated area

#### Habitats

- Semi-natural broad-leaved woodland
- Broad-leaved plantation
- Coniferous plantation
- Dense/continuous scrub
- Scattered scrub
- Broad-leaved parkland scattered trees
- Semi-improved neutral grassland
- Improved grassland
- Marsh/marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Running water
- Boulders
- Invasive non-native species
- Arable
- Amenity grassland
- Building
- Bare ground
- Hard standing

- BH - Black-headed gull
- EG - Egyptian goose
- ET - Little egret
- GB - Great black-backed gull
- GJ - Greylag goose
- H. - Grey heron
- L. - Lapwing
- MA - Mallard
- MH - Moorhen
- T - Teal
- ZF\* - Aylesbury duck

Project Title/Drawing Title  
**A38 DERBY JUNCTIONS  
LITTLE EATON  
WINTERING BIRD TARGET SPECIES SURVEY  
NOVEMBER 2017**

Project Number 60533462	Drawn CAA	Checked CC	Approved KW
Date 26/06/2018	Scale @ A3 1:6,000	Purpose of issue FINAL	Rev 1F
Drawing Number Figure 2			

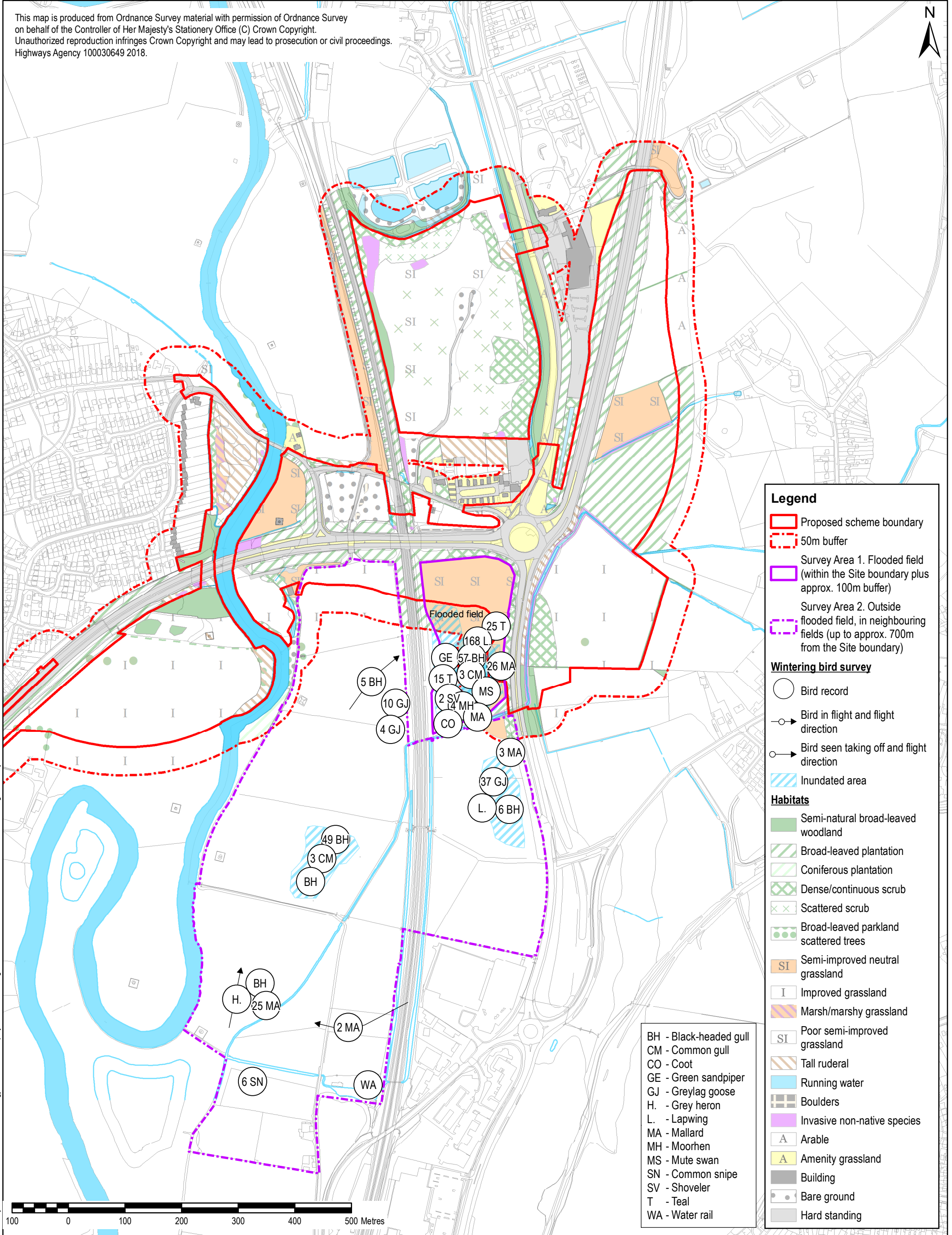
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**Wintering bird survey**

