

# **M60/M62/M66 Simister Island Interchange**

**TR010064**

## **ENVIRONMENTAL STATEMENT APPENDICES**

### **APPENDIX 8.10 REPTILE SURVEY REPORT**

APFP Regulation 5(2)(a)

Planning Act 2008

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

Infrastructure Planning

Planning Act 2008

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

**M60/M62/M66 Simister Island Interchange  
Development Consent Order 202[ ]**

---

**ENVIRONMENTAL STATEMENT APPENDICES  
APPENDIX 8.10 REPTILE SURVEY REPORT**

---

<b>Regulation Reference</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010064
<b>Application Document Reference</b>	TR010064/APP/6.3
<b>Author</b>	M60/M62/M66 Simister Island Interchange Costain Jacobs Partnership Project Team & National Highways

<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
P01	April 2024	FOR DCO APPLICATION

## CONTENTS

<b>Appendix 8.10 Reptile survey report .....</b>	<b>iii</b>
<b>Executive summary .....</b>	<b>iii</b>
<b>1 Introduction .....</b>	<b>1</b>
1.1 Purpose of this report.....	1
1.2 Definitions .....	1
1.3 Legislative and regulatory context .....	1
<b>2 Methodology .....</b>	<b>3</b>
2.1 Desk study .....	3
2.2 Field survey.....	3
2.3 Evaluation of importance of ecological resource .....	5
2.4 Survey limitations.....	5
<b>3 Results .....</b>	<b>7</b>
3.1 Desk study .....	7
3.2 Field survey results .....	7
<b>4 Evaluation .....</b>	<b>11</b>
<b>Acronyms and initialisms .....</b>	<b>12</b>
<b>References .....</b>	<b>12</b>
<b>Annex A Figures .....</b>	<b>13</b>

## LIST OF TABLES

Table 2.1 Survey limitations.....	5
Table 3.1 Records of reptile species - GMEU .....	7
Table 3.2 Reptile habitat suitability .....	8
Table 3.3 Reptile presence/absence survey results .....	9

## Appendix 8.10 Reptile survey report

### Executive summary

This technical report represents the findings of the survey undertaken to establish the presence/likely absence of reptiles within the survey area for the M60/M62/M66 Simister Island Interchange (the 'Scheme').

This report provides a summary of ecological information obtained from a desk study and the field surveys that were undertaken between May and September 2021. All reptile surveys were undertaken with reference to the methodology detailed in the Froglife Advice Sheet 10: Reptile Survey (Froglife, 1999).

The desk study identified single records of common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*.

A habitat suitability assessment of the survey area identified two areas of suitable reptile habitat within the survey area.

Reptile surveys were undertaken in suitable weather conditions between May and September 2021. No presence of reptiles was recorded in the survey area during the surveys.

Given that no reptiles were found during the field surveys and only two records of common reptile species were identified in the desk study, reptiles have, as a precaution, been assumed as present and of **Local importance** in the study area.

# 1 Introduction

## 1.1 Purpose of this report

- 1.1.1 The purpose of this report is to present baseline information in relation to reptiles. This includes desk study information and data from field surveys undertaken between May and September 2021. The information presented has informed Chapter 8: Biodiversity of the Environmental Statement (TR010064/APP/6.1).
- 1.1.2 This report is supported by Figure 8.10.1: Reptile Survey Results in Annex A.

## 1.2 Definitions

- 1.2.1 The study area relates to a 2km buffer around the provisional Order Limits available at time of study.
- 1.2.2 The field survey area refers to a 100m buffer around the provisional Order Limits available at the time of study.
- 1.2.3 The provisional Order Limits at time of survey is discussed and presented in detail in the Environmental Scoping Report (TR010064/APP/6.6). The provisional Order Limits are largely concurrent with the Order Limits and any substantial deviations are included within the wider study area and captured within the overall baseline.

