

**A38 Derby Junctions**

**TR010022**

**Volume 6**

**6.3 Environmental Statement  
Appendices**

**Appendix 8.8e: Wintering Bird Survey in  
2016/2017**

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 8.8e: Wintering Bird Survey in 2016/2017**

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<b>Regulation Number</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010022
<b>Application Document Reference</b>	6.3
<b>Author</b>	A38 Derby Junctions Project Team, Highways England

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
1	April 2019	DCO Application

<b>Project:</b>	<b>A38 Derby Junctions</b>
<b>Title:</b>	<b>ADDITIONAL SITES: WINTERING BIRD SURVEY</b>
<b>Doc ID:</b>	<b>HE514503-ACM-EBD-A38_SW_PR_ZZ-TN-EG-0001</b>

## 1. Introduction

- 1.1.1 AECOM was instructed by Highways England in September 2016 to undertake an assessment of additional land parcels located beyond the A38 Derby Junctions (proposed scheme) boundary for their potential to support wintering birds. These additional sites (hereafter referred to as 'Sites') have been identified for potential access routes, flood compensation, ecology compensation/ enhancements, and construction areas, which may form part of the proposed scheme (to be determined during Project Control Framework (PCF) Stage 3).
- 1.1.2 Several of the Sites have now been scoped out based on further information which has become available. The Sites considered currently for inclusion in the next stage of assessment are detailed in Table 1 with those Sites assessed as being suitable for supporting over-wintering birds (Target Species being wetland birds; waterfowl, waders and gulls) marked in **bold**. Waterfowl includes swans, ducks, geese, herons, grebes, sawbills, cormorants and kingfishers.

**Table 1: A38 Additional Sites (Sites)**

Site Ref.	Site Details
Markeaton Junction	
1 and 12	Markeaton Park and Mill Pond Potential Ecological Compensation Area
2	Markeaton Park Potential Access Route
Kingsway Junction	
3a	Mackworth Park Potential Ecological Compensation Area
4	Kingsway Potential Flood Compensation Area
5	Kingsway Potential Enhancement/ Ecological Compensation Area
Little Eaton Junction	
7a and 7b	<b>Little Eaton Potential Flood Compensation Area</b>
8	Potential Construction Compound 2
9	Ford Lane Potential Ecological Compensation Area
10a	<b>Potential Construction Compound 1 and Potential Borrow Pit</b>
18	Ford Lane Site 2 Potential Flood Compensation Area
19a, b and c	South of the A38 – Site 19a, Site 19b and <b>Site 19c Potential Flood Compensation Area</b>
20	Ford Lane embankment
21	<b>For potential construction access purposes</b>

- 1.1.3 Figures 1.1 and 1.2 (see Appendix A) show the locations of the Sites listed in Table 1, with the three Sites located at Little Eaton junction where wintering bird surveys have been undertaken in 2016/17 (i.e. Site 7a and b, 10a and 19c) highlighted (refer

to Table 1)<sup>1</sup>. Site 21 was surveyed in 2015/16 and was therefore not included in the 2016/17 surveys.

- 1.1.4 The Sites considered suitable for over-wintering birds were those typically consisting of rough grassland (with little scrub) and particularly those in close proximity to the River Derwent (and its tributaries).
- 1.1.5 This Technical Note details the results of the wintering bird survey for the three highlighted Sites at Little Eaton junction, between September 2016 and March 2017. Refer to the A38 Derby Junctions Wintering Bird Survey Report (AECOM, 2016) for details of relevant ecological legislation and policy regarding wintering birds.
- 1.1.6 Please note the following:
  - All of the Sites (Site 7a/b, Site 10a and Site 19c) had their boundaries altered during the surveys, reflecting changes in the proposed scheme design. For the purpose of this report, the original Site boundaries (purple line) and the amended Site boundary (red line; which shows the revised Site boundaries) are provided and birds are regarded in the context of both boundaries (where applicable). Those birds within the red line boundary could be directly impacted by the works, whilst those in the wider Site (within the purple line, but outside the red line; thus outside the proposed works area) could be indirectly impacted by the works.
  - The proposed scheme boundary was updated in April 2017, and included additional areas to those listed in Table 1; these were not given individual Site reference numbers. They include the potential access tracks running south to north into Site 19c and the potential access track to the south-east of Site 7b (refer to Figure 1.2, Appendix A). These were scoped out for wintering bird survey as given the habitats present (a narrow strip of grassland with trees/hedgerow running parallel to it), they were considered suboptimal for wetland birds.

## 2. Methodology

### 2.1 Wintering Bird Survey

- 2.1.1 Sites 7a and b, 10a and 19c were visited on four occasions (along with other Sites which were later scoped out) during the passage and winter period September 2016 to January 2017 using a 'look – see' method (Gilbert *et al.* 1998), where birds using each Site were counted. The survey details (dates, times and weather conditions) are included in Appendix B. Each round of surveys was completed over the course of 2 – 3 days per month, the exception being the first round of surveys, which required a fourth survey day due to the late addition of Site 19c to the survey schedule. In February and March 2017, the surveys were carried out on Sites 7b, 10a and 19c only, following consultation with Highways England. The February and March surveys were carried out in one day.
- 2.1.2 'Target Species' consisted of wetland birds; waterfowl, waders and gulls (excluding non-native species, such as Canada goose *Branta canadensis*. Other notable species, listed as Amber and Red list species (RSPB Birds of Conservation Concern 4 (2015), underpinned by Eaton *et al.* (2015)), Natural Environment and Rural Communities (NERC) Act 2006 Section 41 (S41) and Lowland Derbyshire Local Biodiversity Action Plan (LBAP) species (Lowland Derbyshire BAP (2015)), were

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<sup>1</sup> Note: wintering bird surveys were also undertaken on other Sites prior to them being scoped out. Results for these Sites can be made available upon request.

recorded as 'Secondary Species'. Common species (Green list non-wetland species) were not recorded.

