

**M42 Junction 6 Improvement  
Scheme Number TR010027  
Volume 6  
6.3 Environmental Statement  
Appendix 9.6 Breeding Bird Survey Report**

Regulation 5(2)(a)

Planning Act 2008

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

January 2019

Infrastructure Planning

Planning Act 2008

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

**M42 Junction 6 Improvement  
Development Consent Order 202[ ]**

---

**6.3 Environmental Statement  
Appendix 9.6 Breeding Bird Survey Report**

---

<b>Regulation Number</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010027
<b>Application Document Reference</b>	6.3
<b>Author</b>	M42 Junction 6 Improvement Project Team and Highways England

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

## Table of contents

Chapter	Pages
<b>1 Introduction</b>	<b>1</b>
<b>2 Methodology</b>	<b>1</b>
2.1 Desk study	1
2.2 Field surveys	2
2.3 Limitations	3
<b>3 Results</b>	<b>4</b>
3.1 Desk study	4
3.2 Field survey	5
3.3 Barn owl survey	7
3.4 Evaluation of the site for breeding birds	9
<b>4 References</b>	<b>11</b>
<b>Annex A: Legislation &amp; Policy</b>	<b>13</b>
<b>Annex B: Figures</b>	<b>15</b>
Table 1: Desk based study information	1
Table 2: Weather conditions and survey details during the surveys	2
Table 3: Relevant desk-based study results	4
Table 4: Results of breeding bird survey	5
Table 5: Desk study and anecdotal data for barn owls within and adjacent to the Site	7
Table 6: Features within site with potential to support nesting barn owl	8
Table 7: Number of territories of birds of conservation concern on Site	9

## Appendix 9.6 - Breeding Bird Survey Report

### 1 Introduction

- 1.1.1 The purpose of this appendix is to provide further detail contained within Chapter 9 Biodiversity of the Environmental Statement [TR010027/APP/6.1] on the breeding bird surveys and targeted barn owl (*Tyto alba*) survey that were carried out, within the Order Limits, as part of the M42 Junction 6 Improvement (the Scheme).
- 1.1.2 The aims of this breeding bird and targeted barn owl assessment were to:
- identify whether the habitats within the Order Limits support any specially protected species or species of particular conservation concern;
  - provide baseline information on the current status of the habitats within the Order Limits with respect to breeding birds; and
  - provide information into the potential for the Order Limits to support barn owl.
- 1.1.3 The report also details a preliminary assessment of the suitability of habitat features within the Winter Bird Study Area for barn owl (*Tyto alba*), which is a native Wildlife & Countryside Act 1981(as amended) Schedule 1 species.
- 1.1.4 Further details of the legislation related to birds, including Schedule 1 species, are provided in Annex A.
- 1.1.5 The survey results will inform an assessment of the potential ecological effects of the Scheme, and will also be taken into account when identifying requirements for ecological mitigation to be included in the Scheme design.

### 2 Methodology

#### 2.1 Desk study

- 2.1.1 The desk study carried out relating to breeding birds, and specifically to barn owl, is detailed in **Table 1**. Only records from the ten years preceding the desk study date (2017) are considered in this assessment.

**Table 1: Desk based study information**

Data source	Accessed/contacted	Data obtained
Warwickshire Biological Records Centre (WBRC)	October 2017	Bird records within approximately 5km of SP187823.
The Barn Owl Trust	October 2017	Barn owl records for hectad SP18 and SP28.



## 2.2 Field surveys

### Breeding bird survey

- 2.2.1 An amended Common Bird Census (CBC) methodology [REF 1, REF 2] was carried out. This involved three survey visits within the Order Limits (see **Figure 9.6A** and **9.6B** for a site map). Given the large extent of the Order Limits, multiple transects were walked. The timing of each transect was altered between surveys to ensure different parts of the Order Limits were visited at different times. The transect routes aimed to ensure that the entire Order Limits were visited within approximately 50m. Binoculars were used throughout to spot birds and to provide views of the habitats immediately surrounding the Order Limits.
- 2.2.2 All bird registrations were recorded onto base maps using standard British Trust for Ornithology (BTO) species codes and behaviour notations [REF 1] to map breeding and non-breeding. Bird territories within the Order Limits were determined using standard territory mapping techniques to identify and isolate areas within which birds displayed consistent breeding behaviours [REF 3]. The territory mapping method is based on the observation that many species during the breeding season are territorial. This is most marked in passerines where territories are often determined by conspicuous song, display and periodic disputes with neighbouring conspecifics. The expected outcome of this technique is that mapped registrations fall into clusters, approximately coinciding with territories.
- 2.2.3 Optimal times for breeding bird survey occur between dawn and mid-morning. During these times, breeding birds are more active and can be detected more reliably. 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 and also to avoid the possibility of bird activity being suppressed by inclement weather conditions.
- 2.2.4 A summary of the weather conditions and survey details during each survey is provided in **Table 2**. Wind speed was estimated using the Beaufort Scale.

**Table 2: Weather conditions and survey details during the surveys**

Survey number	Date(s)	Time (24hrs)	Weather conditions
1	17/04/2018	09:45 – 12:00	13°C, overcast, 100% cloud cover, wind south(4)
	18/04/2018	07:45 – 11:45	14°C, partially sunny, 50% cloud cover, wind south(2)
	19/04/2018	07:15 – 12:00	14°C, sunny, 25% cloud cover, wind south(1)
2	23/05/2018	06:18 – 11:48	11°C, overcast, 100% cloud cover, wind south-west(3)

Survey number	Date(s)	Time (24hrs)	Weather conditions
3	07/06/2018	05:34 – 09:39	14°C, cloudy, 75% cloud cover, calm
	08/06/2018	05:31 – 10:38	13°C, partially sunny, 50% cloud cover, calm

### Barn owl survey

- 2.2.5 Following standard methodology [REF 4, REF 5, REF 6] habitat features were assessed for their potential to support nesting barn owl within the Order Limits. All surveys were carried out by a licenced surveyor (licence number: CL29/00309). The assessment consisted of:
- Stage 1:** On-site Scoping Survey - to identify and record those features of the landscape which are broadly suited to barn owl; and
  - Stage 2:** Investigative Field Survey – to determine which of the features identified in the Stage 1 survey offer potential nest sites, roost sites and habitats for foraging and movement.
- 2.2.6 The Stage 1 survey was largely carried out during the wintering bird surveys (October 2017 – March 2019) within the Order Limits when the licensed barn owl ornithologist noted those habitats and potentially suitable habitat features for barn owl, which required further investigative (Stage 2) survey. For those parts which were not Stage 1 surveyed during the winter months (due to access restrictions), the Stage 1 and Stage 2 surveys were carried out concurrently.
- 2.2.7 The Stage 2 barn owl survey was carried out during and immediately after the first CBC survey visit on 17 - 19 April 2018.
- 2.2.8 During the Stage 2 survey habitat features, principally trees and buildings within the Order Limits were assessed for their potential to support barn owl (particularly for nesting). Following the standard methodology [REF 4] this included the presence of a suitably sized access cavity (diameter of at least 80mm). Any evidence of use by barn owl (pellets, splashings, feathers) was noted. Characteristics likely to reduce the suitability of the habitat feature for barn owls were also noted. These include the cavity being open to wind and rain, and occupation by corvids (particularly jackdaw (*Corvus monedula*)).

## 2.3 Limitations

- 2.3.1 Access was unavailable to some of the fields during the second and third surveys. In such cases the survey was carried out from adjacent public rights of way. Given that the visibility was typically good from these public routes, this is not considered to have adversely influenced the outcome of the surveys or the evaluation of the Order Limits for breeding birds.