## 1.3 Legislative and regulatory context

- 1.3.1 An assessment of the relevant legislative and regulatory framework covering reptiles in the UK has been undertaken. Due consideration has been given to the following statutory instruments and policy frameworks in the preparation of this report:
- Conservation of Habitats and Species Regulations 2017 (as amended)
  - Wildlife and Countryside Act 1981 (as amended)
  - The Natural Environment and Rural Communities Act 2006.
- 1.3.2 The UK supports four species of common widespread reptile species which are found throughout a number of habitat types such as: rough grassland, scrub, woodland edge and habitats associated with roadside verges. These species are: common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, grass snake *Natrix natrix* and adder *Vipera berus*.
- 1.3.3 All common reptile species receive partial legal protection in England and Wales, arising from the legislation listed in this section. Common reptile species are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This protection makes it an offence to intentionally kill or injure these species.

- 1.3.4 The more threatened rarer species, sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* are fully protected in the UK under the combined measures of the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). Greater Manchester is beyond the known range of smooth snake and sand lizard in the UK, which are highly restricted. Therefore, smooth snake and sand lizard will not be considered further in this report.
- 1.3.5 All six reptile species are listed as Species of Principal Importance (SoPI) under the Natural Environment and Rural Communities Act (2006).
- 1.3.6 No species of reptile are listed as a priority species on the Greater Manchester Local Biodiversity Action Plan (LBAP) (Greater Manchester Biodiversity Project, 2009).

## 2 Methodology

### 2.1 Desk study

2.1.1 A search of online resources was undertaken to obtain ecological information about the study area. The desktop study data refers to a 2km buffer around the provisional Order Limits. The distances given in Chapter 3 (Results) refer to the Order Limits.

2.1.2 The following information resources were reviewed:

- Multi-Agency Geographic Information for the Countryside (MAGIC) (Defra, 2022)
- Greater Manchester Biodiversity Action Plan (Greater Manchester Biodiversity Project, 2009)
- Species record data received from the Greater Manchester Ecology Unit (GMEU) in April 2021
- Ordnance Survey (OS) maps and aerial photographs were studied to identify suitable reptile habitats within the study area before habitat survey information was compiled.

2.1.3 Species record data was requested from GMEU for the previous ten years, records more than 10 years old (i.e. 2011 or earlier) were considered to be historical and discarded from the analysis.

### 2.2 Field survey

2.2.1 The objectives of the field surveys for reptiles were to:

- Assess the survey area for reptile habitat suitability
- Identify likely presence/absence of reptiles within the survey area
- Establish a baseline to determine the importance of the survey area for reptiles
- Provide sufficient field data for the development of an appropriate mitigation strategy, if required.

#### Habitat suitability

2.2.2 A qualitative assessment of the suitability of the habitats to support reptile populations within 100m of the provisional Order Limits was undertaken. Habitats that appeared suitable for reptiles (i.e. rank tussocky grassland, riparian margins and woodland rides etc.) and were not subject to extensive levels of grazing were assessed against the reptile suitability using factors outlined in the Reptile Habitat Management Handbook (Edgar *et al.*, 2010), summarised below:

- Vegetation structure (and vegetation type)

- Extent (small habitat patches or larger suitable areas)
- Aspect (south facing or not)
- Connectivity with other suitable reptile habitats
- Presence of suitable basking sites
- Shade
- Likelihood of predation and disturbance.

2.2.3 These factors were identified using a number of sources such as aerial imagery and the Stage 2 Environmental Assessment Report (Highways England, 2018) and later confirmed with habitat survey information (Appendix 8.1: UK Habitat Classification Report of the Environmental Statement Appendices (TR010064/APP/6.3)).

2.2.4 Based on a qualitative assessment of the criteria above, habitats were classified in three different categories regarding their suitability to support reptiles. Categories comprised:

- Negligible suitability
- Low suitability
- Moderate suitability
- High suitability.