- 2.1.3 On each visit, a survey team, including an experienced AECOM ornithologist, used high powered optical equipment to survey the open habitats. For some of the Sites, a pre-determined transect route was walked to ensure full coverage of the Site. For other Sites, the whole area could be seen from one location, and therefore a transect was not necessary. The survey area was marked on a map at a scale of 1:12,500.
- 2.1.4 Target and Secondary Species within the Site and up to 100m beyond the Site boundary were recorded. However, for the purpose of this technical note, Target and Secondary Species within the Site are given greatest consideration, as these are the birds most likely to have the potential to be adversely affected by the proposed scheme works. Any of these species flying over, or close to, the Site were also recorded and are considered in this Technical Note.

### **3. Limitations**

- 3.1.1 Access was not granted to Site 19c in February and March 2017 and therefore the survey was carried out from the eastern side of the River Derwent. Given that Site 19c is relatively open, it is reasonable to conclude that target species using the site, if present, would have been recorded and thus this is not considered to be a significant limitation.
- 3.1.2 Only Site 7b was surveyed in February and March 2017 following consultation with Highways England; Site 7a was not formally included. However, Site 7a was surveyed from adjacent public rights of way during the survey of Site 7b. Therefore, when Site 7a was later scoped in to the assessment, bird survey data was already available for the Site and have been used in this report.
- 3.1.3 Surveys are a 'snapshot' at that particular time, with surveys across the various months assisting in understanding the use of the Site(s) by birds over-winter i.e. which bird species are present and where, and location of any notable assemblages. Conclusions can then be drawn on which bird species/ assemblages are more likely at risk of being directly or indirectly impacted by the proposed scheme over the winter period. It is acknowledged that there may be some movement of birds from the wider Site into the red line boundary of the Site, and vice versa, but the distinction detailed in the first bullet point in Section 1.1.6 is used to determine those birds most at risk from a direct impact of the proposed scheme works.

### **4. Results**

#### **4.1 Wintering Bird Results September 2016 to March 2017**

- 4.1.1 Table 2 details the Target Species recorded within the Sites (Site 7, 10a and 19c).
- 4.1.2 In the table 'On Site' refers to those bird records within the red line boundary (potential works areas) and 'In the Wider Site' refers to those bird records within the purple line boundary (not in the potential works area). Note that for Site 10a, the purple and red line boundaries are the same, so there is no distinction between the areas for this Site. Any bird records adjacent to the Site (termed 'Adjacent to Site') and flying over, or close to, the Site ('Overflying only') are also provided in the table, to put the Sites into context.
- 4.1.3 Table 3 details the Secondary Species recorded within the Sites.
- 4.1.4 Target species records are shown on Figures 2.1 to Figure 2.7 in Appendix A.

**Table 2: Target Species Recorded During the Wintering Bird Survey**

Survey	Site 7a and 7b*	Site 10a	Site 19c
Survey 1 (late September – early October 2016)	<p>On Site: None</p> <p>In the Wider Site: Mallard <i>Anas platyrhynchos</i> (2)</p> <p>Adjacent to Site: Mallard (19), Coot <i>Fulica atra</i> (1), Red-breasted merganser <i>Mergus serrator</i> (2)</p> <p>Overflying only: Cormorant <i>Phalacrocorax carbo</i> (7), Red-breasted merganser (1)</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: Mallard (2), Moorhen <i>Gallinula chloropus</i> (1)</p> <p>Overflying only: Greylag goose <i>Anser anser</i> (24), Mallard (6), Cormorant (2)</p>
Survey 2 (mid to late October 2016)	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: Mallard (6), Moorhen (3), Cormorant (1)</p> <p>Overflying only: Kingfisher <i>Alcedo atthis</i> (1)</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: Mallard (2)</p>
Survey 3 (November 2016)	<p>On Site: Mallard (18), Black-headed gull <i>Chroicocephalus ridibundus</i> (14)</p> <p>In the Wider Site: Lapwing <i>Vanellus vanellus</i> (36), Cormorant (2), Black-headed gull (approximately 30)</p> <p>Adjacent to Site: Mallard (3), Red-breasted merganser (2)</p> <p>Overflying only: Black-headed gull (9), Cormorant (6)</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>
Survey 4 (December)	<p>On Site: None</p>	<p>On Site: None</p>	<p>On Site: None</p>

Survey	Site 7a and 7b*	Site 10a	Site 19c
2016)	<p>In the Wider Site: None</p> <p>Adjacent to Site: Mallard (22), Moorhen (2), Cormorant (2)</p> <p>Overflying only: Black-headed gull (2)</p>	<p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>	<p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>
Survey 5 (January 2017)	<p>On Site: Mallard (2), Black-headed gull (2)</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: Mallard (15), Cormorant (2)</p> <p>Overflying only: Black-headed gull (7)</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>	<p>On Site: None</p> <p>In the Wider Site: Moorhen (3)</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>
Survey 6 (February 2017)	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: None</p> <p>Overflying only: None</p>	<p>On Site: None<sup>†</sup></p> <p>In the Wider Site: Black-headed gull (65)<sup>†</sup></p> <p>Adjacent to Site: None<sup>†</sup></p> <p>Overflying only: None<sup>†</sup></p>
Survey 7 (March 2017)	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: Mallard (5)</p> <p>Overflying only: None</p>	<p>On Site: None</p> <p>In the Wider Site: None</p> <p>Adjacent to Site: Mallard (2)</p> <p>Overflying only: Mallard (7), Herring gull <i>Larus argentatus</i> (5), Lesser black- backed gull <i>Larus fuscus</i> (1), Grey</p>	<p>On Site: None<sup>†</sup></p> <p>In the Wider Site: None<sup>†</sup></p> <p>Adjacent to Site: None<sup>†</sup></p> <p>Overflying only: None<sup>†</sup></p>

Survey	Site 7a and 7b*	Site 10a	Site 19c
		heron <i>Ardea cinerea</i> (1)	

\*Only Site 7b was surveyed in February and March 2017, Site 7a was not included during these surveys; <sup>†</sup> Site 7a was surveyed from adjacent public right of way as no access granted.