## 3 Results

### 3.1 Desk study

- 3.1.1 The Warwickshire Biological Records Centre (WBRC) provided details of 13 species of conservation concern and specially protected species, considered relevant to the Order Limits and this assessment in terms of potential to nest on-site given habitats present and nesting requirements of the bird species (**Table 3**). Barn owl records were also returned from The Barn Owl Trust.

**Table 3: Relevant desk-based study results**

Species	Conservation status <sup>1</sup>
Barn owl ( <i>Tyto alba</i> )	W&CA: Green List
Bullfinch ( <i>Pyrrhula pyrrhula</i> )	NERC S41; Amber List
Dunnock ( <i>Prunella modularis</i> )	NERC S41; Amber List
Kestrel ( <i>Falco tinnunculus</i> )	Amber List
Linnet ( <i>Linaria cannabina</i> )	NERC S41; LBAP; Red List
Mallard ( <i>Anas platyrhynchos</i> )	Amber List
Meadow pipit ( <i>Anthus pratensis</i> )	Amber List
Mistle thrush ( <i>Turdus viscivorus</i> )	Red List
Red kite ( <i>Milvus milvus</i> )	Birds Dir; W&CA; Green List
Song thrush ( <i>Turdus philomelos</i> )	NERC S41; LBAP; Red List
Starling ( <i>Sturnus vulgaris</i> )	NERC S41; Red List
Stock dove ( <i>Columba oenas</i> )	Amber List
Willow warbler ( <i>Phylloscopus trochilus</i> )	Amber List

Abbreviation	Legislation/ Source	Meaning
Birds Dir	Annex 1 of the EC Directive on the Conservation of Wild Birds 2009 (2009/147/EC)	194 species and sub-species which are particularly threatened. Member states of the EU must designate Special Protection Areas (SPAs) for their survival and all migratory species
W&CA	Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)	Birds and their young, for which it is an offence to disturb intentionally or recklessly at, on or near an 'active' nest
NERC S41	Natural Environment and Rural Communities Act (2006)	Species "of principal importance for the purpose of conserving biodiversity" covered under section 41 (England) of the NERC Act (2006)
LBAP	Warwickshire, Coventry and Solihull Biodiversity Action Plan	Species that are incorporated within the Warwickshire, Coventry and Solihull Biodiversity Action Plan.
Red List	Birds of Conservation Concern (2015) Red List Species	Breeding population in severe decline (at least 50% decline in the last 25 years). The species on the Red List are of the most urgent conservation concern.
Amber List	Birds of Conservation Concern (2015) Amber List Species	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	Birds of Conservation Concern (2015) Green List Species	Low conservation priority.

## 3.2 Field survey

### Breeding bird survey

- 3.2.1 A total of 35 breeding bird species was recorded within the Order Limits during the surveys, consisting of six Red List, three Amber List and 26 Green List species. Ten bird species were recorded flying within the Order Limits only, and did not use habitats within the Order Limits. The results of the breeding bird surveys are presented in **Table 4**, and **Figures 9.6A** and **9.6B** show the approximate location of the territories of breeding birds within the Order Limits. In **Table 4**, the notable species breeding within the Order Limits (Amber and Red List) are highlighted in bold.
- 3.2.2 The survey indicates that the farmland in the southern part of the Order Limits between Shadow Brook Lane to the north, the M42 to the east, Solihull Road to the south and Catherine-de-Barnes Lane to the west supports two species (Red List skylark and yellowhammer) which are included as key features within the Farmland Bird LBAP for Warwickshire, Coventry and Solihull. In addition, the grassland fields immediately to the east of the M42, north of Solihull Road, supported breeding skylark. Many of the Amber and Red List species (bullfinch, dunnock, linnet, mistle thrush and song thrush) breeding within the Order Limits were associated with hedgerows and scrub.

**Table 4: Results of breeding bird survey**

Species common name	Species scientific name	Conservation status	Territory number within Site (peak number over-flying only)	Present outside of the Site (Y/N)*
Blackbird	<i>Turdus merula</i>	Green List	16 (2)	Y
Blackcap	<i>Sylvia atricapilla</i>	Green List	10	Y
Black-headed gull	<i>Chroicocephalus ridibundus</i>	Amber List	0 (9)	-
Blue tit	<i>Cyanistes caeruleus</i>	Green List	19	Y
<b>Bullfinch</b>	<b><i>Pyrrhula pyrrhula</i></b>	<b>NERC S41; Amber List</b>	<b>1 (1)</b>	<b>Y</b>
Carrion crow	<i>Corvus corone</i>	Green List	8 (22)	Y
Chaffinch	<i>Fringilla coelebs</i>	Green List	14 (2)	Y
Chiffchaff	<i>Phylloscopus collybita</i>	Green List	16	Y
Coal tit	<i>Parus ater</i>	Green List	1	Y
Collared dove	<i>Streptopelia decaocto</i>	Green List	1 (2)	Y
Common buzzard	<i>Buteo buteo</i>	Green List	0 (3)	-
Common whitethroat	<i>Sylvia communis</i>	Green List	15	Y
<b>Dunnock</b>	<b><i>Prunella modularis</i></b>	<b>NERC S41; Amber List</b>	<b>20 (1)</b>	<b>Y</b>
Feral pigeon	<i>Columba livia</i>	Not listed	0 (1)	-
Goldcrest	<i>Regulus regulus</i>	Green List	2	Y
Goldfinch	<i>Carduelis carduelis</i>	Green List	6 (16)	Y
Great spotted woodpecker	<i>Dendrocopos major</i>	Green List	2	Y
Great tit	<i>Parus major</i>	Green List	6 (1)	Y
Greenfinch	<i>Chloris chloris</i>	Green List	8 (1)	Y
Grey heron	<i>Ardea cinerea</i>	Green List	0 (1)	-

Species common name	Species scientific name	Conservation status	Territory number within Site (peak number over-flying only)	Present outside of the Site (Y/N)*
Herring gull	<i>Larus argentatus</i>	NERC S41; Red List	0 (3)	-
Jackdaw	<i>Corvus monedula</i>	Green List	7 (5)	Y
Jay	<i>Garrulus glandarius</i>	Green List	1	Y
Kestrel	<i>Falco tinnunculus</i>	Amber List	0 (1)	-
Lesser black-backed gull	<i>Larus fuscus</i>	Amber List	0 (11)	-
Lesser whitethroat	<i>Sylvia curruca</i>	Green List	4	Y
<b>Linnet</b>	<b><i>Linaria cannabina</i></b>	<b>NERC S41; LBAP; Red List</b>	<b>1</b>	<b>Y</b>
Long-tailed tit	<i>Aegithalos caudatus</i>	Green List	2 (1)	Y
Magpie	<i>Pica pica</i>	Green List	5 (2)	Y
<b>Mistle thrush</b>	<b><i>Turdus viscivorus</i></b>	<b>Red List</b>	<b>3</b>	<b>Y</b>
Nuthatch	<i>Sitta europaea</i>	Green List	1	Y
Pied wagtail	<i>Motacilla alba</i>	Green List	1	Y
Raven	<i>Corvus corax</i>	Green List	0 (1)	-
Robin	<i>Erithacus rubecula</i>	Green List	27	Y
<b>Skylark</b>	<b><i>Alauda arvensis</i></b>	<b>NERC S41; LBAP; Red List</b>	<b>7</b>	<b>Y</b>
<b>Song thrush</b>	<b><i>Turdus philomelos</i></b>	<b>NERC S41; LBAP; Red List</b>	<b>5 (1)</b>	<b>Y</b>
Sparrowhawk	<i>Accipiter nisus</i>	Green List	1	N
<b>Starling</b>	<b><i>Sturnus vulgaris</i></b>	<b>NERC S41; Red List</b>	<b>2 (1)</b>	<b>Y</b>
Swallow	<i>Hirundo rustica</i>	Green List	0 (3)	-
Swift	<i>Apus apus</i>	Amber List	0 (5)	-
Treecreeper	<i>Certhia familiaris</i>	Green List	1	Y
<b>Willow warbler</b>	<b><i>Phylloscopus trochilus</i></b>	<b>Amber List</b>	<b>3</b>	<b>Y</b>
Wood pigeon	<i>Columba palumbus</i>	Green List	12 (8)	Y
Wren	<i>Troglodytes troglodytes</i>	Green List	42	Y
<b>Yellowhammer</b>	<b><i>Emberiza citrinella</i></b>	<b>NERC S41; LBAP; Red List</b>	<b>3</b>	<b>Y</b>

\* This refers to those with breeding territories within the Red line boundary.

