

Cambridge South East Transport (CSET) Phase 2 Reptile Survey Report

February 2021

Quality Management

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## 1 Executive Summary

Capita Real Estate & Infrastructure Ecologists were commissioned by Greater Cambridgeshire Partnership to undertake reptile surveys. Most of the surveys were undertaken in May, June and September 2020 focussing on the proposed areas of land to be affected by the development of The Cambridge South East Transport (CSET) Phase 2, (the 'Scheme'). The surveys have been carried out to provide baseline ecological information for the CSET Project to inform the design and environmental assessment of the proposals.

Surveys were carried out between May and October 2020, focussing on the proposed areas of land to be affected by the CSET Phase 2 scheme. Thirteen sites were identified as suitable for reptiles, however three were inaccessible due to restricted access.

The results are summarised as follows:

Two species of common reptile, namely grass snake *Natrix natrix* and common lizard *Zootoca vivipara*, were recorded within the Scheme footprint. Grass snake was recorded from two of the survey sites in habitats adjacent to or close to the River Granta near Stapleford and at Babraham. Common lizard was recorded on one site only, in sown grass margins adjacent to a wet ditch near Stapleford. Overall, the population of reptiles recorded throughout the Scheme was low with a maximum of two grass snakes recorded on one occasion and one common lizard recorded on two occasions.

The weather conditions proved difficult during 2020 with a protracted spell of very hot and dry conditions from May onwards resulting in surveys extending into the early autumn to ensure records of reptiles were a true reflection of the likely population present. The results of these surveys are therefore considered to be accurate.

## 2 Introduction

### 2.1 Background

- 2.1. Capita Real Estate & Infrastructure's Ecologists were commissioned by the Greater Cambridgeshire Partnership in March 2020 to undertake reptile surveys in relation to the development of Phase 2 of the Cambridge South East Transport (CSET) (the 'Scheme').
- 2.1. The aim of the reptile survey report is to summarise the results of the baseline surveys conducted between May and October 2020 to inform the design and Environmental Statement of the Scheme.

### 2.2 Project Description and Purpose of the Scheme

- 2.2. The Cambridge South East Transport (CSET) Project aims to create a vital link to ease congestion, offer sustainable travel choices, connect communities, and support growth in the in the South East of Cambridge. CSET will form part of the Cambridgeshire Autonomous Metro, providing high quality, frequent and affordable public transport.
- 2.2. CSET Phase 2 comprises a segregated public transport route from the A11 (near Brabham) to the Cambridge Biomedical Campus (CBC). This will include new walking, cycling and equestrian links.
- 2.2. The Route which largely crosses open arable land, is shown in Figure 1.

### 2.3 Legislation and Policy

- 2.3. All native reptile species receive protection in the UK as a result of both legislation and planning policies. This section outlines the primary legislation protecting reptiles. All of the information below is relevant to this reptile report and to the work proposed at the development site.

#### Legislation

- 2.3. In England, all six-native species of reptile including common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, sand lizard *Lacerta agilis*, grass snake *Natrix helvetica*, adder *Vipera berus* and smooth snake *Coronella austriaca*, are protected under the Wildlife & Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly kill or injure any reptile species.

- 2.3. Additional protection is afforded to the sand lizard and smooth snake under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (as amended), under which they are listed as a European Protected Species making it an offence to:
- Deliberately capture, injure, or kill these reptile species.
  - Deliberately disturb these reptile species; or,
  - Damage or destroy a breeding site or resting place of these reptiles; this applies whether the animals are present or not.
- 2.3. In order to permit a development where the above offences are likely to be committed a European Protected Species Licence can be obtained from Natural England where appropriate mitigation is offered to offset the negative impacts to local reptile populations.

#### Natural Environment and Rural Communities Act 2006

- 2.3. Section 40 of the NERC Act 2006 places a statutory duty on public bodies, such as local authorities that “*every public body must, in exercising its functions have regard, so far as is consistent with proper exercise of those functions, to the purpose of conserving biodiversity*”.

#### Planning Policy

- 2.3. National Planning Policy is set out by the National Planning Policy Framework (NPPF February 2019) combined with the guidance document Planning for Biodiversity and Geological Conservation: A Guide to Good Practice” (ODPM 2005).
- 2.3. Biodiversity net gains are referenced strongly in terms of developing local planning policy and decision-making for development applications. The environmental test of sustainable development requires planning policy and planning decisions to help to ‘improve biodiversity’ (paragraph 8c).
- 2.3. References to biodiversity net gain elsewhere in the new NPPF (such as paragraph 175d) support the delivery of biodiversity net gain through sustainable development. Net gain for biodiversity is far more prominent than in the previous NPPF and considers a holistic landscape approach to protect, and enhance biodiversity promoting conservation, restoration and enhancement of Priority Habitats (also listed as Habitats of Principal Importance) identified under the NERC Act 2006), ecological networks and the protection and recovery of Priority Species (also listed as Species of Principal Importance) identified under the NERC Act 2006). The NPPF includes requirements for planning authorities to identifying and pursuing opportunities for securing measurable net gains for biodiversity (paragraph 174b).