### **Presence/absence survey**

2.2.5 Reptile presence/absence surveys were undertaken with reference to good practice survey techniques guidance for reptiles (Froglife, 1999) between May and September 2021 by experienced ecologists. It should be noted that deviations from exact timings and survey period from those quoted in guidance were required to ensure surveys were undertaken in suitable climatic conditions for basking reptiles. This potential limitation is addressed in Section 2.4.

2.2.6 Two areas of habitat suitable for reptiles were identified within the survey area. Presence/absence surveys were conducted in these areas (see Table 2.1), which involved placing 0.5m x 0.5m and 0.5m x 1m artificial refugia (roofing felt) on top of flattened vegetation. Repeat visits were made to each area a minimum of seven occasions.

2.2.7 A minimum of ten refugia were deployed in each area, allowing a minimum of one week to allow the refugia to embed into the vegetation before presence/absence surveys were begun.

2.2.8 Each survey visit involved a visual search of each area of suitable reptile habitat, focusing on checking potential basking areas between vegetation and the artificial refugia. Refugia were approached cautiously in order to view any reptiles basking. Artificial refugia were also checked under to record any reptiles taking refuge.



2.2.9 Refugia checks were undertaken during weather conditions suitable for basking reptiles. The optimum temperature range is between 9 degrees Celsius (°C) and 18°C, and sunny conditions are ideal, whereas rain and wind is less suitable (Froglife, 1999).

## 2.3 Evaluation of importance of ecological resource

2.3.1 Ecological Impact Assessment (EclA) uses a hierarchical geographic framework to assign importance to ecological resources. This is based on an understanding of how the ecological resource may contribute to the conservation status or distribution of the species or habitat at a particular geographical scale.

2.3.2 The following geographical frame of reference is based on Design Manual for Roads and Bridges (DMRB) LA 108 Biodiversity (Highways England, 2020) to assess the importance of the reptile populations within the survey area:

- International or European
- UK or National
- Regional e.g. North-West England
- County e.g. Greater Manchester
- Local e.g. within 2km of the Scheme.

## 2.4 Survey limitations

2.4.1 Limitations specific to certain reptile survey locations are described in Table 2.1 below.

**Table 2.1 Survey limitations**

Reptile survey area number*	Limitations
Reptile Survey Area 1	None.
Reptile Survey Area 2	Refugia in this area were subjected to disturbance by cows during two of the seven survey visits. However, all refugia remained in contact and available for use by reptiles, should they be present.

\*see Figure 8.10.1: Reptile Survey Results in Annex A.

2.4.2 Good practice guidelines (Froglife, 1999) state that surveys should be undertaken between April and September and with timings between 08.30h - 11.00h and 16.00h to 18.30h. Minor deviations from exact timings and survey period, from those quoted in the guidance, were required to ensure surveys were undertaken in suitable climatic conditions for basking reptiles. Minor deviations from the recommended survey timings are not considered to be a significant limitation to the survey and the full programme of reptile presence/absence surveys were completed.

- 2.4.3 Reptile surveys were undertaken in 2021. Walkover survey and UK Habitat Classification System survey updates undertaken in October 2022 and April/May 2023, respectively (see Appendix 8.1: UK Habitat Classification Report of the Environmental Statement Appendices (TR010064/APP/6.3)) identified no significant change in habitat types or condition within the survey area. Therefore, no significant change to the reptile survey data recorded in 2021 is anticipated and the reptile survey data obtained in 2021 is considered sufficiently robust to inform the assessment.

## 3 Results

### 3.1 Desk study

3.1.1 The GMEU data returned one record of slow worm *Anguis fragilis* and one record of common lizard *Zootoca vivipara*, see Table 3.1 and Figure 8.10.1: Reptile Survey Results in Annex A of this report.