- Bird record
- Bird in flight and flight direction
- Bird seen taking off and flight direction
- Inundated area

**Habitats**

- Semi-natural broad-leaved woodland
- Broad-leaved plantation
- Coniferous plantation
- Dense/continuous scrub
- Scattered scrub
- Broad-leaved parkland scattered trees
- Semi-improved neutral grassland
- Improved grassland
- Marsh/marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Running water
- Boulders
- Invasive non-native species
- Arable
- Amenity grassland
- Building
- Bare ground
- Hard standing

- BH - Black-headed gull
- CM - Common gull
- CO - Coot
- GE - Green sandpiper
- GJ - Greylag goose
- H. - Grey heron
- L. - Lapwing
- MA - Mallard
- MH - Moorhen
- MS - Mute swan
- SN - Common snipe
- SV - Shoveler
- T - Teal
- WA - Water rail

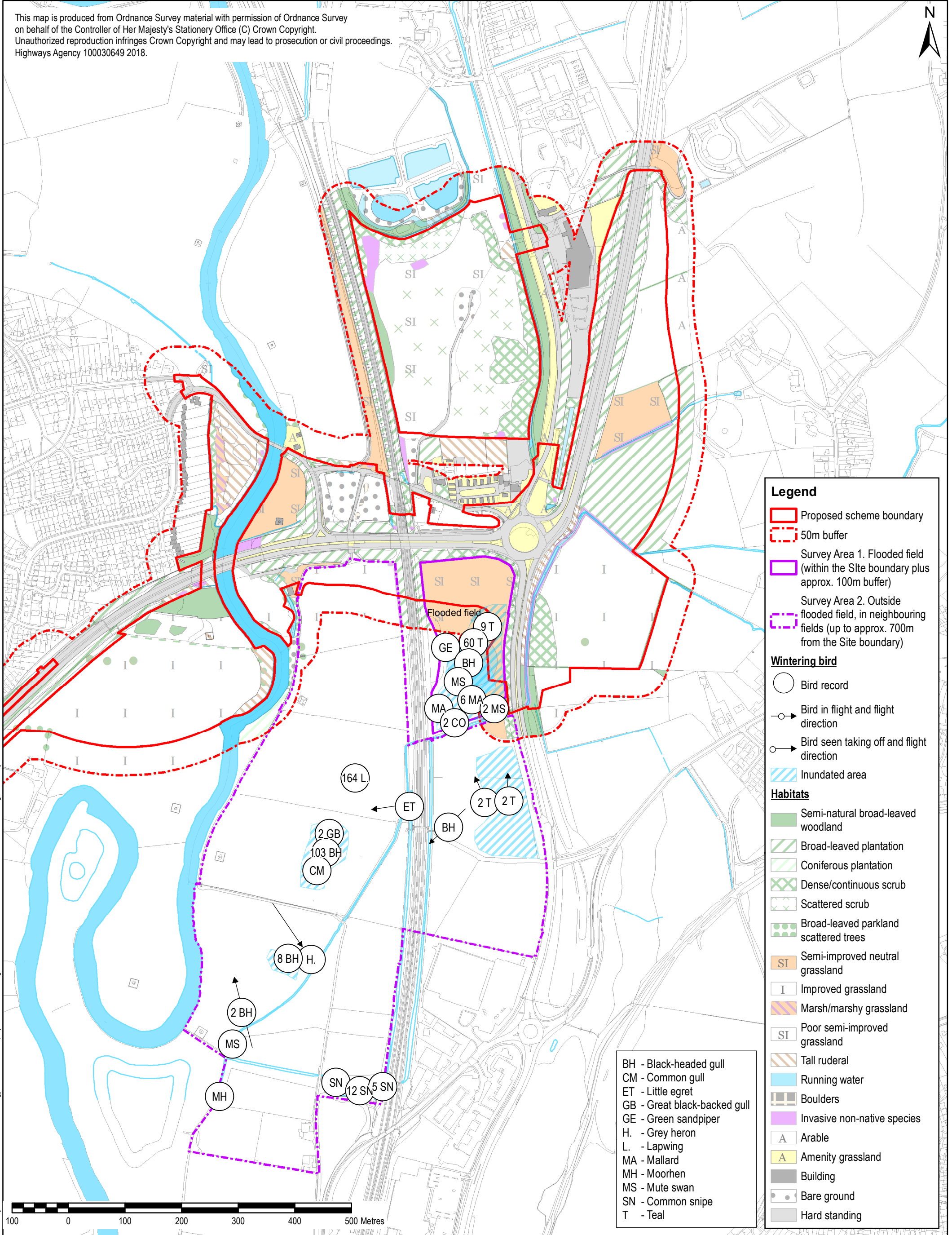
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- Survey Area 2. Outside flooded field, in neighbouring fields (up to approx. 700m from the Site boundary)

**Wintering bird**

- Bird record
- Bird in flight and flight direction
- Bird seen taking off and flight direction
- Inundated area

**Habitats**

- Semi-natural broad-leaved woodland
- Broad-leaved plantation
- Coniferous plantation
- Dense/continuous scrub
- Scattered scrub
- Broad-leaved parkland scattered trees
- Semi-improved neutral grassland
- Improved grassland
- Marsh/marshy grassland
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- Tall ruderal
- Running water
- Boulders
- Invasive non-native species
- Arable
- Amenity grassland
- Building
- Bare ground
- Hard standing