- 2.3. Protected sites and species are a material consideration in determining planning applications and therefore all information relating to protected sites and species must be submitted with planning submissions for determination of the whole application. The NPPF (paragraph 175) which promotes Local Planning Authorities to assess if significant harm would occur to biodiversity and decide accordingly.

#### Biodiversity Policy

- 2.3. Section 41 of the NERC Act requires the Secretary of State to draw up a list of Habitats and Species of Principal Importance which should be used to guide decision-makers (which include local authorities) in implementing their duty under Section 40.
- 2.3. All six native reptile species are considered Species of Principal Importance, an important factor when considering proposed developments, in accordance with the Natural Environment and Rural Communities (NERC) Act 2006.
- 2.3. Additionally, four species of reptile are recognised as Local Priority Species under the Cambridgeshire and Peterborough Local BAP:
- Adder *Vipera berus*
  - Common lizard *Zootoca vivipara*
  - Grass snake *Natrix helvetica*
  - Slow-worm *Anguis fragilis*.

#### 2.4 Personnel and Quality Assurance

- 2.4. All ecologists employed by Capita adopt best practice working methods in undertaking surveys including the Chartered Institute of Ecology and Environmental Management’s (CIEEM) code of professional and all fieldwork is carried out in accordance with current best practice guidelines and under the supervision of senior staff and appropriately licensed ecologists.
- 2.4. The reptile surveys were led by Senior Ecologist, Ann Sherwood and assisted by Senior Ecologists Neil Page, Andrea Sarkissian, Consultant Ecologist Thomas Fawley and Assistant Ecologist Mark Johnson.

- 2.4. Ann Sherwood is a full member of CIEEM with over 35 years of experience as an ecological consultant. Ann has a broad range of professional experience in consulting services including undertaking protected species surveys, designing mitigation and enhancement measures and has undertaken numerous reptile surveys including undertaking grass snake and common lizard translocation. The most recent of these was undertaken in 2020 for the Chisholm Trail a new walking and cycling route in Cambridge.
- 2.4. Neil has undertaken habitat appraisal for reptiles as part of wider schemes having ten years field survey experience for reptiles, which includes population assessments and subsequent detailed surveys to obtain planning permission. In addition, successfully managed and implemented reptile exclusion fencing and reptile translocations programmes for a range of common reptile species including slow worm, grass snake and common lizard including both in England, and Wales
- 2.4. Andrea Sarkissian is an Associate member of CIEEM Senior Ecologist with over seven years' experience and has undertaken extensive surveys and translocations for reptiles, including common lizard, slow-worm, and grass snake.
- 2.4. Thomas Fawley is a consultant ecologist with over five years' experience. He has previously worked on three reptile translocations programmes across England and Wales and has experience surveying for a range of common reptile species, such as common lizard, grass snake and slow worm.
- 2.4. Mark Johnson is an Assistant Ecologist with two years' experience working within professional ecological consultancy. He has worked on national infrastructure projects (specifically High Speed Two) and gaining experience surveying for common reptile species.

## 3 Methods

### 3.1 Survey and Report Objectives

- 3.1. The surveys and report were carried out to fulfil the following objectives.
  - 1. To identify any features on site with the potential to support reptiles.
  - 2. To identify whether reptiles are present at the time of survey.
  - 3. To identify the reptile species using the site.
  - 4. To provide an assessment of the likely importance of the site for reptiles.

### 3.2 Desk-based Study

- 3.2. A desk-based study was undertaken prior to the field survey to identify any existing records of reptiles within a 2km radius of the site. Field Survey

#### Habitat Assessment Surveys

- 3.3. Habitat assessment surveys were undertaken for its suitability to support reptiles by WYG (2019). It was these sites that were scheduled for reptile presence/absence surveys by Capita in 2020.

#### Presence/Absence Surveys

- 3.4. In order to establish reptile presence on site, surveys were undertaken in accordance with the Froglife Advice Sheet 10 and the Herpetofauna Workers' Manual (Gent and Gibson, 1998). Artificial refugia including tins and mats (a mixture of carpet tiles and bitumen mats) were placed around area of habitat identified within the habitat assessment surveys as of most value to reptiles, this included: sown grass margins, sown semi-improved grassland, adjacent to hedgerows and woodland edges and abandoned sites. The number of artificial refugia used were at a minimum density of 10 per hectare in order to conform with guidance. Prior to placing the refugia mats on the floor, the vegetation was manually flattened down in order to help trap heat, creating a temperature gradient that would ultimately provide the reptile a more diverse place to seek refuge (Froglife Advice Sheet 10).