**Table 3: Secondary Species Recorded During the Wintering Bird Survey**

Survey	Site 7a and 7b*	Site 10	Site 19c
Survey 1 (late September – early October 2016)	Kestrel <i>Falco tinnunculus</i>	Meadow pipit <i>Anthus pratensis</i>	None
Survey 2 (mid to late October 2016)	Starling <i>Sturnus vulgaris</i> , Redwing <i>Turdus iliacus</i> , Grey wagtail <i>Motacilla cinerea</i>	Dunnock <i>Prunella modularis</i> , Redwing	None
Survey 3 (November 2016)	Redwing, Fieldfare <i>Turdus pilaris</i> , Meadow pipit	Redwing	Kestrel
Survey 4 (December 2016)	Meadow pipit, Redwing, Fieldfare, Dunnock, Mistle thrush <i>Turdus viscivorus</i>	Redwing, Bullfinch <i>Pyrrhula pyrrhula</i>	None
Survey 5 (January 2017)	Song thrush <i>Turdus philomelos</i> , Starling	None	Redwing
Survey 6 (February 2017)	None	None	Mistle thrush, Meadow pipit, Dunnock <sup>†</sup>
Survey 7 (March 2017)	Redwing	None	None <sup>†</sup>

\*Only Site 7b was surveyed in February and March 2017, Site 7a was not included during these surveys. <sup>†</sup> Surveyed from adjacent public right of way as no access granted.

- 4.1.5 There was no evidence that any of the three Sites surveyed regularly support significant over-wintering populations of Target Species, with mallard and black-headed gull the only species recorded within the potential works area of the Sites. The maximum number of any Target Species recorded within a Site was 18 mallard and 14 black-headed gulls in Sites 7a/ b in November 2016. In the Wider Site (outside the potential works area) the most notable bird records were 36 lapwing and approximately 30 black-headed gull using Sites 7a/ b and 65 black-headed gull using Site 19c.
- 4.1.6 During the November 2016 survey, Sites 7a/ b were partially flooded, and this attracted a small number of Target Species (mallard, black-headed gull, cormorant and lapwing; although only mallard and black-headed gull were present within the potential works area).



- 4.1.7 With the exception of black-headed gull (which will readily move between areas for feeding and loafing<sup>2</sup>), only small numbers of mallard were recorded in the potential works area of Sites 7a/ b (peak of 18). A flock of 36 lapwings was recorded in the wider Site 7a (outside the potential works area) during the November 2016 visit and these birds were approximately 200m north from the Site 7a red line boundary.
- 4.1.8 Within habitat adjacent to the Sites, small numbers of other Target Species recorded were red-breasted merganser and coot. These species were typically recorded using the River Derwent which flows past Sites 7a/ b and Site 19c.
- 4.1.9 Several Target Species were recorded flying overhead (close or over the Sites) and not landing within the Sites. These included small numbers of kingfisher, greylag goose and gulls (herring and lesser black-backed). It is likely that kingfisher is using the River Derwent for foraging where it was seen in flight, just outside Site 7a, in October 2016.
- 4.1.10 Secondary Species recorded using some of the Sites were the Amber listed meadow pipit, dunnoek, bullfinch and kestrel and Red listed starling, song thrush, redwing, fieldfare, mistle thrush and grey wagtail. Dunnock, starling, song thrush and bullfinch are also NERC S41 and LBAP species. The greatest species diversity with respect to Secondary species was recorded at Sites 7a/ b, with up to 5 of these species recorded within the Sites in December 2016.

## 5. Discussion

- 5.1.1 Sites 7a/ b, 10a and 19c were all surveyed as they were considered suitable for supporting wintering birds. All other Additional Sites were scoped out for wintering bird surveys, given the habitats present.
- 5.1.2 None of the Sites surveyed regularly supported significant numbers of Target Species between September 2016 and March 2017, with only relatively small numbers of mallard and black-headed gull opportunistically using Sites 7a/ b and Site 19c, where there are potential works. The most notable records within the Wider Sites (outside the potential works area) were 36 lapwings using Site 7a in November 2016 and 65 black-headed gulls using Site 19c in February 2017.
- 5.1.3 None of the surveyed Sites support over-wintering bird populations that would justify their classification as Local Wildlife Sites (LWS), following the Derbyshire Wildlife Site Selection Guidelines (2003). The relevant criteria for LWS selection are:
- Any site which regularly supports 0.5% or more of the total British non – breeding population of any native bird.
- 5.1.4 Non-breeding population values are taken from BTO (2016) and none of the wintering bird populations recorded within the Sites during these surveys reaches the 0.5% threshold.
- 5.1.5 Given the low number of over-wintering species recorded during the surveys, the low population counts obtained during the surveys and the limited size of suitable habitats present for over-wintering species within the Sites, none of them meet the main wintering bird criteria for selection as LWS.

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<sup>2</sup> The term “loafing” is usually applied to gulls and describes bird activity that is not indicative of breeding, feeding or any other clearly defined behaviour. Birds that are loafing are usually observed to be resting, preening or roosting.

## 6. Recommendations

- 6.1.1 Breeding bird surveys were recommended for all Sites that are still being considered for proposed works and these were carried out during the breeding bird season in 2017.