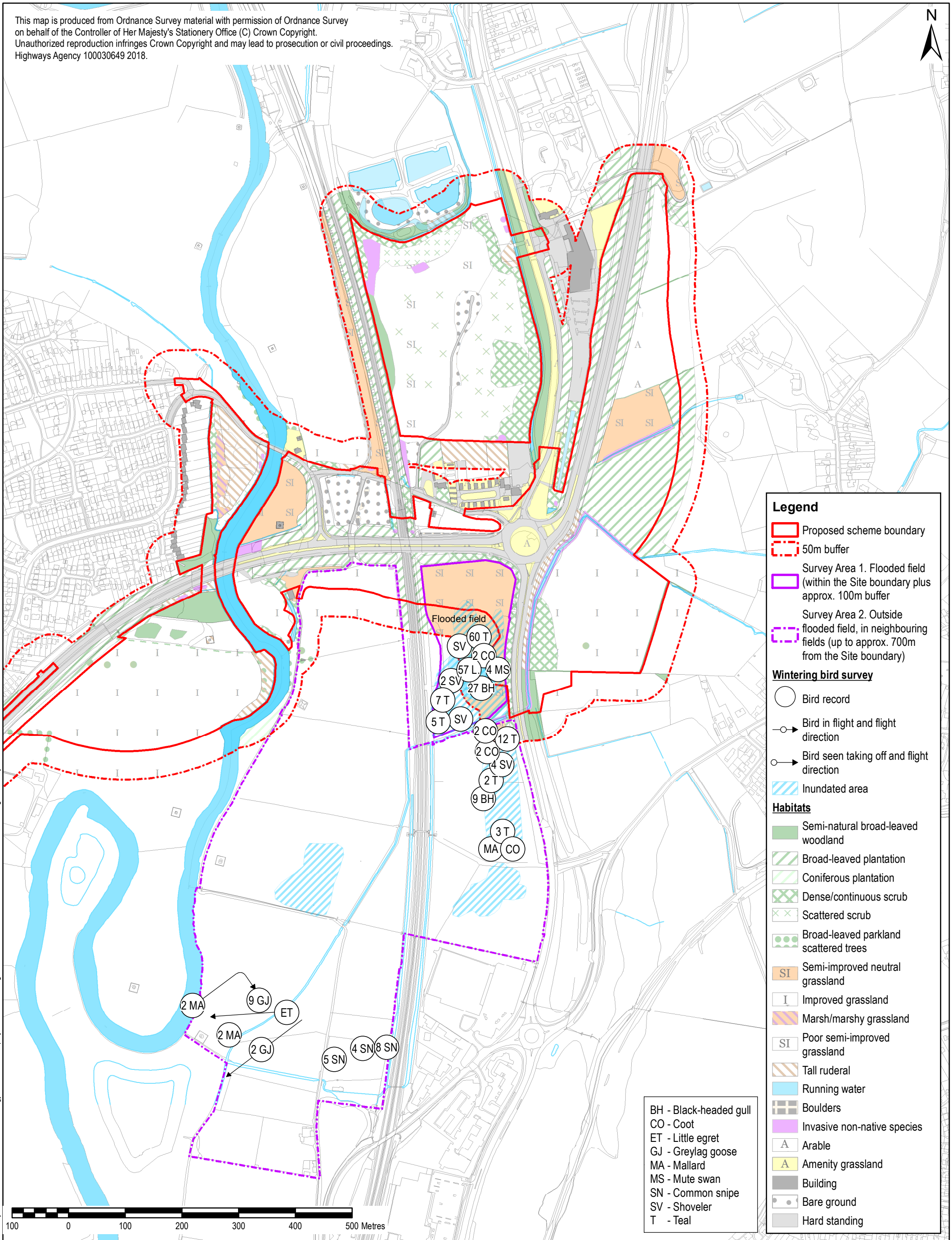
- BH - Black-headed gull
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- L. - Lapwing
- MA - Mallard
- MH - Moorhen
- MS - Mute swan
- SN - Common snipe
- T - Teal

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A38 DERBY JUNCTIONS LITTLE EATON		60533462			
WINTERING BIRD TARGET SPECIES SURVEY		Drawn CAA	Checked CC	Approved KW	
JANUARY 2018		Date 26/06/2018	Scale @ A3 1:6,000	Purpose of issue FINAL	
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#### Wintering bird survey

- Bird record
- Bird in flight and flight direction
- Bird seen taking off and flight direction
- Inundated area