- 3.4. The artificial refugia were placed out between 1 May to 27 August 2020, with surveys starting two weeks later at all sites allowing the mats to 'bed in' for a 14-day period prior to the surveys commencing. The first surveys were conducted on 14 May 2020. This was to allow for suitable climatic conditions beneath the mats, allowing reptiles that may be present to find the mats and increase the chances of a positive survey result.
- 3.4. The refugia mats were checked to determine reptile presence a total of seven times during the period May to October 2020 during suitable weather conditions and temperatures. On all survey occasions, the weather conditions were dry, and surveys commenced when temperatures were between 9°C and 20°C.
- 3.4. Observations of the artificial reptile mats involved lifting each mat to near vertical and recording reptile presence. Where stones and log piles were found across site, they were lifted up in the same way in order to assess reptile presence. In all cases, the refugia were placed back in exactly the same location as they were found in order to prevent potential disturbance to reptiles and other wildlife that may use them.
- 3.4. Additional observations were undertaken during the refugia checks and involved walking slowly, treading lightly, and scanning the area at least 3-4m in front. Focus was made on bare ground that could potentially be used by basking reptiles and where possible, the sun was behind the surveyor to prevent shadow.

**Table 1: Site size and number of refugia placed**

Site reference	Approximate size (ha)	Number of refugia placed
R1	N/A	N/A
R2	N/A	N/A
R3	N/A	N/A
R4	0.3	43
R5	0.7	32
R6	0.7	36
R7	0.8	12
R8	N/A	N/A
R9	2.0	102
R10	0.75	40

Site reference	Approximate size (ha)	Number of refugia placed
R11	3.5	77
R12	1.0	40
R13	1.0	40

## 3.3 Evaluation Methods

### Population Size Class Assessment

- 3.4. A basic evaluation of population size was undertaken for any reptiles recorded, this was carried out using the guidelines for classifying the relative size of reptile populations based on survey counts, shown within Froglife Advice Sheet 10: reptile Surveys (Froglife, 1999). Table 2 below shows the qualifying criteria

**Table 2: Reptile Population Size Class Assessment Qualifying Criteria**

Reptile Species	Low Population	Good Population	Exceptional Population
Adder	<5	5 -10	>10
Grass snake	<5	5 – 10	>10
Common Lizard	<5	5 – 20	>20
Slow-worm	<5	5 – 20	>20

- 3.4. The figures in Table 3 refer to the maximum number of adults seen by observation and/or under refugia by one person in one day.

## 3.4 Survey Limitations and Assumptions

- 3.5. At the point of commencement of the surveys in March/April 2020 measures relating to the management of the coronavirus pandemic came into force which caused a delay to the start of surveys. This occurred as it was determined between the client and Capita how work could be carried out safely. This led to a delay in starting the surveys until May 2020.

- 3.5. Ad hoc checks of the reptile mats were undertaken at various times when passing doing other surveys but not recorded as official surveys as the weather or time of day was often not ideal. However, given that the mats have been on site since April/May in most cases with the ad hoc visits and official visits undertaken where possible in optimal conditions it is felt that the results are still an accurate reflection of the likely reptile populations throughout the scheme.
- 3.5. Most of the surveys were undertaken within the guidelines but due to the exceptionally dry and hot weather experienced in May some surveys may not have been undertaken in optimal conditions. The surveys were then delayed until September because of the hot, dry weather but surveys were also constrained in September because of exceptionally hot dry weather in the first two weeks of September.
- 3.5. The last survey was undertaken at Uplands R13 on the 25 October preceded by an abortive attempt on 20 October. The weather conditions were considered to be reasonable given that there had not been a long period of cold weather triggering reptiles to go into hibernation. The full weather data is presented in Appendix A.

## 4 Results

### 4.1 Desk Study

A data search provided by Mott MacDonald produced 62 results for reptiles within 2km of the Scheme.

Of these, one record for grass snake was returned from within the survey area at Cambridge Biomedical Campus. However, no records of common lizard or slow-worm were identified within the survey area.

### 4.2 Field Survey




- 4.1. Areas of habitat suitable for supporting reptiles were identified throughout the site by WYG in 2019 including:




#### Site Descriptions

- 4.1. A description of the sites is presented in Table 4 below. Photographs of the sites are provided in Appendix B.



**Table 3: Site descriptions**



Site Reference	Description	Photograph
R1	This site was not accessible, however, other surveys conducted in October 2020 showed that the site is under construction and is unsuitable for reptiles.	
R2	This site was a construction site at the time of the pre-assessment check in May and scoped out.	
R3	This site was a managed short uniform grassland when assessed in May 2020 and considered unsuitable for reptiles so scoped out. The grassland had been cut again in late summer 2020.	