## 7. References

AECOM (2016) *A38 Derby Junctions Wintering Bird Survey Report* (47071319-URS-05-RP-EN-022).

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RSPB (2015) Birds of Conservation Concern 4. Available from [https://www.rspb.org.uk/Images/birdsofconservationconcern4\\_tcm9-410743.pdf](https://www.rspb.org.uk/Images/birdsofconservationconcern4_tcm9-410743.pdf) Accessed March 2016.

### Revisions

Version	Prepared by	Date	Reviewed by	Date	Approved by	Date
0D	Colin Bonnington	26.11.16	Richard Wardle	28.11.16	Kevin Webb	29.11.16
1A	Colin Bonnington	02.12.16	Marlene Segre Simon Wild	02.12.16	Mark Harthorn	02.12.16
2F	Colin Bonnington	09.12.16	Richard Wardle	12.12.16	Kevin Webb	16.12.16
3F	Colin Bonnington	02.11.17	Richard Wardle	03.11.17	Paul Benyon	17.1.18

**Version 0D**                      First draft

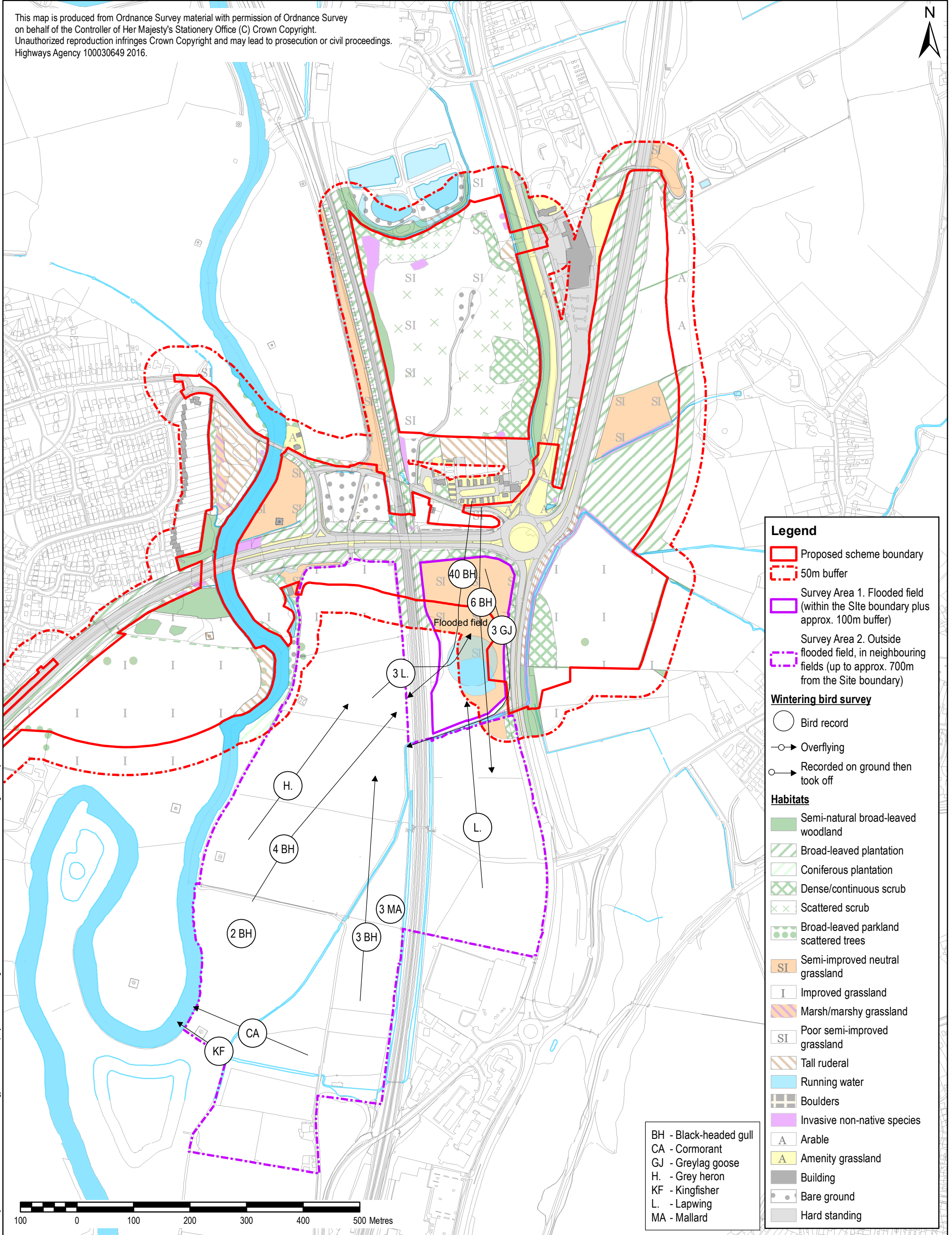
**Version 1A**                      Final for review

**Version 2F**                      Draft final with inclusion of December survey results

**Version 3F**                      Final with inclusion of January to March 2017 survey results and tailored only to those Sites scoped in to the next stage of assessment