#### Habitats

- Semi-natural broad-leaved woodland
- Broad-leaved plantation
- Coniferous plantation
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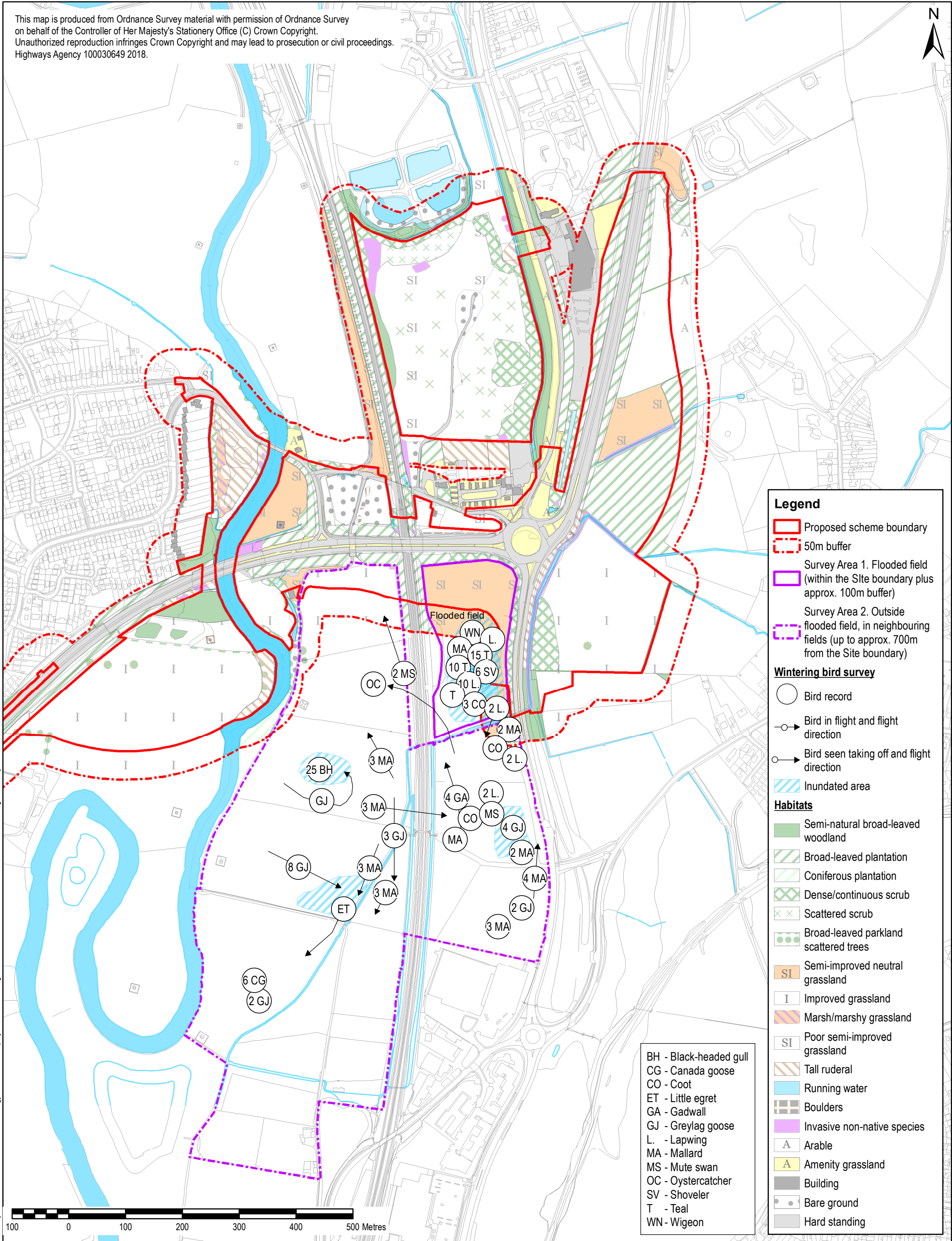
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A38 DERBY JUNCTIONS LITTLE EATON WINTERING BIRD TARGET SPECIES SURVEY FEBRUARY 2018		60533462			
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**Wintering bird survey**

- Bird record
- Bird in flight and flight direction
- Bird seen taking off and flight direction
- Inundated area