Abbreviation	Legislation/ Source	Meaning
NERC S41	Natural Environment and Rural Communities Act (2006)	Species "of principal importance for the purpose of conserving biodiversity" covered under section 41 (England) of the NERC Act (2006)
LBAP	Warwickshire, Coventry and Solihull Biodiversity Action Plan	Species that are incorporated within the Warwickshire, Coventry and Solihull Biodiversity Action Plan.
Red List	Birds of Conservation Concern (2015) Red List Species	Breeding population in severe decline (at least 50% decline in the last 25 years). The species on the Red List are of the most urgent conservation concern.
Amber List	Birds of Conservation Concern (2015) Amber List Species	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	Birds of Conservation Concern (2015) Green List Species	Low conservation priority.
Not listed	Not listed on the Birds of Conservation Concern (2015)	Non-native species.

### 3.3 Barn owl survey

- 3.3.1 A number of areas with the potential to support barn owl (potential roost, nest site, foraging habitat) were identified, during the Stage 1 surveys. **Table 5** provides a summary of anecdotal data (from desk study and by ecologists carrying out other wildlife surveys within site) for barn owls.
- 3.3.2 Eight features within the Order Limits were assessed as being potentially suitable for nesting barn owl (**Table 5**). Six areas of habitat (open fields of un-grazed, rough grassland) suitable for foraging barn owl were identified. **Figure 9.6C** shows the locations of these features, along with the desk study data and anecdotal evidence of barn owl within and adjacent to the Order Limits.
- 3.3.3 All records of barn owl (from the desk study and anecdotal records from other ecological surveys) were within, or next to, areas that were assessed as being optimal for foraging barn owl.
- 3.3.4 No evidence of barn owl was recorded in any of the identified features during Stage 2 surveys. However, observations of barn owl were noted within the Order Limits during other ecological surveys (**Table 5**). The closest observations to the Order Limits were an individual barn owl flushed from a tree near Features 3 & 5, and barn owls observed in a tree and in flight on the edge of Bickenhill Meadows Site of Special Scientific Interest (SSSI).

**Table 5: Desk study and anecdotal data for barn owls within and adjacent to the Site**

Location	Grid Reference	Date	Description
Castle Hills Farm	SP1741381662	12/06/2015	<p>Arisen from desk study. 1 dead individual found in nest box. Decomposed but suspected male juvenile from plumage</p> <p>Consultation with a land owner indicated barn storing hay bales has been used by nesting barn owl in recent years (including last year). The barn owls are reported to nest at the top of the hay bales, approximately 15 m high</p>
Coleshill	SP19738758	25/06/2014	Arisen from desk study. Individual observed flying over M42 from west to east
Patrick Bridge, Hampton-in-Arden	SP21518132	17/07/2014	Arisen from desk study. Individual observed flying from the direction of Patrick Farm Barns



Location	Grid Reference	Date	Description
Bickenhill	SP182820	03/10/2017	Arisen from bat transect survey. Individual observed in flight at edge of Bickenhill Meadows SSSI
Bickenhill	SP18268214	07/02/2018	Arisen during other site survey. Individual observed in tree before flying north-east from edge of Bickenhill Meadows SSSI
Hampton Lane Farm	SP186810	N/A	Arisen from prior ecological survey (no date for sighting given). Single barn owl flushed from tree
Solihull	SP1781	20/05/2014	Arisen from Barn Owl Trust. Nest site in hollow tree alongside farm access track
Hampton in Arden	SP2080	09/06/2014	Arisen from Barn Owl Trust. Tree hollow roost
Kenilworth Road	SP2180	22/03/2015	Arisen from Barn Owl Trust. Individual observed
Walford Hall Farm	SP 1880 582	N/A	Derelict farm buildings with potential to support barn owl

**Table 6: Features within site with potential to support nesting barn owl**

Feature number	Type of feature	Suitable feature for barn owl
1	16m tall oak ( <i>Quercus sp.</i> ) tree	North-east facing cavity (15 cm x 15 cm), 6 m high, downward pointing
2	16m tall ash ( <i>Fraxinus excelsior</i> ) tree	South facing cavity (30 cm x 10 cm), 2.2m high
3	15m tall ash tree	East facing cavity, 8m high, broken limb, upward pointing, ledge above, small branch in front that may obscure access
4	25m tall ash tree	South facing cavity (40 cm x 25 cm), 10m high
5	12m tall ash tree	East facing cavity, 3m high, downward pointing, ledge above cavity
6	A 12m tall metal farm barn in Hampton Lane Farm	Four large openings where barn owl could access. There may be ledges within the barn suitable for nesting
7	Derelict porta-cabins	Broken windows provide potential access for barn owls
8	16m tall oak tree	Cavity (60 cm x 50 cm), 4m high, appears upward pointing, but may have suitable interior for nesting barn owl
Barn owl box	Barn owl box	Box located at end of tree line

The heights provided are approximate

### 3.4 Evaluation of the site for breeding birds

#### Specially protected species

- 3.4.1 Anecdotal data (from desk study and by ecologists while carrying out other wildlife surveys within the Order Limits) confirms the presence of barn owl within the Order Limits, although no evidence of nesting has been found. There are features within the Order Limits which may support barn owl, including for nesting, although there are optimal features (farm barns) in the surrounding landscape, which are likely to be of greater value, and indeed anecdotal evidence suggests that nesting barn owl are present outside the Site, in the north.
- 3.4.2 No species on Annex 1 of the EU Birds Directive were recorded using the Order Limits during the survey.

#### Birds of conservation concern

- 3.4.3 Within the Order Limits six Red List and three Amber List species were recorded are considered to be breeding. These were the Red List linnet, mistle thrush (*Turdus viscivorus*), skylark, song thrush, starling (*Sturnus vulgaris*) and yellowhammer, and Amber List bullfinch (*Pyrrhula pyrrhula*), dunnock (*Prunella modularis*) and willow warbler (*Phylloscopus trochilus*). Species like skylark and yellowhammer were typically using farmland in the south of the Site, while bullfinch, dunnock, linnet, mistle thrush and song thrush were using hedgerows and scrub throughout the Site. **Table 7** provides the number of breeding territories within the Site of these species.

**Table 7: Number of territories of birds of conservation concern on Site**

Species common name	Species scientific name	Conservation status	Number of territories within Site
Bullfinch	<i>Pyrrhula pyrrhula</i>	NERC S41; Amber List	1
Dunnock	<i>Prunella modularis</i>	NERC S41; Amber List	20
Linnet	<i>Linaria cannabina</i>	NERC S41; LBAP; Red List	1
Mistle thrush	<i>Turdus viscivorus</i>	Red List	3
Skylark	<i>Alauda arvensis</i>	NERC S41; LBAP; Red List	7
Song thrush	<i>Turdus philomelos</i>	NERC S41; LBAP; Red List	5
Starling	<i>Sturnus vulgaris</i>	NERC S41; Red List	2
Willow warbler	<i>Phylloscopus trochilus</i>	Amber List	3
Yellowhammer	<i>Emberiza citrinella</i>	NERC S41; LBAP; Red List	3

- 3.4.4 Most of these Birds of Conservation Concern are also on the NERC S41 list, with the exception of mistle thrush and willow warbler. Furthermore, four species (linnet, skylark, song thrush and yellowhammer) are on the LBAP for Warwickshire, Coventry and Solihull. Song thrush has its own species action plan, and linnet, skylark and yellowhammer are part of the 'Farmland Birds' species action plan.