## Appendix A – Figures

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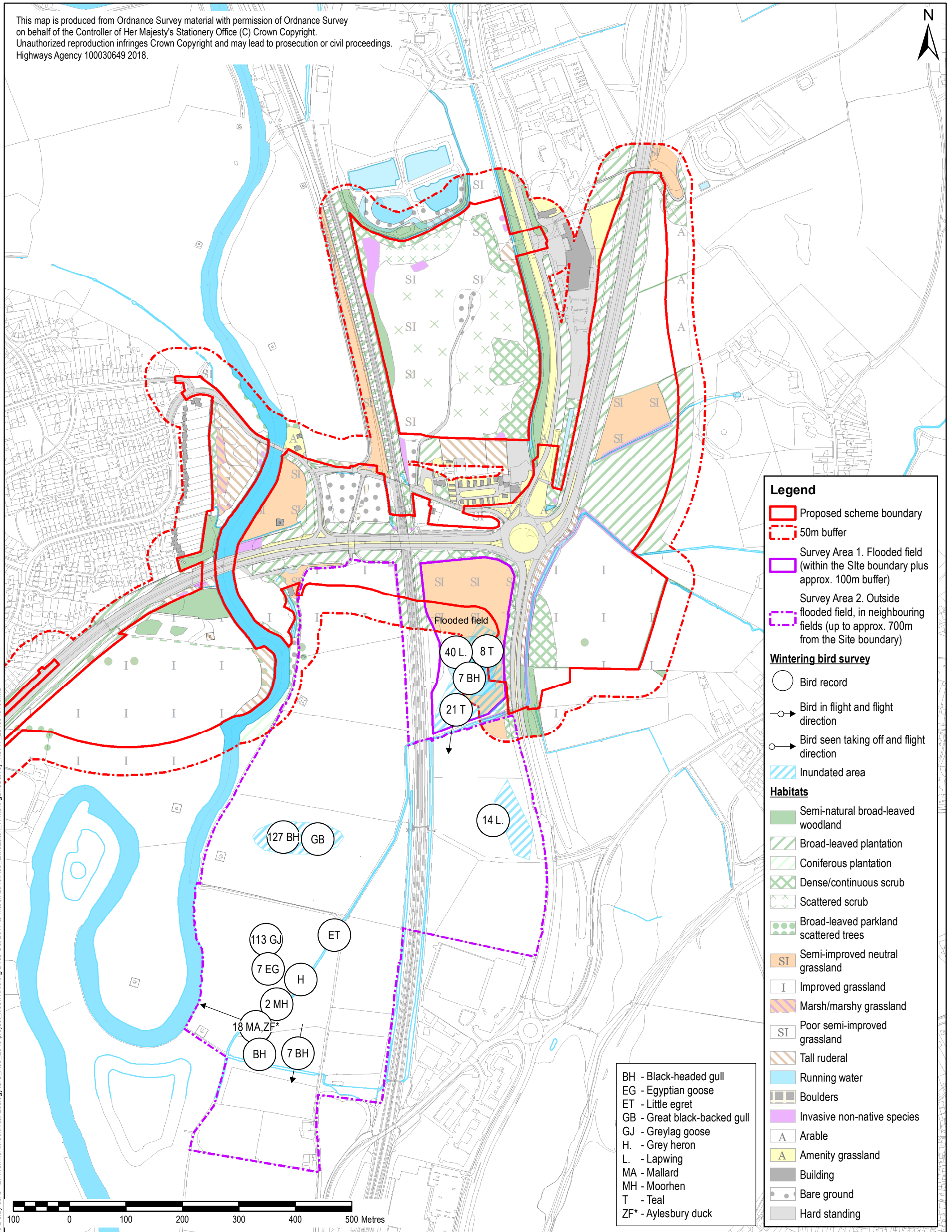


Project Title/Drawing Title		Project Number		A38 Derby Junctions Project Highways England, Floor 5 2 Colmore Square 38 Colmore Circus Birmingham B4 6BN	
A38 DERBY JUNCTIONS LITTLE EATON		60533462			
WINTERING BIRD TARGET SPECIES SURVEY OCTOBER 2017		Drawn CAA	Checked CC	Approved KW	
		Date 26/06/2018	Scale @ A3 1:6,000	Purpose of issue FINAL	
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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  
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FINAL

Drawing Number  
Figure 2

Rev  
1F

A38 Derby Junctions Project  
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2 Colmore Square  
38 Colmore Circus  
Birmingham  
B4 6BN



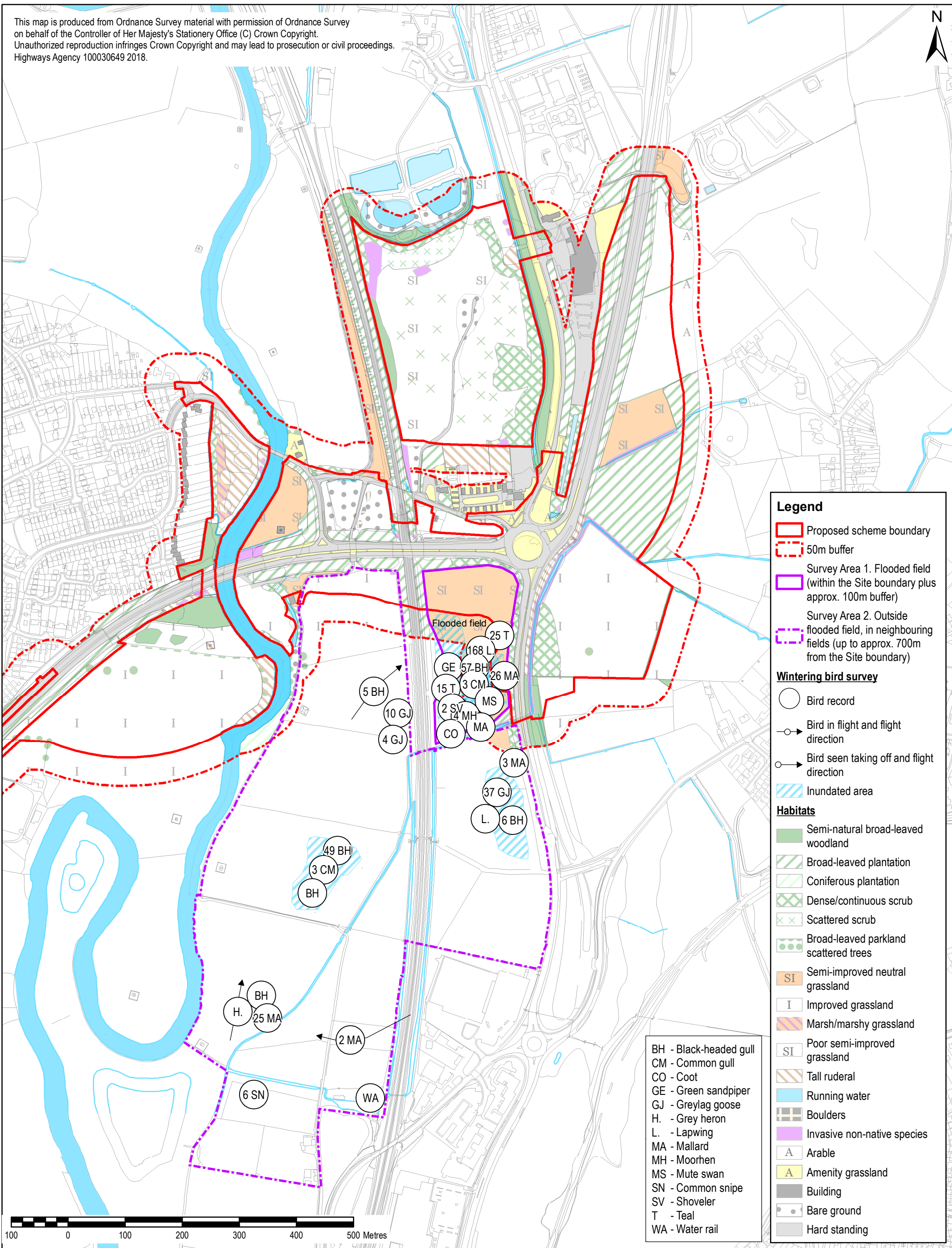
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**A38 DERBY JUNCTIONS  
LITTLE EATON  
WINTERING BIRD TARGET SPECIES SURVEY  
DECEMBER 2017**