**Habitats**

- Semi-natural broad-leaved woodland
- Broad-leaved plantation
- Coniferous plantation
- Dense/continuous scrub
- Scattered scrub
- Broad-leaved parkland scattered trees
- Semi-improved neutral grassland
- Improved grassland
- Marsh/marshy grassland
- Poor semi-improved grassland
- Tall ruderal
- Running water
- Boulders
- Invasive non-native species
- Arable
- Amenity grassland
- Building
- Bare ground
- Hard standing

- BH - Black-headed gull
- CG - Canada goose
- CO - Coot
- ET - Little egret
- GA - Gadwall
- GJ - Greylag goose
- L. - Lapwing
- MA - Mallard
- MS - Mute swan
- OC - Oystercatcher
- SV - Shoveler
- T - Teal
- WN - Wigeon

Project Title/Drawing Title  
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LITTLE EATON  
WINTERING BIRD TARGET SPECIES SURVEY  
MARCH 2018**

Project Number 60533462		
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## Appendix B      Survey Details

**Table B1: Survey Details During Wintering Bird Survey**

Survey Number	Date (2017 - 18)	Time (24 hrs)	Sunrise (24 hrs)	Weather Conditions
1	26 October	08:00 – 09:45	07:51	Cloudy (90% cloud cover), light wind, no rain, 10°C (start), 11°C (end)
2	29 November	10:20 – 12:15	07:53	Sunny (10% cloud cover), moderate breeze, 5°C (start), 5°C (end)
3	20 December	09:15 – 12:15	08:16	Cloudy (100% cloud cover), light wind, 10°C (start), 10°C (end)
4	16 January	13:30 – 15:40	08:10	Partially cloudy (50% cloud cover), moderate wind, 7°C (start), 7°C (end)
5	15 February	13:15 – 17:15	07:23	Sunny (20% cloud cover), moderate breeze, 8°C (start), 8°C (end)
6	15 March	10:45 – 12:30	06:21	Cloudy (90% cloud cover), light breeze, light rain, 3°C (start), 5°C (end)

## **Appendix C**

### **Bird Records During Wintering Bird Survey**

**Table C1: Target species recorded using Survey Area 1**

Species Common Name	Latin Name	October Count	November Count	December Count	January Count	February Count	March Count	Mean count over 6 survey visits <sup>1</sup>
Lapwing <sup>R,NERC,LBAP</sup>	<i>Vanellus vanellus</i>	47	40	<b>168</b>	0	57	13	54.2 = 55
Black-headed gull <sup>A</sup>	<i>Chroicocephalus ridibundus</i>	<b>67</b>	7	57	1	27	0	26.5 = 27
Common gull <sup>A</sup>	<i>Larus canus</i>	0	0	<b>3</b>	0	0	0	0.5 = 1
Green sandpiper <sup>A</sup>	<i>Tringa ochropus</i>	0	0	<b>1</b>	<b>1</b>	0	0	0.33 = 1
Greylag goose <sup>A</sup>	<i>Anser anser</i>	<b>3</b>	0	0	0	0	0	0.5 = 1
Mallard <sup>A</sup>	<i>Anas platyrhynchos</i>	8	0	<b>27</b>	7	7	1	8.3 = 9
Mute swan <sup>A</sup>	<i>Cygnus olor</i>	0	0	1	3	<b>4</b>	1	1.5 = 2
Shoveler <sup>A</sup>	<i>Anas clypeata</i>	0	0	2	0	3	<b>6</b>	1.8 = 2
Teal <sup>A</sup>	<i>Anas crecca</i>	5	29	40	69	<b>72</b>	26	40.2 = 41
Wigeon <sup>A</sup>	<i>Anas penelope</i>	0	0	0	0	0	<b>1</b>	0.2 = 1
Coot <sup>G</sup>	<i>Fulica atra</i>	0	0	1	2	1	<b>3</b>	1.2 = 2
Moorhen <sup>G</sup>	<i>Gallinula chloropus</i>	1	0	<b>4</b>	0	0	0	0.8 = 1

G- Green list, A- Amber list, R- Red list, NERC S41 species, LBAP species. The **bold** value is the peak number for that particular species across the survey period.