Site Reference	Description	Photograph
R4	This site was a sown grassy margin either side of a dry ditch and hedgerow. The surrounding grassland habitat is well established with tall tussocky areas. Some bramble scrub is encroaching, creating a mosaic of habitats suitable for reptiles.	
R5	This site comprised a grassy margin of variable width and a flood embankment alongside the river Granta. Habitats present included coarse and tussocky grassland with encroaching bramble scrub. The flood embankment was dominated by tall ruderal vegetation comprised of nettles, hop and dense bramble. Blackthorn scrub and trees were also present along the embankment.	
R6	This site comprised sown grass 6m margins along both sides of a wet ditch and a grass margin along the river Granta. It also included a set-aside field corner comprising a mosaic of tall ruderal, ephemeral short perennial vegetation with occasional grassy patches.	

R7	This site was a small triangular area of a set aside corner of a field, comprising sown 6m grass margins along two ditches with ephemeral short perennial and tall ruderal vegetation between the grass margins.	
Site Reference	Description	Photograph
R8	No access possible	
R9	<p>This site comprised three main areas</p> <ol style="list-style-type: none"> <li>1. A 6m sown tussocky grass margin north of the river Granta which abutted areas of tall ruderal, scrub and scattered trees, sections of woodland with a pond adjacent.</li> <li>2. A strip of sown grassland adjacent to a reservoir and green track plus sown grassland adjacent to woodland.</li> <li>3. A strip of sown grassland adjacent to another field access track.</li> </ol> <p>NB. There was a large area of sown grassland to the west of the</p>	



	reservoir which could not be surveyed because of the presence of ground nesting birds, hence surveys were only conducted around the periphery.	
Site Reference	Description	Photograph
R10	This site is an abandoned site opposite a service station, comprised of ephemeral short perennial vegetation, bare ground with occasional grassy patches and surrounded by plantation broadleaved woodland. The survey was aborted after 4 survey visits because the site was ploughed up in September 2020.	
R11	The site is a grassland dominated by red fescue, but other species have colonised the site from the seed bank due to a lack of management. The sward is dense in places but relatively uniform with sandy soil resulting in heath-like conditions. This site is bounded by broadleaved woodland to the north and west and a planted hedgerow to the east. The southern boundary is a Protected Roadside Verge with calcareous grassland where species from the verge have colonised the site.	

R12	The site is located behind a Travel Lodge and comprises a mosaic of dense areas of grassland, bare ground, ephemeral short perennial vegetation, and scattered scrub. The site is surrounded by broadleaved woodland to the north and south with a derelict site (hard standing) partially adjacent to the south and the Travel Lodge car park and ancillary buildings to the west.	
Site Reference	Description	Photograph
R13	This site comprises a species-rich former grazed meadow with scattered scrub mosaic and is surrounded by tall trees to the south (overgrown hedgerow) and to the east along Hinton Way and broad-leaved woodland to the north and west. The grassland extends beyond the fence line providing clearings in the woodland. This site was identified for an invertebrate survey but initially not a reptile site. The site was considered suitable for reptiles during woodland surveys in May. It was agreed to undertake reptile surveys here in late August.	

### Presence/Absence Surveys

4.3. Overall, there were very few reptiles found during the surveys with most sites returning nil records. Reptiles were recorded at three sites as follows:

- R5 – single juvenile grass snake recorded on 2 June 2020 on the riverbank.

- R6 - two common lizard recorded on 16 July and 17 September 2020 and a single grass snake recorded on 14 September 2020. **The maximum number of common lizards recorded in any one survey was one.**
  - R9 – three adult grass snakes recorded on 18 and 22 May; and 28 August 2020; with a total of 4 grass snakes over the three occasions. Two of these records were from the same location under mats by a natural refugia, a pile of logs, brash and other debris. **The maximum number of grass snakes recorded in any one survey was two.**
- 4.3. The full details of the survey results, timings and weather conditions are presented in Appendix A.
- 4.3. It can be concluded that these results suggest that the population of grass snakes and common lizard based on the Froglife qualifying criteria is 'Low' (being less than 5 individuals per survey visit). In addition, none of the sites qualify as a Key Reptile Site according to the criteria set out in the Froglife guidelines.