Project Number  
60533462

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CC

Approved  
KW

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26/06/2018

Scale @ A3  
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Purpose of issue  
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Drawing Number  
Figure 3

Rev  
1F

Highways England  
Major projects  
Piccadilly Gate  
Store Street  
Manchester  
M1 2WD



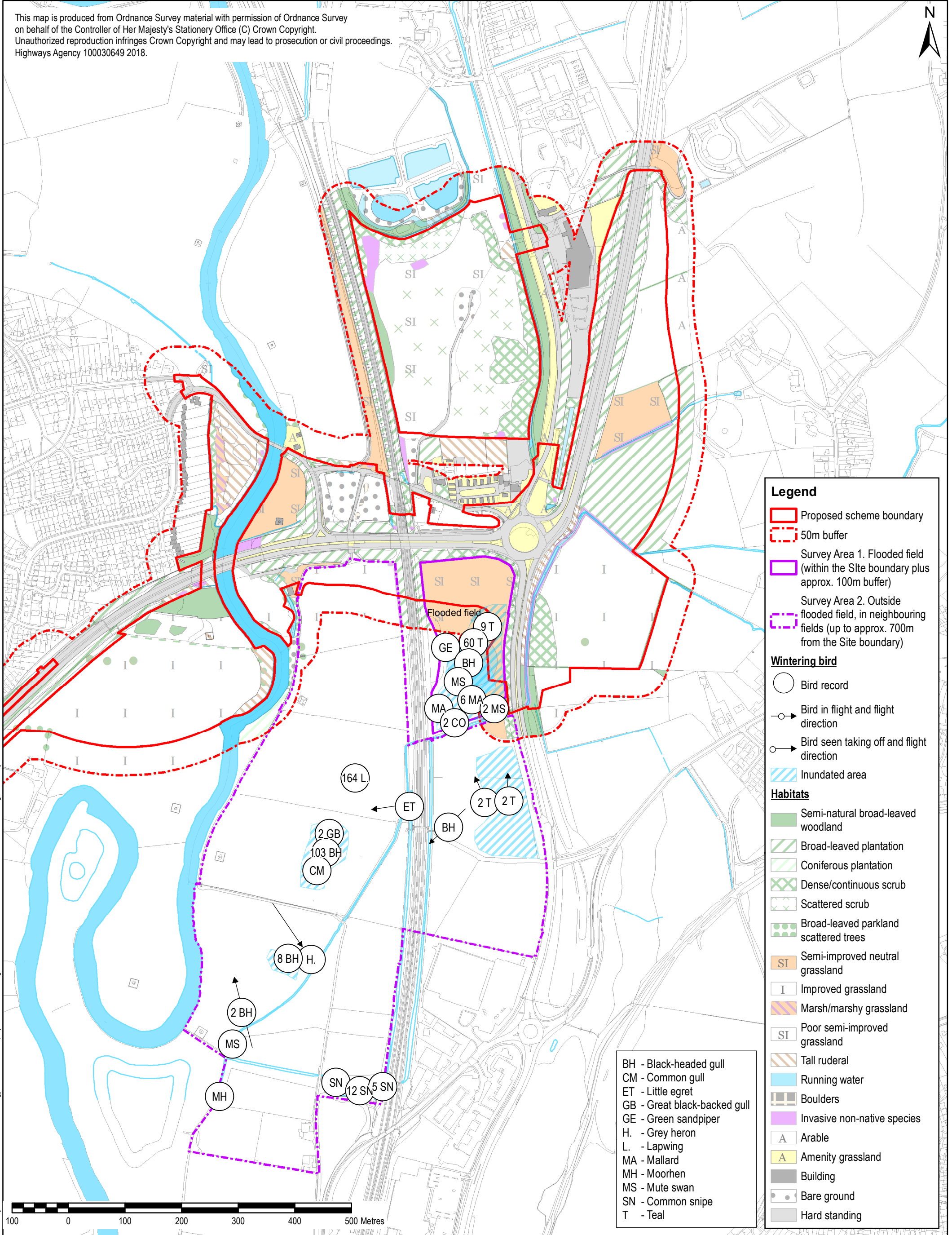
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**Legend**