<sup>1</sup> To calculate the mean count all decimal places are rounded up to the next whole number

**Table C2: Target species recorded using Survey Area 2**

Species Common Name	Latin Name	October Count	November Count	December Count	January Count	February Count	March Count	Mean count over 6 survey visits <sup>1</sup>
Lapwing <sup>R,NERC,LBAP</sup>	<i>Vanellus vanellus</i>	4	14	1	<b>164</b>	0	5	31.3 = 32
Black-headed gull <sup>A</sup>	<i>Chroicocephalus ridibundus</i>	9	<b>135</b>	63	112	9	25	58.8 = 59
Common gull <sup>A</sup>	<i>Larus canus</i>	0	0	<b>3</b>	1	0	0	0.7 = 1
Great black-backed gull	<i>Larus marinus</i>	0	1	0	<b>2</b>	0	0	0.5 = 1
Greylag goose <sup>A</sup>	<i>Anser anser</i>	0	<b>113</b>	51	0	11	20	32.5 = 33
Kingfisher <sup>A, W&amp;CA</sup>	<i>Alcedo atthis</i>	<b>1</b>	0	0	0	0	0	0.2 = 1
Mallard <sup>A</sup>	<i>Anas platyrhynchos</i>	3	18	<b>30</b>	0	5	24	13.3 = 14
Mute swan <sup>A</sup>	<i>Cygnus olor</i>	0	0	0	1	0	<b>3</b>	0.7 = 1
Oystercatcher <sup>A</sup>	<i>Haematopus ostralegus</i>	0	0	0	0	0	<b>1</b>	0.2 = 1
Shoveler <sup>A</sup>	<i>Anas clypeata</i>	0	0	0	0	<b>4</b>	0	0.7 = 1
Snipe <sup>A</sup>	<i>Gallinago gallinago</i>	0	0	6	<b>18</b>	17	0	6.8 = 7
Teal <sup>A</sup>	<i>Anas crecca</i>	0	0	0	4	<b>17</b>	0	3.5 = 4
Coot <sup>G</sup>	<i>Fulica atra</i>	0	0	0	0	<b>5</b>	2	1.2 = 2
Cormorant <sup>G</sup>	<i>Phalacrocorax carbo</i>	<b>1</b>	0	0	0	0	0	0.2 = 1
Grey heron <sup>G</sup>	<i>Ardea cinerea</i>	<b>1</b>	<b>1</b>	0	<b>1</b>	0	0	0.5 = 1
Little egret <sup>G</sup>	<i>Egretta garzetta</i>	0	<b>1</b>	0	<b>1</b>	<b>1</b>	<b>1</b>	0.7 = 1
Moorhen <sup>G</sup>	<i>Gallinula chloropus</i>	0	<b>2</b>	0	1	0	0	0.5 = 1

Species Common Name	Latin Name	October Count	November Count	December Count	January Count	February Count	March Count	Mean count over 6 survey visits <sup>1</sup>
Water rail <sup>G</sup>	<i>Rallus aquaticus</i>	0	0	<b>1</b>	0	0	0	0.2 = 1
Aylesbury duck	<i>Anas platyrhynchos domesticus</i>	0	<b>1</b>	0	0	0	0	0.2 = 1
Canada goose <sup>N/A</sup>	<i>Branta canadensis</i>	0	0	0	0	0	<b>6</b>	1
Egyptian goose <sup>N/A</sup>	<i>Alopochen aegyptiaca</i>	0	<b>7</b>	0	0	0	0	1.2 = 2

G- Green list, A- Amber list, R- Red list, N/A- Not Assessed (non-native), NERC S41 species, LBAP species, W&CA – Wildlife & Countryside Act (1981, as amended) species. The **bold** value is the peak number for that particular species across the survey period.

<sup>1</sup>To calculate the mean count all decimal places are rounded up to the next whole number.