## 5 References

Google Earth (2019) accessed on 20/10/2020

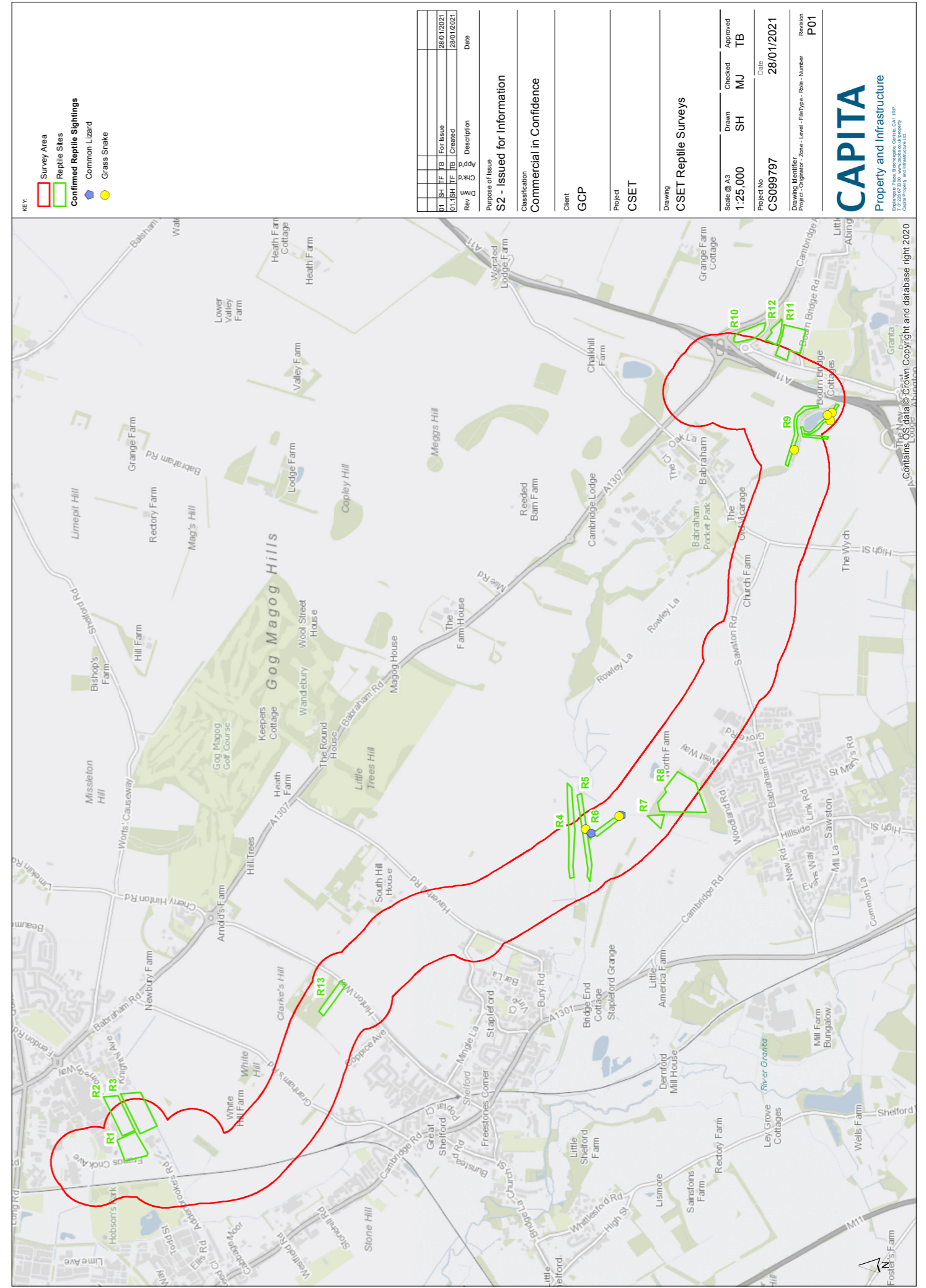
Froglife (1999). *Froglife Advice Sheet 10: Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Halesworth: Froglife,

Griffiths, R. and Inns, H. (2003). Surveying. In: Gent, A. H. and Gibson, S. D. eds. *Herpetofauna workers' manual*. Peterborough: Joint Nature Conservation Committee

WYG (2019). *Cambridgeshire South East Transport Strategy (CSET): Constraints Report*. WYG

## Figures

Figure 1 – Scheme and Survey Area



## Appendices

### Appendix – Full Survey Results and Weather Conditions

**Table 4: Site: Bury Farm Stapleford R4**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	14/05/20	11:15 - 12:15	N/A	11	13	93	91
2	18/05/20	09:00 – 09:30	N/A	13	15	63	67
3	26/05/20	07:45 – 08:30	N/A	15	17	N/A	N/A
4	02/06/20	07:30 - 08:30	N/A	13	17	74	64
5	09/06/20	09:45 – 10:30	N/A	13	14	63	55
6	10/06/20	10:45 – 11:45	N/A	16	16	58	49
7	28/09/20	15:15 – 16:00	N/A	19	20	45	43

**Table 5: Site: Bury Farm Stapleford R5**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	14/05/20	10:15 – 11:00	N/A	11	11	39	41
2	18/05/20	10:00 – 10:45	N/A	15	17	59	59
3	26/05/20	08:45 – 09:45	N/A	17	18	35	35
4	02/06/20	08:30 – 09:30	1 Juvenile grass snake	13	17	74	64
5	09/06/20	10:40 – 11:00	N/A	14	16	55	48
6	10/06/20	11:45 – 12:30	N/A	17	17	49	49
7	28/09/20	16:00 – 16:45	N/A	16	16	36	48