**Table 3.1 Records of reptile species - GMEU**

Species	Common name	Abundance	Location	Date observed	Grid reference
<i>Anguis fragilis</i>	Slow worm	1	Victoria Avenue Cemetery, approximately 1.5km south of the Order Limits	01/05/2011	SD842038
<i>Zootoca vivipara</i>	Common Lizard	1	Back garden of 20 Cromwell Road, Whitefield, approximately 1.9km north of the Order Limits	06/04/2015	SD79800658

3.1.2 No reptile species are listed as priority species within the Greater Manchester LBAP (Greater Manchester Biodiversity project, 2009).

3.1.3 There are six areas of woodland priority habitats, as per the Priority Habitat Inventory provided by MAGIC (Defra, 2022), within 50m of the Order Limits which are suitable for reptiles and could be utilized by these species. These habitats and their locations are shown in Figure 8.10.1: Reptile Survey Results in Annex A of this report.



### 3.2 Field survey results

#### Habitat suitability

3.2.1 The habitats around the Scheme which are suitable to support reptiles included semi-improved grassland, marshy grassland, woodland and scrub (see Appendix 8.1: UK Habitat Classification Report of the Environmental Statement Appendices (TR010064/APP/6.3)). Two areas of habitat with moderate suitability for reptiles were identified, as shown on Figure 8.10.1: Reptile Survey Results in Annex A of this report. All other areas were classified as negligible and are not mapped.

3.2.2 A photograph and description of each of the two areas of moderate suitability for reptiles identified is provided in Table 3.2.

**Table 3.2 Reptile habitat suitability**

Reptile area number	Photograph	Description
1		<p>Semi-improved grassland overwhelmingly dominated by soft rush <i>Juncus effusus</i>. Ground layer dominated by spear moss <i>Calliergonella spp.</i> Other moss species present included <i>Rhitiadelphus spp.</i> and <i>Pleurozium spp.</i>, Creeping buttercup <i>Ranunculus repens</i> and ragwort <i>Jacobaea vulgaris</i> present. A steep embankment surrounded the field.</p>
2		<p>Livestock grazing field. Semi-improved neutral grassland with areas dominated by soft rush. Species present included: ryegrass <i>Lolium spp.</i>, Yorkshire fog <i>Holcus lanatus</i> and cock's-foot grass <i>Dactylis glomerata</i>. Encroaching scrub on the northern boundary provided a habitat mosaic suitable for reptiles.</p>

### Presence/absence survey

3.2.3 The survey areas, location and numbers of refugia within each survey area are presented in Figure 8.10.1: Reptile Survey Results in Annex A of this report. Table 3.3 summarises the results of the seven visits made to each survey area which comprised 15 refugia in survey area 1 and 10 refugia in survey area 2. Although suitable reptile habitat was confirmed in the survey area, no reptiles were recorded during the surveys.

**Table 3.3 Reptile presence/absence survey results**

Visit no.	Date	Temp (°C)	Weather conditions	Survey area	No. reptiles	Other species	Notes
1	27/05/2021	12	Dry following a period of rain. 10% cloud cover.	1	0	Five juvenile toads <i>Bufo bufo</i>	-
				2	0	0	Refugia in this field partly moved and trampled by cows.
2	01/06/2021	19	Dry but humid with 10% cloud cover.	1	0	Six juvenile toads, one juvenile frog <i>Rana temporaria</i>	-
				2	0	One juvenile frog	Refugia in this field partly moved and trampled by cows.
3	07/06/2021	17	Dry and calm with 25% cloud cover.	1	0	Six juvenile toads	-
				2	0	One juvenile toad	-
4	01/09/2021	16	Dry and calm with 75% cloud cover.	1	0	Two adult female great crested newt	-
				2	0	-	-
5	03/09/2021	15	Dry and calm with 60% cloud cover.	1	0	Two adult female great crested newt	-
				2	0	-	-
6	09/09/2021	19	Dry and calm with 90% cloud cover.	1	0	-	-
				2	0	-	-

Visit no.	Date	Temp (°C)	Weather conditions	Survey area	No. reptiles	Other species	Notes
7	15/09/2021	17	Dry and calm with 60% cloud cover.	1	0	-	-
				2	0	-	-

## 4 Evaluation

- 4.1.1 No reptiles were found during the field surveys. However, the survey area did contain suitable habitat for reptiles, though the likelihood for reptile presence is considered to be low.
- 4.1.2 Given that no reptiles were found during the field surveys and only two records of common reptile species were identified in the desk study, reptiles have, as a precaution, been assumed as present and of **Local importance** in the study area.