- 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**

- 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
- ET - Little egret
- GB - Great black-backed gull
- GE - Green sandpiper
- H. - Grey heron
- L. - Lapwing
- MA - Mallard
- MH - Moorhen
- MS - Mute swan
- SN - Common snipe
- T - Teal

Project Title/Drawing Title  
**A38 DERBY JUNCTIONS  
LITTLE EATON  
WINTERING BIRD TARGET SPECIES SURVEY  
JANUARY 2018**

Project Number 60533462		
Drawn CAA	Checked CC	Approved KW
Date 26/06/2018	Scale @ A3 1:6,000	Purpose of issue FINAL
Drawing Number Figure 4		Rev 1F

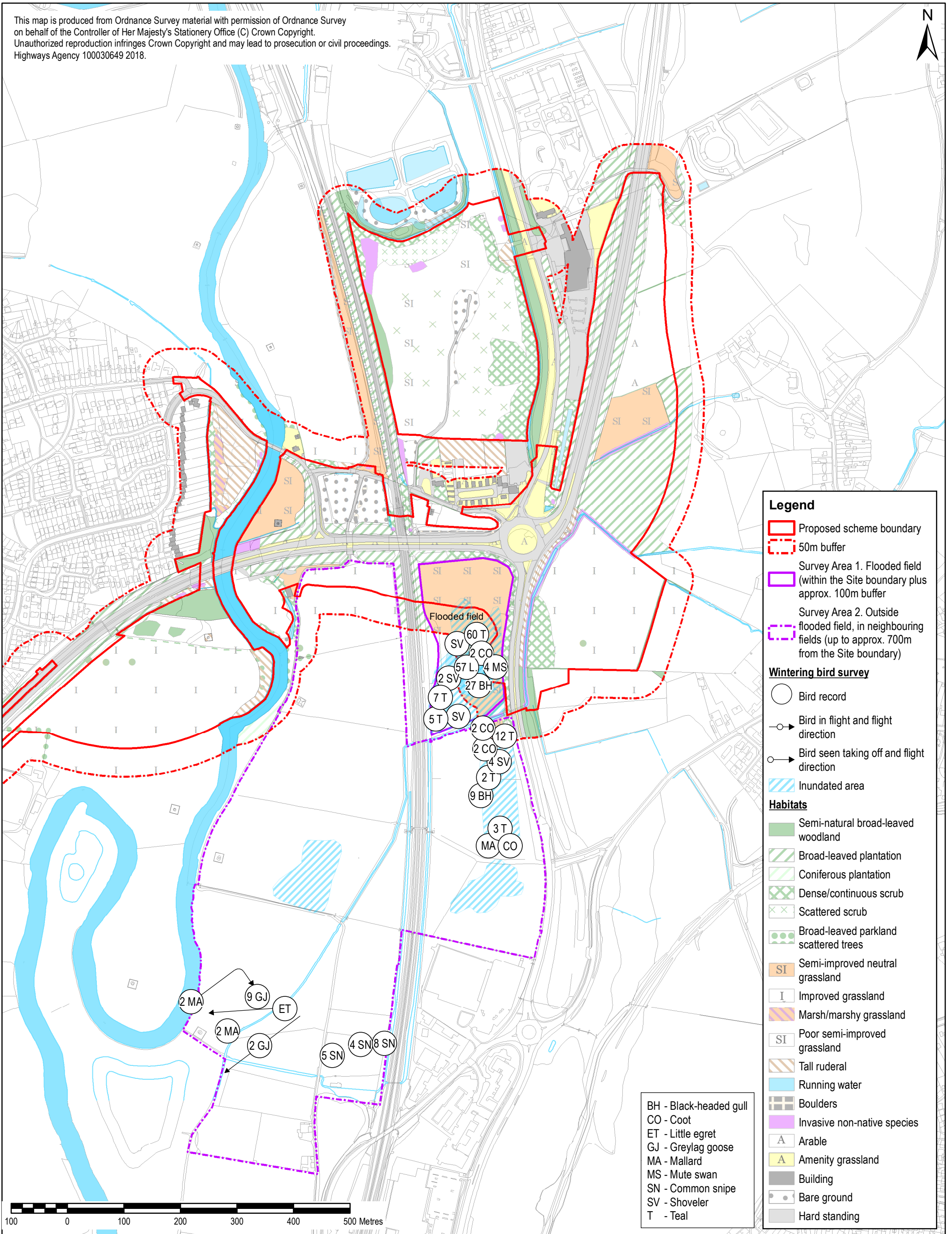
A38 Derby Junctions Project  
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#### Legend

- 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  
CO - Coot  
ET - Little egret  
GJ - Greylag goose  
MA - Mallard  
MS - Mute swan  
SN - Common snipe  
SV - Shoveler  
T - Teal