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**Table 6: Site: Deal Farm R6**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	16/07/20	09:30-10:30	1 x common lizard	15	19	36	48
2	05/09/20	9.45 - 11.00	N/A	14	16	72	60
3	14/09/20	11.00- 12.00	1 juvenile grass snake	20	23	24	24
4	17/09/20	10.25 - 11.30	1 x common lizard	19	19	73	73
5	20/09/20	10.45- 11.45	N/A	14	14	N/A	N/A
6	24/09/20	14.00 – 15:00	N/A	15	15	N/A	N/A
7	28/09/20	11:00-12:00	N/A	13	14	72	72
8	1/10/20	15.30- 16.30	N/A	11	13	89	77

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**Table 7: Site: Deal Farm R7**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	16/07/20	10:45-11:15	N/A	17	20	68	68
2	05/09/20	10:45-11.15	N/A	16	17	60	56
3	14/09/20	12.15 - 13.00	N/A	18	20	78	57
4	17/09/20	11.40 -12.15	N/A	18	19	78	73
5	20/09/20	12.00 -13.00	N/A	12	14	78	71
6	28/09/20	12:15-12:45	N/A	11	14	88	72
7	01/10/20	15.30-16.30	N/A	13	13	77	77

**Table 8: Site: Cheveley Park Farm R9**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	18/05/20	11:30 – 12:30	1 x Adult grass snake	15	20	52	43
2	22/05/2020	10.30-11.30	2 x grass snakes	16	17	52	49
3	27/05/20	07:45- 09:30	N/A	15	17	68	61

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Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
4	01/06/20	07:30 - 08:30	N/A	14	16	71	71
5	20/07/20	08:15 – 10:00	N/A	14	16	75	52
6	28/08/20	08:30 -09:15	1 x adult grass snake	15	16	73	68
7	02/09/20	08:30 – 10:45	N/A	13	17	80	64

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**Table 9: Site: Land East of Shell Garage R10**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
.1	21/05/20	09:00 – 10:00	N/A	17	21	69	53
2	29/05/20	10:00 – 10:30	N/A	18	20	37	35
3	16/06/20	08:30 – 09:00	N/A	18	18	76	76
4	13/07/20	10:45 – 11:35	N/A	17	18	68	67
5	24/09/20	Aborted (ploughed up)	N/A	N/A	N/A	N/A	N/A
6	28/09/20	Aborted (ploughed up)	N/A	N/A	N/A	N/A	N/A
7	7/10/20	Aborted (ploughed up)	N/A	N/A	N/A	N/A	N/A

**Table 10: Site: Cambridge International School R11**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	21/05/20	07:45 – 08:45	N/A	19	20	53	53
2	29/05/20	08:30 – 09:30	N/A	15	17	40	37

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Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
3	16/06/20	09:45 – 10:45	N/A	20	22	53	53
4	13/07/20	13:00 – 14:00	N/A	18	20	69	69
5	24/09/20	11:00 – 12:00	N/A	14	16	77	71
6	28/09/20	11:00 - 12:00	N/A	13	13	70	71
7	7/10/2020	10.30 - 11.30	N/A	12	14	78	64

**Table 11: Site: Travelodge R12**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	16/06/20	07:30 – 08:30	N/A	16	18	82	78
2	07/09/20	10:45 – 1:45	N/A	17	17	76	76
3	17/09/20	11:45 – 12:15	N/A	16	19	67	58
4	21/09/20	10:15 – 11:00	N/A	14	16	87	81
5	28/09/20	11:15 – 12:00	N/A	12	12	71	71
6	30/09/20	11:15 – 11:45	N/A	14	15	84	89
7	7/10/20	12:30 – 13:00	N/A	14	14	64	62

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**Table 12: Site: Uplands R13**

Survey Number	Date of Survey	Time of Survey	Results	Start Temperature	End Temperature	Start Humidity	End humidity
1	08/09/20	10:30 – 11:30	N/A	20	21	83	76
2	13/09/20	09:30 – 10:30	N/A	16	17	72	78
3	19/09/20	09:30 – 10:15	N/A	16	17	94	73
4	30/09/20	10:15 – 11:00	N/A	14	14	87	86
5	07/10/20	11:10 – 12:00	N/A	13	13	75	75
6	11/10/20	11:30 – 12:15	N/A	11	12	80	71
7	25/10/20	10:00 – 10:30	N/A	12	12	75	77

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Appendix B – Site photographs



Site reference	Photograph
R1	
R2	


Site reference	Photograph
R3	
R4	

Site reference	Photograph
R5	
	

Site reference	Photograph
R6	
R7	
R8	N/A

Site reference	Photograph
R9	

Site reference	Photograph
R10	
R11	

Site reference	Photograph
R12	
R13	

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Date 06-10-2021

Ms Andrea Evans  
Mott MacDonald  
Stoneham Place,  
Stoneham Ln.,  
Southampton,  
Eastleigh  
SO50 9NW

Dear Andrea

## Cambridge South East Transport (CSET) Phase 2 North Farm Reptile Technical Note

This letter formalises the results of the reptile presence/absence surveys conducted at North Farm between June 2021 and September 2021, which was not accessible during the main suite of surveys in 2020.