### Breeding bird assemblage

3.4.5 The number of species recorded in a given area or site is a simple measure of diversity that can indicate the site's importance or conservation value at each season of the year. Alternatively, in some cases the specific species present (e.g. those of the greatest conservation concern) may be the most important factor contributing to a site's conservation importance. Other factors that contribute to an area or site's importance include its size, geographical location and habitat diversity.

3.4.6 Fuller [REF 7] gives the following diversity criteria with respect to species number:

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

3.4.7 Based on Fuller's Criteria, the breeding bird assemblage of the Order Limits is of local importance (35 species). However, it should be also noted that Fuller's analysis was developed in the 1970s, since which time species diversity has declined significantly [REF 8]. As a result, Fuller's thresholds are too high for today's bird populations. However, with these changes in bird populations considered, along with consideration given to the number of species of conservation interest recorded, it is considered most likely that the breeding bird assemblage within the Order Limits is still of Local importance.

### Breeding bird abundance

3.4.8 In addition to evaluating a site based on its breeding bird assemblage, consideration should 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 within the Order Limits with the national and county breeding population for a given species. Any population that reaches 1% of the national population would be considered to be of national significance. National population estimates are published in [REF 9]. No breeding population within the Order Limits approaches 1% of the national population.

3.4.9 At regional level, criteria for the selection of local wildlife sites (LWSs) in Warwickshire, Coventry and Solihull are set out in the Habitat Biodiversity Audit (2015) The Green Book [REF 10]. Although specific selection criteria are not provided, as each assessment would be dependent on the individual site's own merit and attributes, the HBA does suggest the types of criteria needed for a site to warrant consideration for classification as a LWS. This includes having:

- significant colonial bird breeding sites, e.g. heronries, sand martin (*Riparia riparia*); and
- significant feeding, resting and roosting sites for passage birds.

3.4.10 Furthermore, the HBA states "*The presence of national and local BAP habitats and species will therefore be a consideration in site selection.*"

- 3.4.11 Although the Order Limits were not found to support such significant colonial bird breeding sites, nor does it provide significant feeding, resting and roosting sites for passage birds (see Appendix 9.7 [TR010027/APP/6.3]), there are seven NERC S41 bird species breeding within the Order Limits, and of these four are also LBAP species. It is thus recommended that consideration is given to these species in particular in terms of developing appropriate mitigation.
- 3.4.12 It is considered that barn owl are likely to make occasional use of the Order Limits, at least for foraging and using trees as hunting perches. Desk study data and anecdotal evidence suggest that the farmland in the north and, to a lesser extent, the south of the Order Limits is used by barn owl. There is further anecdotal evidence that barn owl nest outside the northern boundary of the Order Limits. There are also suitable features within the Order Limits for nesting barn owl, although no evidence of breeding has been observed during survey. Appropriate mitigation is needed to minimise the risk of impacts on barn owl arising from the Scheme, including measures to address the risk of collisions with vehicles during operation of the Scheme.

## 4 References

REF 1	Marchant (1983) Common Bird Census Instructions. BTO, Tring. 12pp.
REF 2	Bibby, C.J., Burgess, N.D. & Hill, D.A. (1992) Bird Census Techniques. Academic Press: London.
REF 3	Gilbert, G., Gibbons, D.W., and Evans, J. (1998). Bird Monitoring Methods—a manual of techniques for key UK species. RSPB, Sandy, UK.
REF 4	Shawyer, C, R. (2011) Barn owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Developing Best Practice in Survey and Reporting. IEEM, Winchester, UK
REF 5	Barn Owl Trust 2012
REF 6	Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. and Thompson, D. (2013) Raptors: a field guide to survey and monitoring (3rd Edition). The Stationery Office, Edinburgh.
REF 7	Fuller, R.J. (1980) A method of assessing the ornithological interest of sites for conservation. Biological Conservation 17: 229-239.
REF 8	Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. & Gregory, R. (2015) Birds of Conservation Concern 4: the Population Status of Birds in the UK, Channel Islands and Isle of Man. British Birds 108: 708-746.
REF 9	Musgrove, A., Aebischer, N., Eaton, M., Hearn, R., Newson, S., Noble, D., Parsons, M., Risely, K. and Stroud, D. (2013) Populations estimates of birds in Great Britain and the United Kingdom. British Birds 106: 64-100.
REF 10	Habitat Biodiversity Audit (2015) The Green Book. Guidance for the Selection of

	Local Wildlife Sites in Warwickshire, Coventry and Solihull. Local Wildlife Sites Project. Guidance Notes on Application of Site Selection Criteria. <a href="https://apps.warwickshire.gov.uk/api/documents/WCCC-863-559">https://apps.warwickshire.gov.uk/api/documents/WCCC-863-559</a> Accessed 6th July 2018.
--	---

## Annex A: Legislation & Policy

1. Key legislation for birds in the UK includes:
  - a) Wildlife and Countryside Act (W&CA) 1981 (as amended); and
  - b) Council Directive 79/409/EEC on the conservation of wild birds (the EC Birds Directive).
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. Article 4 of the Directive also provides for the designation of Special Protection 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 the Site and its immediate surroundings, and the fact that there are no European designated sites close to the Site, it is reasonable to assume that the Site and adjacent habitats do not support such notable populations of rare and vulnerable species.
3. Part 1 of the W&CA 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 W&CA it is an offence to:
  - a) kill, injure or take any wild bird intentionally;
  - b) take, damage or destroy the nest of any wild bird while that nest is in use or being built; and
  - c) take or destroy the egg(s) of any wild bird.
4. Schedule 1 of the W&CA lists a number of species (including barn owl) which, in addition to the provisions listed above, are protected by special penalties, including against disturbance when breeding.
5. The W&CA requires the prosecuting authority to prove that an offence was intentional, however the Countryside and Rights of Way (CROW) Act 2000 strengthens the provisions of the W&CA by introducing an additional offence of "reckless" disturbance, which means that ignorance of the presence of a protected species cannot be used as a reliable defence should a breach of the W&CA be committed. The Natural Environment and Rural Communities (NERC) Act 2006 strengthens the W&CA further with respect to the protection of the nests of certain birds listed on Schedule Z1A, even when they are not in use. The NERC Act also offers additional protection to birds released into the wild as part of a repopulation programme and provides minor amendments to the W&CA with respect to captive birds.
6. Through the National Planning Policy Framework (NPPF) and Section 40 of the NERC Act 2006 (NERC), local planning authorities also 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).

7. 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*'.
8. The Warwickshire, Coventry and Solihull Local Biodiversity Action Plan (LBAP) contains 52 plans (28 for vulnerable species and 24 for notable habitats). Bird species listed under the LBAP which have been identified as potentially breeding within habitats in the Site are barn owl, lapwing (*Vanellus vanellus*), song thrush (*Turdus philomelos*), and a farmland bird assemblage, including linnet (*Linaria cannabina*), reed bunting (*Emberiza schoeniclus*), skylark (*Alauda arvensis*) and yellowhammer (*Emberiza citrinella*).
9. Eaton *et al.* (2015) have 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.
10. Highways England, through the national 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 (HEBP) in 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 HEBP, to secure an ongoing annual reduction in the loss of net biodiversity due to its activities. The HEBP provides a general plan to protect and increase biodiversity.

## Annex B: Figures





NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.