## Acronyms and initialisms

Acronym or initialism	Term
CIEEM	Chartered Institute of Ecology and Environmental Management
DMRB	Design Manual for Roads and Bridges
EclA	Ecological Impact Assessment
GMEU	Greater Manchester Ecology Unit
LBAP	The Greater Manchester Biodiversity Action Plan
MAGIC	Multi-Agency Geographic Information for the Countryside
°C	Degrees Celsius
OS	Ordnance Survey
PWMS	Precautionary Working Method Statement
SoPI	Species of Principal Importance

## References

Department for Environment, Food and Rural Affairs (2022) MAGIC - Multi-Agency Geographic Information for the Countryside. Accessed April 2022. [www.magic.gov.uk](http://www.magic.gov.uk).

Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

Froglife (1999). Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife.

Greater Manchester Biodiversity Project (2009). Greater Manchester Biodiversity Action Plan.

Greater Manchester Ecology Unit (2021). Environmental records data. Available on request from Greater Manchester Ecology Unit.

Highways England (2018) Stage 2 Environmental Assessment Report.

Highways England (2020). Design Manual for Roads and Bridges, LA 108 Biodiversity Revision 1.



## Annex A Figures

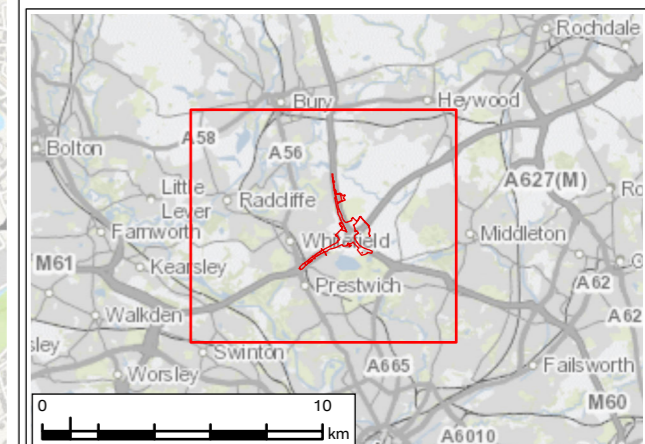
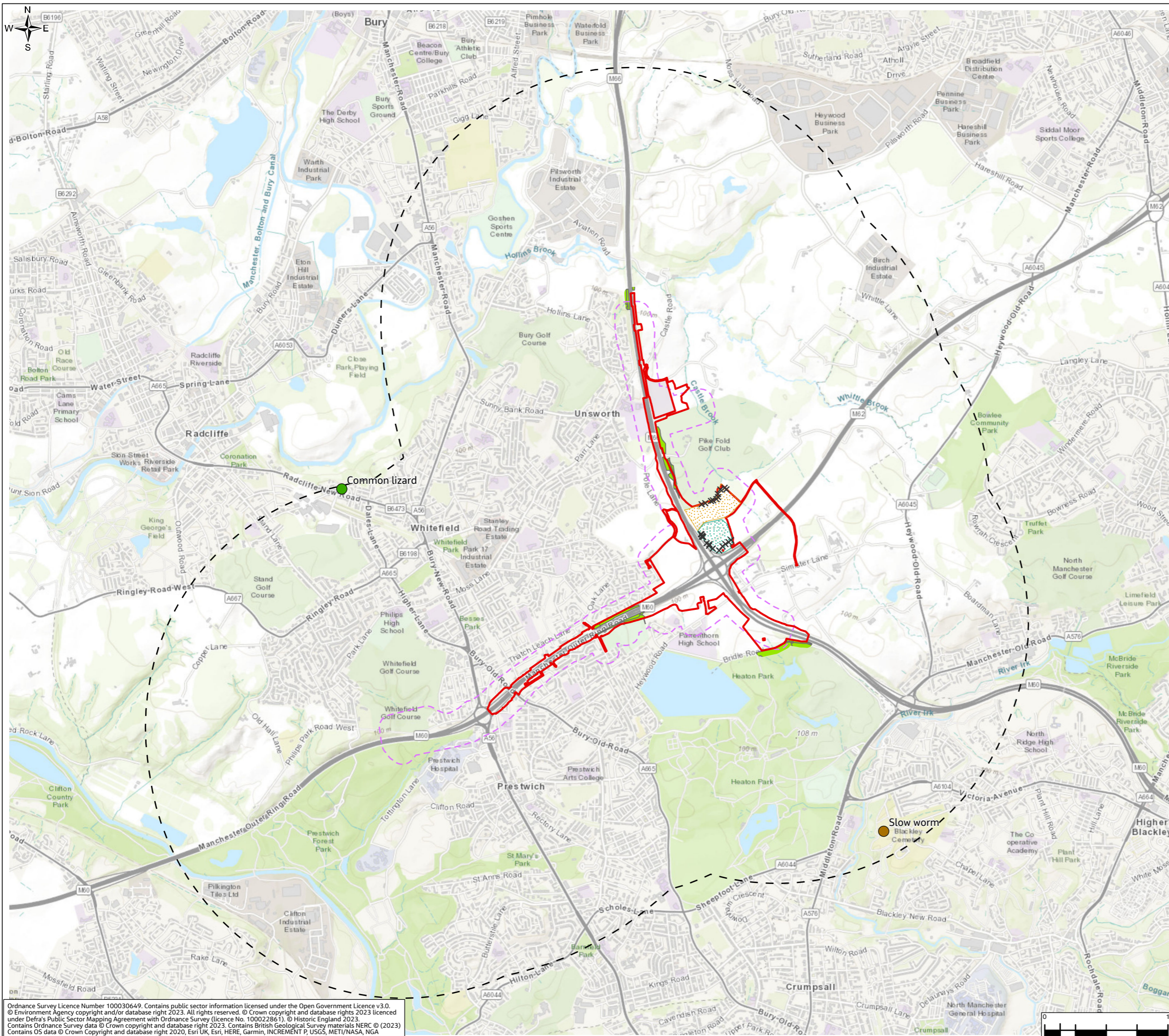
Figure 8.10.1: Reptile Survey Results



# ENVIRONMENTAL STATEMENT APPENDIX 8.10 FIGURE 8.10.1

## Legend

- Order Limits
- Survey Area based on 100m area around Provisional Order Limits
- Study Area based on 2km area around Provisional Order Limits
- × Refugia Locations
- Desk Study Results**
- Common lizard
- Slow worm
- Reptile Survey Extents**
- Reptile Survey Area 1
- Reptile Survey Area 2
- Priority Habitat Inventory**
- Deciduous woodland



P01	JAN 24	For DCO application	LT	MS	JR	BB
Rev.	Rev. Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
Development Consent Order Number: TR010064			Development Consent Order Drawing Number: 6.3			



Project  
**REGIONAL DELIVERY PARTNERSHIP  
M60/M62/M66 SIMISTER ISLAND INTERCHANGE**

Drawing Title  
**REPTILE SURVEY RESULTS  
PAGE 1 OF 2**

Drawing Status	S4 – SUITABLE FOR STAGED APPROVAL		
Scale @ A3	1:30,000	DO NOT SCALE	
Jacobs No.	B36601F0	Rev	P01
Client No.	HE548642		
Drawing Number	HE548642-JAC-LDC-SII_MLT-SK-LE-0032		