### 1. BACKGROUND

- 1.1 Capita Ecologists were commissioned by the Greater Cambridgeshire Partnership to undertake a reptile presence/absence surveys at North Farm and its surroundings where the Cambridge South East Transport (CSET) route is proposed to go through.
- 1.2 This report details the reptile surveys which have been carried out to provide further baseline ecological information to inform the impact avoidance and mitigation measures and ultimately the design of the scheme.

### 2. LEGISLATION AND POLICY

- 2.1 All native reptile species receive protection in the UK as a result of both legislation and planning policies. This section outlines the primary legislation protecting reptiles. All of the information below is relevant to this reptile report and to the work proposed at the development site.

#### Legislation

- 2.2 In England, all six-native species of reptile including common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, sand lizard *Lacerta agilis*, grass snake *Natrix helvetica*, adder *Vipera berus* and smooth snake *Coronella austriaca*, are protected under the Wildlife & Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly kill or injure any reptile species.
- 2.3 Additional protection is afforded to the sand lizard and smooth snake under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 (as amended), under which they are listed as a European Protected Species making it an offence to:
  - Deliberately capture, injure, or kill these reptile species.
  - Deliberately disturb these reptile species; or,

- Damage or destroy a breeding site or resting place of these reptiles; this applies whether the animals are present or not.

- 2.4 In order to permit a development where the above offences are likely to be committed, a European Protected Species Licence can be obtained from Natural England where appropriate mitigation is offered to offset the negative impacts to local reptile populations.

#### The Natural Environment and Rural Communities Act 2006

- 2.5 Section 40 of the NERC Act 2006 places a statutory duty on public bodies, such as local authorities that “every public body must, in exercising its functions have regard, so far as is consistent with proper exercise of those functions, to the purpose of conserving biodiversity”.

#### Planning Policy

- 2.6 National Planning Policy is set out by the National Planning Policy Framework (NPPF July 2021) combined with the guidance document Planning for Biodiversity and Geological Conservation: A Guide to Good Practice” (ODPM 2005).
- 2.7 Biodiversity net gains are referenced strongly in terms of developing local planning policy and decision-making for development applications. The environmental test of sustainable development requires planning policy and planning decisions to help to ‘improve biodiversity’ (paragraph 8c).
- 2.8 References to biodiversity net gain elsewhere in the new NPPF (such as paragraph 175d) support the delivery of biodiversity net gain through sustainable development. Net gain for biodiversity is far more prominent than in the previous NPPF and considers a holistic landscape approach to protect, and enhance biodiversity promoting conservation, restoration and enhancement of Priority Habitats (also listed as Habitats of Principal Importance) identified under the NERC Act 2006), ecological networks and the protection and recovery of Priority Species (also listed as Species of Principal Importance) identified under the NERC Act 2006). The NPPF includes requirements for planning authorities to identifying and pursuing opportunities for securing measurable net gains for biodiversity (paragraph 174b).
- 2.9 Protected sites and species are a material consideration in determining planning applications and therefore all information relating to protected sites and species must be submitted with planning submissions for determination of the whole application. The NPPF (paragraph 175) which promotes Local Planning Authorities to assess if significant harm would occur to biodiversity and decide accordingly.

#### Biodiversity Policy

- 2.10 Section 41 of the NERC Act requires the Secretary of State to draw up a list of Habitats and Species of Principal Importance which should be used to guide decision-makers (which include local authorities) in implementing their duty under Section 40.
- 2.11 All six native reptile species are considered Species of Principal Importance, an important factor when considering proposed developments, in accordance with the Natural Environment and Rural Communities (NERC) Act 2006.
- 2.12 Additionally, four species of reptile are recognised as Local Priority Species under the Cambridgeshire and Peterborough Local BAP:
  - Adder
  - Common lizard