LEGEND

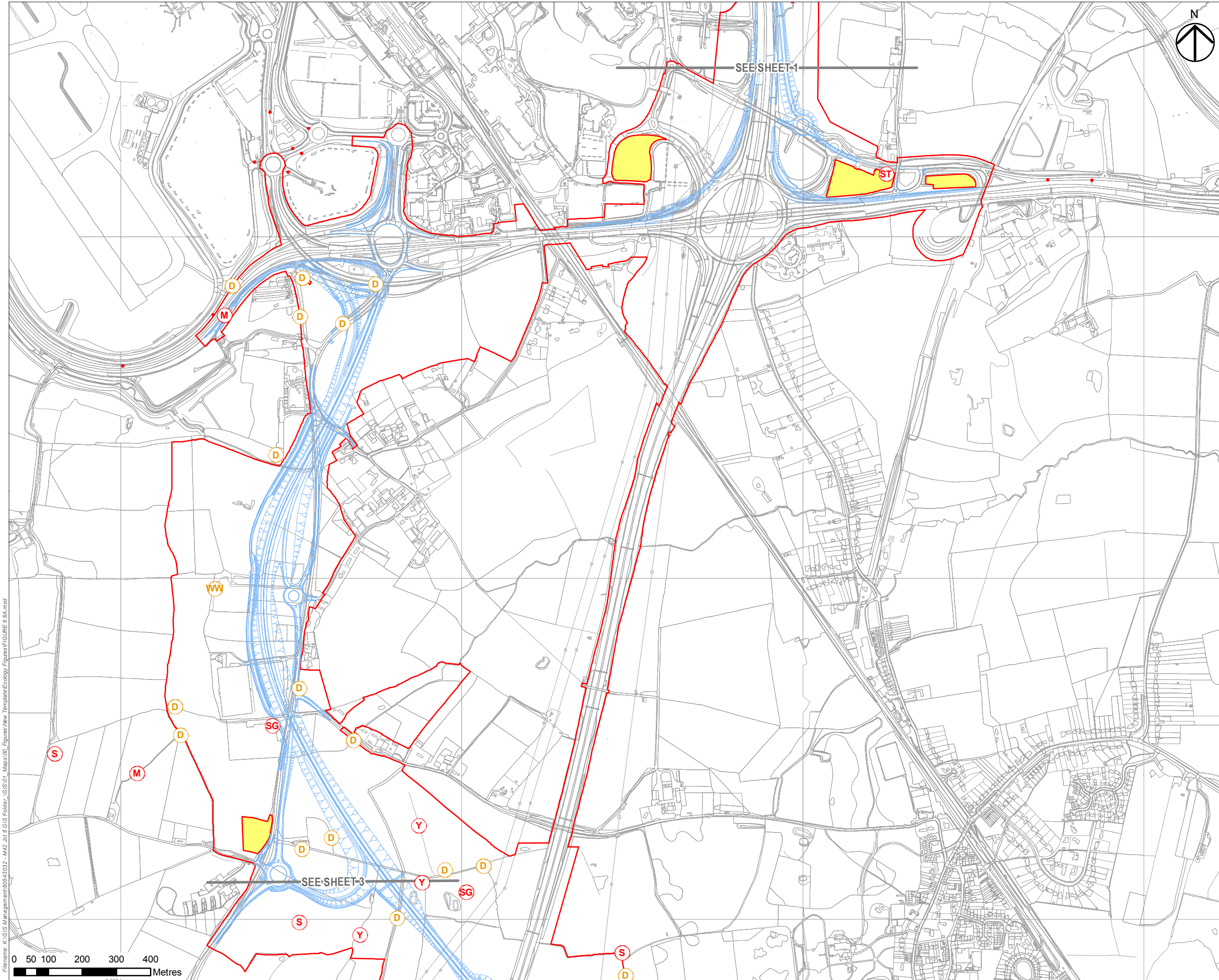
- THE SCHEME
- LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
- LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
- LAND NOT INCLUDED WITHIN THE ORDER LIMITS
- AMBER LIST BIRDS
- RED LIST BIRDS

BF BULLFINCH  
D DUNNOCK  
M MISTLE THRUSH  
S SKYLARK  
SG STARLING  
ST SONG THRUSH  
WW WILLOW WARBLER  
Y YELLOWHAMMER

KEY PLAN

FIRST ISSUE	GB	JG	13/12/18	P01
Revision Details	By	Check	Date	Suffix
Purpose of Issue				
DCO SUBMISSION				
Client Highways England Floor 5 Two Colmore Square 38 Colmore Circus B4 6BN				
Development Consent Order Number TR010027				
Project Title M42 JUNCTION 6 IMPROVEMENT				
Drawing Title FIGURE 9.6A APPROXIMATE TERRITORY LOCATIONS OF RED AND AMBER LIST SPECIES SHEET 1 OF 3				
Designed CB	Drawn GB	Checked MMW	Approved JG	Date 13/12/18
Internal Project No 60543032			Suitability D7	
Scale @ A3 1:10,000			Zone M42	
THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.				
Drawing Number Highways England Pin HE551485 -ACM -EGN- M42_SW_ZZ_ZZ -DR-DC-0154				Rev P01





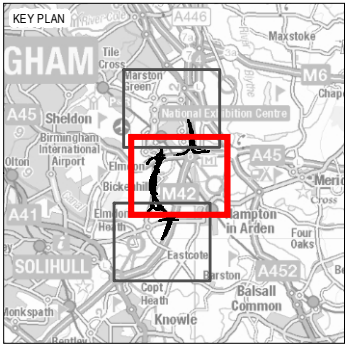
NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.

LEGEND

- THE SCHEME
- LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
- LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
- LAND NOT INCLUDED WITHIN THE ORDER LIMITS
- AMBER LIST BIRDS
- RED LIST BIRDS

BF BULLFINCH  
D DUNNOCK  
M MISTLE THRUSH  
S SKYLARK  
SG STARLING  
ST SONG THRUSH  
WW WILLOW WARBLER  
Y YELLOWHAMMER