Ordnance Survey Licence Number 100030649. Contains public sector information licensed under the Open Government Licence v3.0.  
© Environment Agency copyright and/or database right 2023. All rights reserved. © Crown copyright and database rights 2023 licensed under Defra's Public Sector Mapping Agreement with Ordnance Survey (licence No. 100022861). © Historic England 2023.  
Contains Ordnance Survey data © Crown copyright and database right 2023. Contains British Geological Survey materials NERC © (2023).  
Contains OS data © Crown Copyright and database right 2020, Esri UK, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA

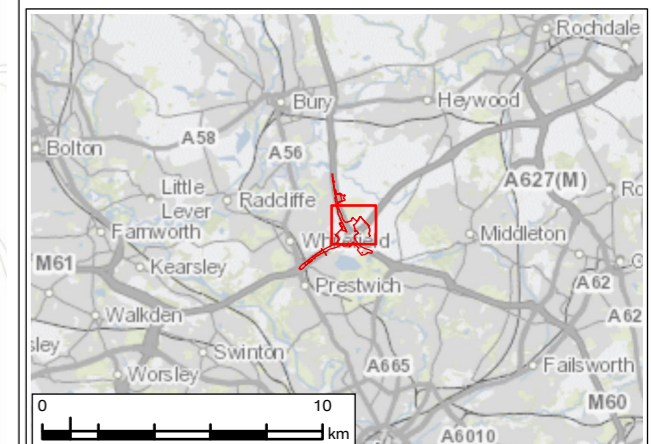
© Copyright 2023 Jacobs UK Limited. The concepts and information contained in this document are the property of Jacobs. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright.  
Limitation: This drawing has been prepared on behalf of, and for the exclusive use of Jacobs' Client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this drawing by any third party.



# ENVIRONMENTAL STATEMENT APPENDIX 8.10 FIGURE 8.10.1

## Legend

- Order Limits
- Survey Area based on 100m area around Provisional Order Limits
- Study Area based on 2km area around Provisional Order Limits
- x Refugia Locations
- Desk Study Results**
- Common lizard
- Slow worm
- Reptile Survey Extents**
- Reptile Survey Area 1
- Reptile Survey Area 2
- Priority Habitat Inventory**
- Deciduous woodland



P01	JAN 24	For DCO application	LT	MS	JR	BB
Rev.	Rev. Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd

Development Consent Order Number:	Development Consent Order Drawing Number:
TR010064	6.3