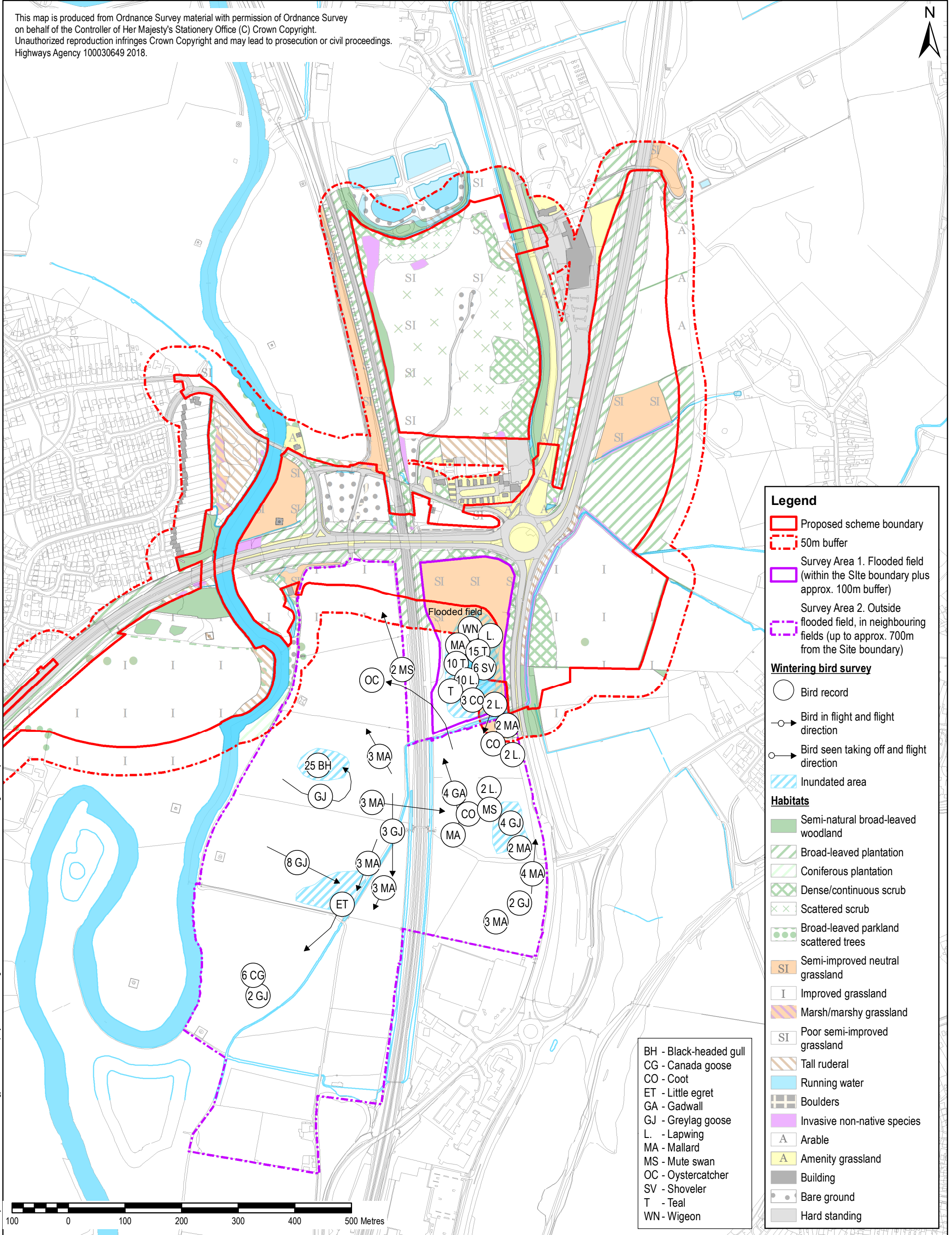
Project Title/Drawing Title		Project Number		A38 Derby Junctions Project Highways England, Floor 5 2 Colmore Square 38 Colmore Circus Birmingham B4 6BN	
A38 DERBY JUNCTIONS LITTLE EATON WINTERING BIRD TARGET SPECIES SURVEY FEBRUARY 2018		60533462			
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Date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

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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
- 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  
**A38 DERBY JUNCTIONS  
LITTLE EATON  
WINTERING BIRD TARGET SPECIES SURVEY  
MARCH 2018**

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

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## **Appendix B – Survey Details**

**Table B1 Survey Details between September 2016 and March 2017**

Survey Visit / Number	Date	Survey Times (24 hours)	Sunrise and Sunset (24 hours)	Weather Conditions
1	29.09.16	08:15 – 15:00	07:04 and 18:46	Partially sunny, 16°C, 30% cloud cover, moderate wind from west
	05.10.16 06.10.16	09:00 – 13:30 09:00 – 14:00	07:14 and 18:32 07:16 and 18:30	Partially sunny, 16°C, 60% cloud cover, light wind from east
	14.10.16 (Site 19c only)	10:00 – 11:30	07:30 and 18:11	Sunny, hazy, 13°C, 20% cloud cover, light wind from east
2	21.10.16	09:30 – 13:00	07:43 and 17:56	Partially sunny, 10°C, 25% cloud cover, calm
	31.10.16	07:30 – 14:00	07:02 and 16:36	Misty, 10°C, 100% cloud cover, light wind from north
3	15.11.16	12:30 – 15:15	07:29 and 16:10	Cloudy, 15°C, 100% cloud cover, moderate wind from west
	23.11.16	09:30 – 15:30	07:43 and 16:00	Cloudy, 7°C, 90% cloud cover, intermittent showers, light wind from east
4	07.12.16	09:00 – 12:30	08:04 and 15:50	Cloudy, 10°C, 90% cloud cover, moderate wind from south-west
	08.12.16	10:00 – 13:00	08:05 and 15:50	Partially sunny, 12°C, 75% cloud cover, light wind from south-west
5	23.01.17	08:00 – 12:40	08:02 and 16:34	Cloudy, 1°C, 90% cloud cover, calm
	24.01.17	09:40 – 13:45	08:00 and 16:35	Cloudy, 3°C, 90% cloud cover, calm
6	23.02.17	09:45 – 13:00	07:05 and 17:33	Cloudy, 8°C, 100% cloud cover, drizzle, moderate wind from west
7	16.03.17	09:00 – 11:20	06:17 and 18:12	Partially sunny, 10°C, 60% cloud cover, moderate wind from west