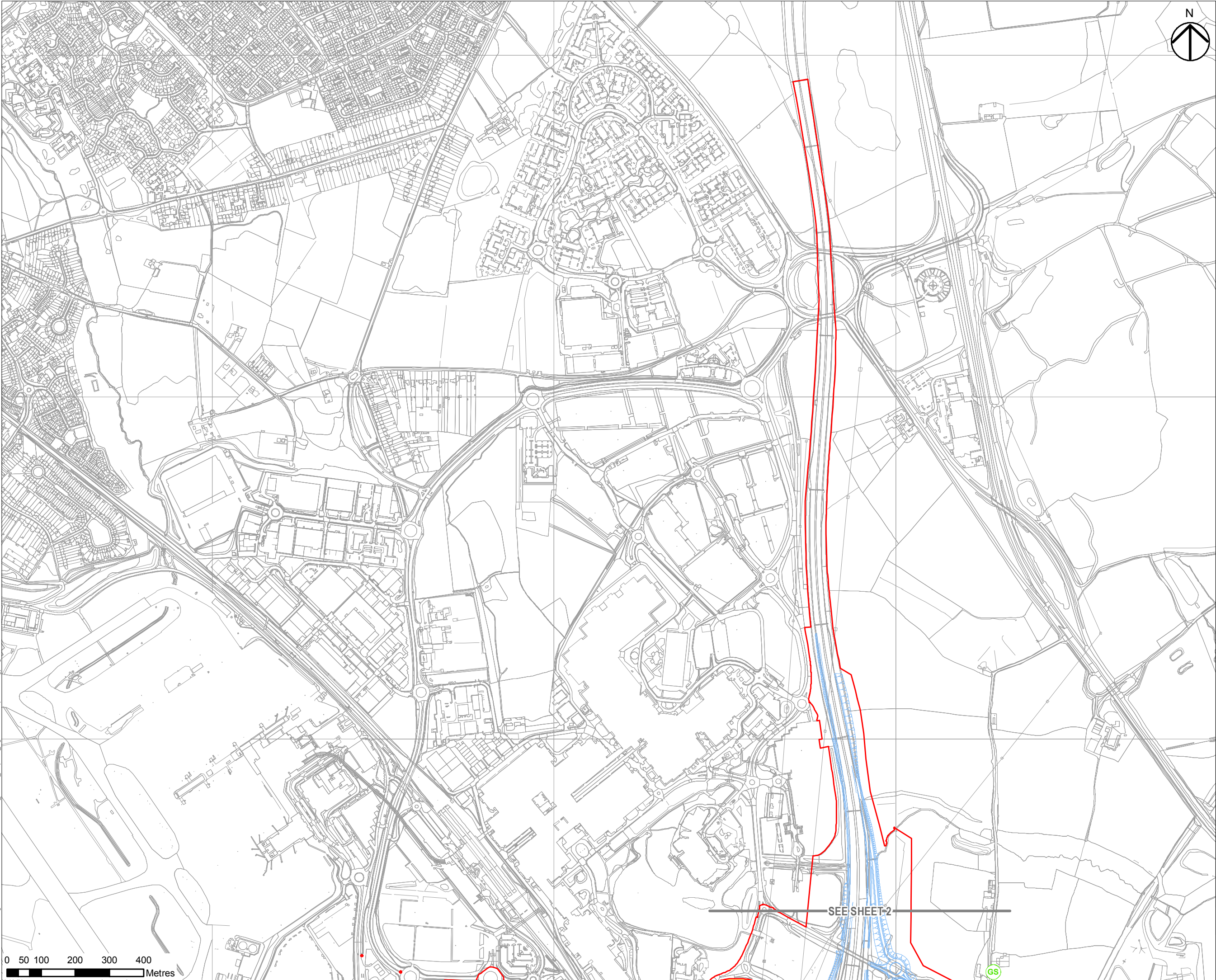
FIRST ISSUE		GB	JG	13/12/18	P01
Revision on Details		By	Check	Date	Suffix
Purpose of Issue					
DCO SUBMISSION					
Client					
Highways England					
Floor 5					
Two Colmore Square					
38 Colmore Circus					
B4 6BN					
Development Consent Order Number					
TR010027					
Project Title					
M42 JUNCTION 6					
IMPROVEMENT					
Drawing Title					
FIGURE 9.6A					
APPROXIMATE TERRITORY					
LOCATIONS OF RED AND					
AMBER LIST SPECIES					
SHEET 2 OF 3					
Designed CB	Drawn GB	Checked MWH	Approved JG	Date 13/12/18	
Internal Project No 60543032		Suitability D7			
Scale @ A3 1:10,000		Zone M42			
THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.					
Drawing Number HE551485 -ACM		Originator -EGN-		Rev P01	
Location M42_SW_ZZ_ZZ		Type   Role   Number -DR-DC-0155			

Filename: K:\GIS Management\60543032 - M42 Jct 6 GIS Folder\_GIS01\_Maps\02\_Figures\New Template\Ecology\_Figures\Figure 9.6A.mxd









NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.

LEGEND

- THE SCHEME
- LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
- LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
- LAND NOT INCLUDED WITHIN THE ORDER LIMITS

B. BLACKBIRD  
BC. BLACKCAP  
BT. BLUE TIT  
C. CARRION CROW  
CC. CHIFFCHAFF  
CD. COLLARED DOVE  
CH. CHAFFINCH  
CT. COAL TIT  
GC. GOLDCREST  
GO. GOLDFINCH  
GR. GREENFINCH  
GS. GREAT SPOTTED WOODPECKER  
GT. GREAT TIT  
H. GREY HERON  
J. JAY  
JD. JACKDRAW  
LT. LONG-TAILED TIT  
LW. LESSER WHITETHROAT  
MG. MAGPIE  
NH. NUTHATCH  
PW. PIED WAGTAIL  
R. ROBIN  
SK. SISKIN  
TC. TREECREEPER  
WH. WHITETHROAT  
WP. WOODPIGEON  
WR. WREN

KEY PLAN

FIRST ISSUE

GB	JG	13/12/18	P01
By	Check	Date	Suffix

Purpose of Issue

DCO SUBMISSION

Client

Highways England  
Floor 5  
Two Colmore Square  
38 Colmore Circus  
B4 6BN

Development Consent Order Number

TR010027

Project Title

M42 JUNCTION 6  
IMPROVEMENT

Drawing Title

FIGURE 9.6B  
APPROXIMATE TERRITORY  
LOCATIONS OF  
GREEN LIST SPECIES  
SHEET 1 OF 3

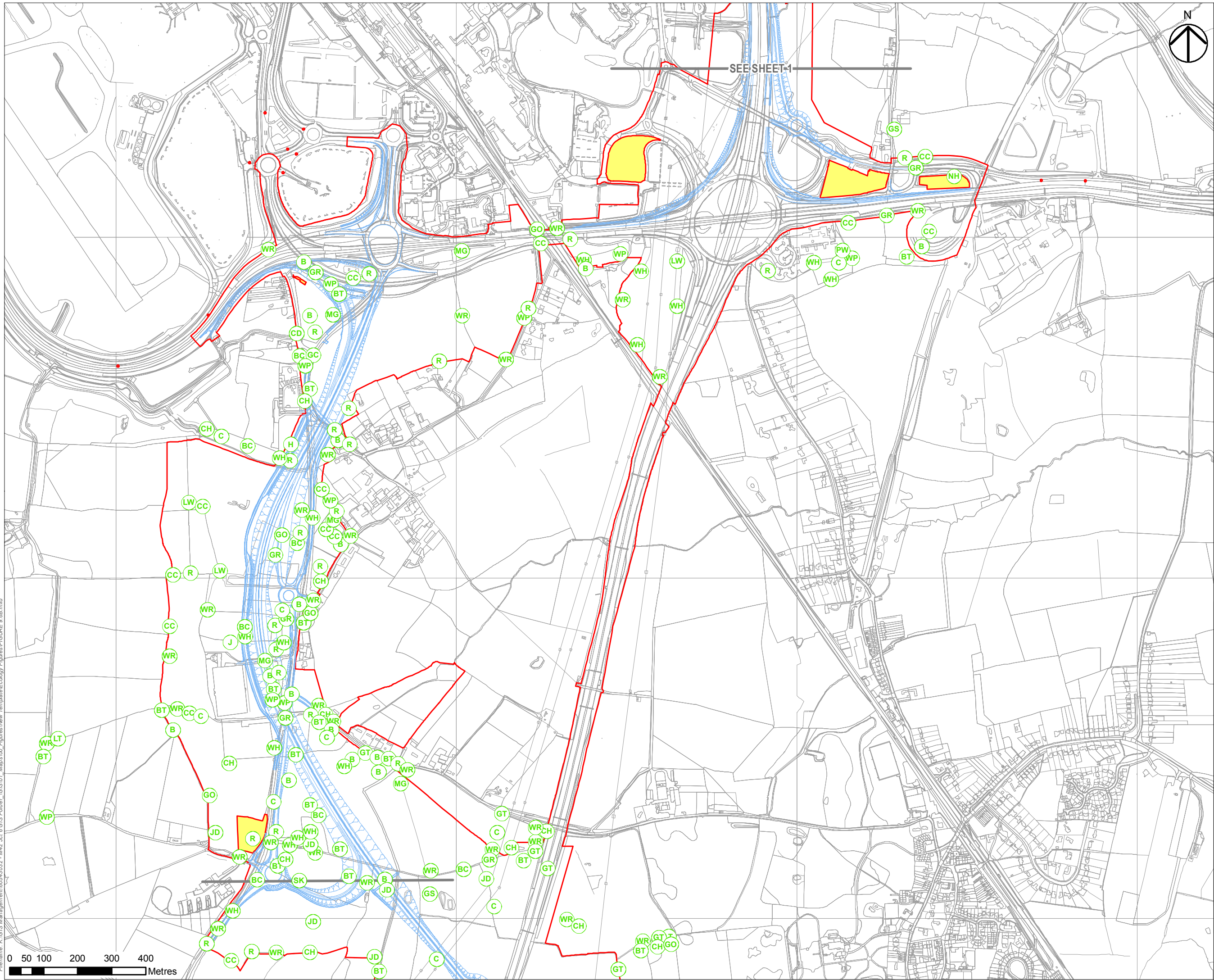
Designed CB	Drawn GB	Checked MW	Approved JG	Date 13/12/18
Internal Project No 60543032			Suitability D7	
Scale @ A3 1:10,000			Zone M42	