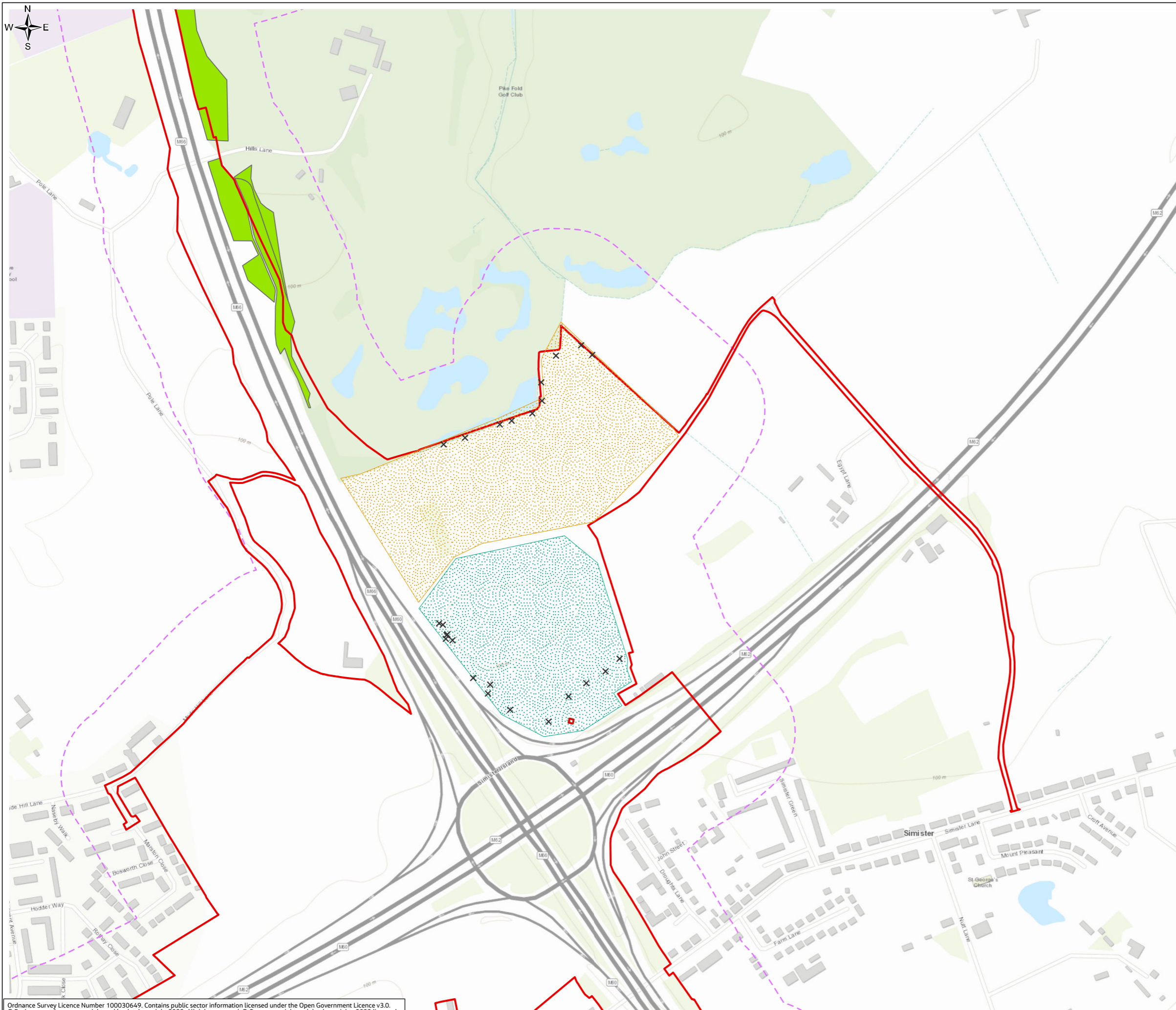
**Project**  
REGIONAL DELIVERY PARTNERSHIP  
M60/M62/M66 SIMISTER ISLAND INTERCHANGE

**Drawing Title**  
REPTILE SURVEY RESULTS  
PAGE 2 OF 2

**Drawing Status**  
S4 – SUITABLE FOR STAGED APPROVAL

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B36601F0	
Client No.	HE548642	Rev P01

**Drawing Number**  
HE548642-JAC-LDC-SII\_MLT-SK-LE-0032



Ordnance Survey Licence Number 100030649. Contains public sector information licensed under the Open Government Licence v3.0. © Environment Agency copyright and/or database right 2023. All rights reserved. © Crown copyright and database rights 2023 licensed under Defra's Public Sector Mapping Agreement with Ordnance Survey (licence No. 100022861). © Historic England 2023. Contains Ordnance Survey data © Crown copyright and database right 2023. Contains British Geological Survey materials NERC © (2023). Contains OS data © Crown Copyright and database right 2020, Esri UK, Esri, HERE, Garmin, INCREMENT P, USGS



© Copyright 2023 Jacobs U.K. Limited. The concepts and information contained in this document are the property of Jacobs. Use or copying of this document in whole or in part without the written permission of Jacobs constitutes an infringement of copyright. Limitation: This drawing has been prepared on behalf of, and for the exclusive use of Jacobs' Client, and is subject to, and issued in accordance with, the provisions of the contract between Jacobs and the Client. Jacobs accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this drawing by any third party.