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

Drawing Number HE551485 -ACM	Originator -EGN-	Volume -DR-DC-0157	Rev P01
M42 SW ZZ ZZ			



Filename: K:\GIS Management\60543032 - M42 Jct 6 GIS Folder\_GIS01\_Maps\02\_Figures\New Template\Ecology\_Figures\Figure 9.6B.mxd



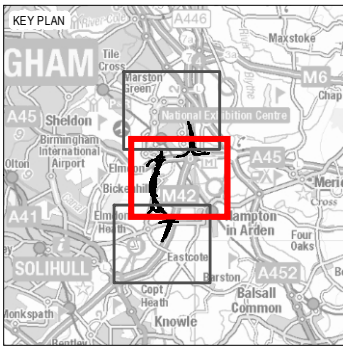
#### NOTES


THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.

#### LEGEND

- THE SCHEME
- LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
- LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
- LAND NOT INCLUDED WITHIN THE ORDER LIMITS

B. BLACKBIRD  
BC. BLACKCAP  
BT. BLUE TIT  
C. CARRION CROW  
CC. CHIFFCHAFF  
CD. COLLARED DOVE  
CH. CHAFFINCH  
CT. COAL TIT  
GC. GOLDCREST  
GO. GOLDFINCH  
GR. GREENFINCH  
GS. GREAT SPOTTED WOODPECKER  
GT. GREAT TIT  
H. GREY HERON  
J. JAY  
JD. JACKDRAW  
LT. LONG-TAILED TIT  
LW. LESSER WHITETHROAT  
MG. MAGPIE  
NH. NUTHATCH  
PW. PIED WAGTAIL  
R. ROBIN  
SK. SISKIN  
TC. TREECREEPER  
WH. WHITETHROAT  
WP. WOODPIGEON  
WR. WREN

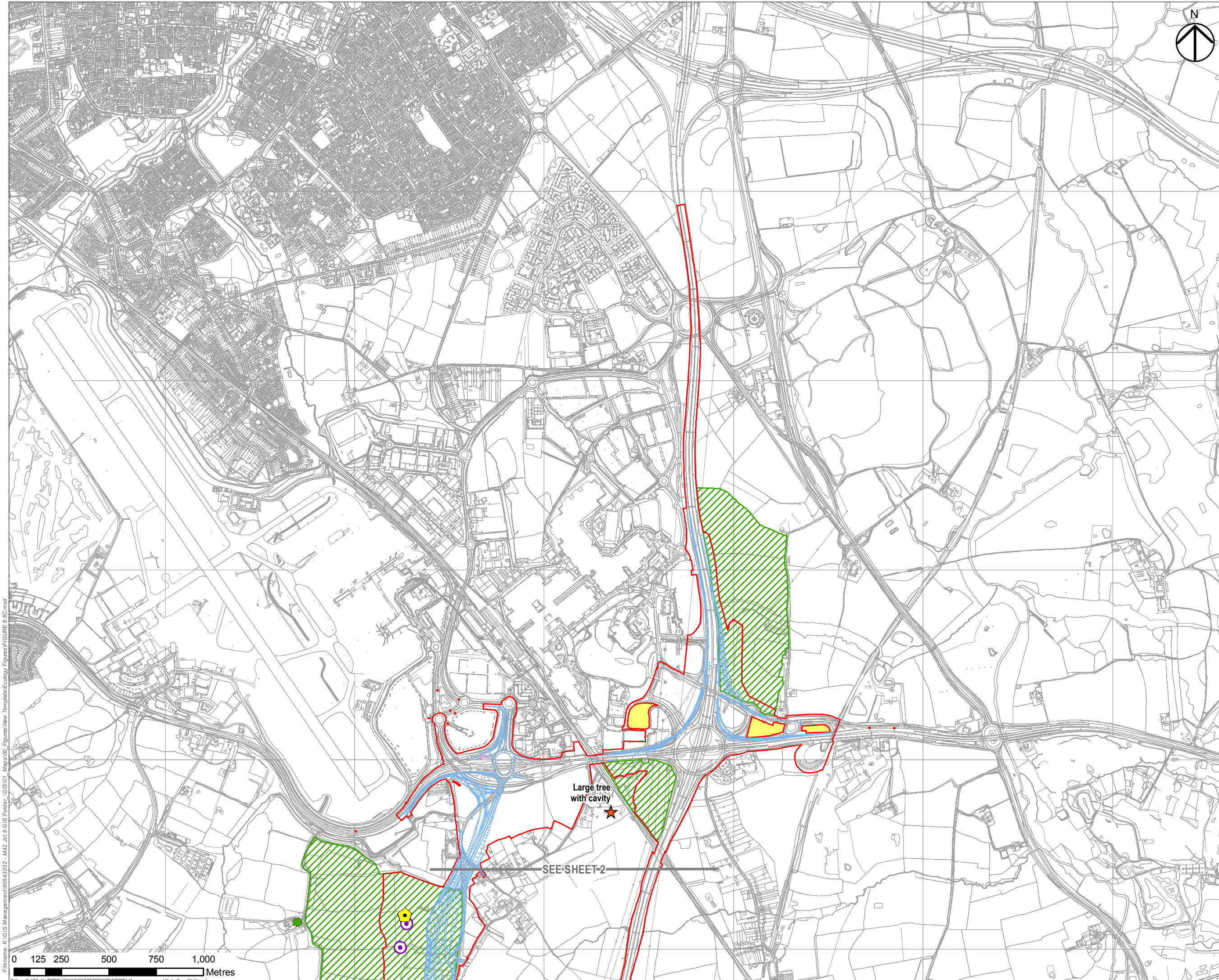


FIRST ISSUE		GB	JG	13/12/18	P01
Revision Details		By	Check	Date	Suffix
Purpose of Issue					
DCO SUBMISSION					
<div>Client</div> <div>Highways England</div> <div>Floor 5</div> <div>Two Colmore Square</div> <div>38 Colmore Circus</div> <div>B4 6BN</div> <div> <b>highways</b> england</div>					
Development Consent Order Number					
TR010027					
Project Title					
M42 JUNCTION 6 IMPROVEMENT					
Drawing Title					
FIGURE 9.6B APPROXIMATE TERRITORY LOCATIONS OF GREEN LIST SPECIES SHEET 2 OF 3					
Designed CB	Drawn GB	Checked MWH	Approved JG	Date 13/12/18	
Internal Project No 60543032			Suitability D7		
Scale @ A3 1:10,000			Zone M42		
THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.					
Drawing Number HE551485 -ACM		Originator -EGN-		Rev P01	
Location M42_SW_ZZ_ZZ		Type   Role   Number -DR-DC-0158			

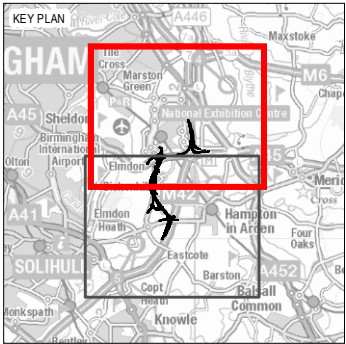








- NOTES
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.
- LEGEND
- THE SCHEME
  - LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
  - LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
  - LAND NOT INCLUDED WITHIN THE ORDER LIMITS
  - OPTIMAL BARN OWL FORAGING HABITAT
  - BARN OWL HABITAT FEATURE
  - BARN OWL SIGHTING
  - BARN OWL NEST SITE (APPROX LOCATION)
  - CONFIRMED BARN OWL ROOST
  - BARN OWL ROOST POTENTIAL



FIRST ISSUE	GB	JG	13/12/18	P01
Revision Details	By	Check	Date	Suffix

Purpose of Issue

DCO SUBMISSION

Client

Highways England

Floor 5

Two Colmore Square

38 Colmore Circus

B4 6BN



Development Consent Order Number

TR010027

Project Title

M42 JUNCTION 6 IMPROVEMENT

Drawing Title

FIGURE 9.6C

BARN OWL RECORDS

SHEET 1 OF 2

Designed	Drawn	Checked	Approved	Date
CB	GB	MWH	JG	13/12/18
Internal Project No	Suitability			
60543032	D7			
Scale @ A3	Zone			
1:18,000	M42			

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

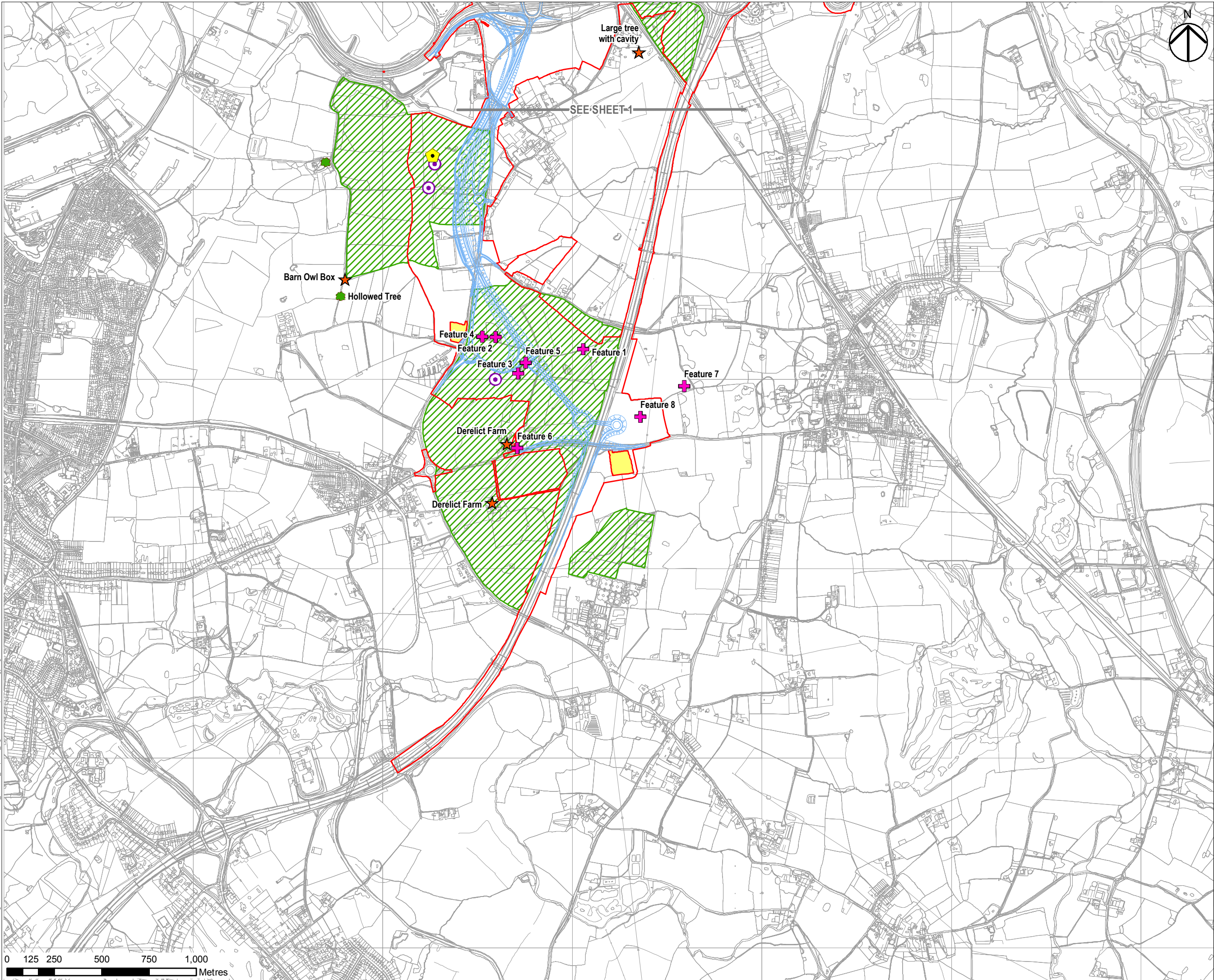
Drawing Number	Highways England Pin	Originator	Volume	Rev
HE551485	-ACM	-EGN-		P01
M42_SW_ZZ_ZZ	-DR-DC-0180			
Location	Type	Role	Number	

Filename: K:\GIS Management\60543032 - M42 Jct 6 GIS Folder - GIS01 - Maps\00\_Egures\New Template\Ecology\_Figures\FIGURE 9.6C.mxd

This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Highways England 100030649 2018



Filename: K:\GIS Management\60543032 - M42 Jct 6 GIS Folder - GIS\01 - Maps\01 - Figures\New Template\Ecology Figures\Figure 9.6C.mxd

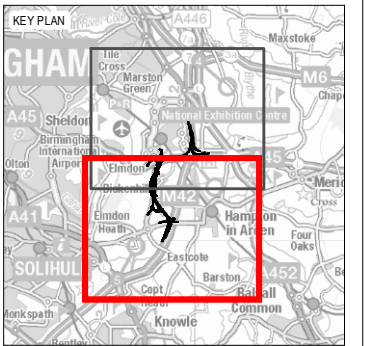


#### NOTES

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION.

#### LEGEND

- THE SCHEME
- LIMITS OF LAND TO BE ACQUIRED OR USED PERMANENTLY OR TEMPORARILY (THE ORDER LIMITS)
- LIMITS OF LAND TO BE TEMPORARILY ACQUIRED FOR SIGNAGE INSTALLATION
- LAND NOT INCLUDED WITHIN THE ORDER LIMITS
- OPTIMAL BARN OWL FORAGING HABITAT
- BARN OWL HABITAT FEATURE
- BARN OWL SIGHTING
- BARN OWL NEST SITE (APPROX LOCATION)
- CONFIRMED BARN OWL ROOST
- BARN OWL ROOST POTENTIAL



FIRST ISSUE		GB	JG	13/12/18	P01
Revision on Details		By	Check	Date	Suffix
Purpose of Issue					
DCO SUBMISSION					
Client Highways England Floor 5 Two Colmore Square 38 Colmore Circus B4 6BN					
Development Consent Order Number					
TR010027					
Project Title					
M42 JUNCTION 6 IMPROVEMENT					
Drawing Title					
FIGURE 9.6C BARN OWL RECORDS SHEET 2 OF 2					
Designed CB	Drawn GB	Checked MWH	Approved JG	Date 13/12/18	
Internal Project No 60543032		Suitability D7			
Scale @ A3 1:18,000		Zone M42			
THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.					
Drawing Number HE551485		Originator -ACM	Volume -EGN-	Rev P01	
Location M42_SW_ZZ_ZZ		-DR-DC-0181			
		Type	Role	Number	