- Grass snake
- Slow-worm

### 3. METHODOLOGY

#### Reptile Presence/Absence Surveys

- 3.1 In order to establish reptile presence/likely absence on site, surveys were undertaken in accordance with the Froglife Advice Sheet 10 and the Herpetofauna Workers' Manual (Gent and Gibson, 1998). Artificial refugia including tins and mats (a mixture of carpet tiles and bitumen mats) were placed around area of habitat identified within the habitat assessment surveys as of most value to reptiles, this included: sown grass margins, sown semi-improved grassland, adjacent to hedgerows and woodland edges and abandoned sites. The number of reptile mats used were at a minimum density of 10 per hectare in order to conform with guidance. Prior to placing the reptile mats on the floor, the vegetation was manually flattened down in order to help trap heat, creating a temperature gradient that would ultimately provide the reptile a more diverse place to seek refuge (Froglife Advice Sheet 10).
- 3.2 The reptile mats were placed out between 26 May to 21 September 2021, with surveys starting two weeks later at all sites allowing the mats to 'bed in' for a 14-day period prior to the surveys commencing. The first surveys were conducted on 9 June 2021. This was to allow for suitable climatic conditions beneath the reptile mats, allowing reptiles that may be present to find the reptile mats and increase the chances of a positive and robust survey result.
- 3.3 The reptile mats were checked to determine reptile presence a total of eleven times during the period June to September 2021, seven of which were during suitable weather conditions and temperatures (18°C or below).
- 3.4 Observations of the reptile mats involved lifting each mat to near vertical and recording reptile presence. Where stones and log piles were found across site, they were lifted up in the same way in order to assess reptile presence. In all cases, the reptile mats were placed back in exactly the same location as they were found in order to prevent potential disturbance to reptiles and other wildlife that may use them.
- 3.5 Additional observations were undertaken during the checks and involved walking slowly, treading lightly, and scanning the area at least 3-4m in front. Focus was made on bare ground that could potentially be used by basking reptiles and where possible, care was made to avoid shadows falling on suitable habitat before checking.
- 3.6 The surveys were undertaken by Ann Sherwood, a senior ecologist and full member of CIEEM (20 years) with over 35 years of experience. She has a broad range of professional experience in consulting services including undertaking protected species surveys, designing mitigation and enhancement measures, and has undertaken numerous reptile surveys including undertaking grass snake and common lizard translocation. Ann was assisted on the surveys by Mark Johnson, an assistant ecologist with four years' experience.

### 4 LIMITATIONS

- 4.1 Due to the start of the surveys being delayed until June, four of the surveys were conducted in temperatures considered to be sub optimal. As a result, to get to seven valid surveys (in accordance with best practice guidelines), a total of 11 surveys were conducted over the survey season to account for these sub optimal surveys.

- 4.2 Ant nests had established under several the mats which may have rendered them less attractive to sheltering reptiles.

### 5 RESULTS

- 5.1 The sites habitats comprise a large waterbody and infrequently managed grassland which is bound by woodland, hedgerows and scrub.
- 5.2 A plan showing the location of reptiles during the survey is provided in Appendix A.
- 5.2 Overall, there were three grass snakes found during the surveys at North Farm with a peak count of one adult.
- S1 – single adult grass snake recorded on 9<sup>th</sup> June 2021 under metal boat next to lake, adjacent to Mat 11.
  - S6 – two juvenile grass snakes recorded on 5<sup>th</sup> August 2021: one under Mat 9 near lake, and the other under Mat 17, along northern boundary hedgerow / ditch (Photo 1 & 2).
  - S7 – shed skin of juvenile grass snake also found on 25<sup>th</sup> August 2021, under canoe next to Mat 11.



Photo 1 & 2. Juvenile grass snakes under mats 9 and 17 respectively.

- 5.3 The full details of the survey results, timings and weather conditions are presented in Table 1.

**Table 1. North Farm Survey Details**

Survey Number	Date of Survey	Survey Time	Results	Start Temperature	End Temperature	Start Humidity	End Humidity
1	09/06/21	08:50 – 09:55	One adult	16	18	82	73
2	23/06/21	09:15 – 10:20	N/A	13	16	63	56
3	15/07/21	12:45 – 14:00	N/A	23	24	75	89
4	21/07/21	08:30 – 09:30	N/A	20	21	68	70
5	28/07/21	09:00 – 10:05	N/A	18	19	66	69
6	05/08/21	12:30 – 13:30	Two juveniles	20	22	67	75
7	25/08/21	13:15 – 14:30	N/A	21	22	56	58
8	13/09/21	17:00 – 18:00	N/A	18	17	64	71
9	15/09/21	09:05 – 10:00	N/A	15	17	78	81
10	20/09/21	15:15 – 16:05	N/A	18	18	58	57
11	21/09/21	08:35 – 09:25	N/A	14	15	73	68

**Appendix A – Reptile Survey Results.**

## 6 INTERPRETATION

- 6.1 It can be concluded that these results suggest that the population of grass snakes based on the Froglife qualifying criteria is 'Low' (being less than 5 individuals per survey visit).
- 6.2 In addition, North Farm does not qualify as a Key Reptile Site according to the criteria set out in the Froglife guidelines.

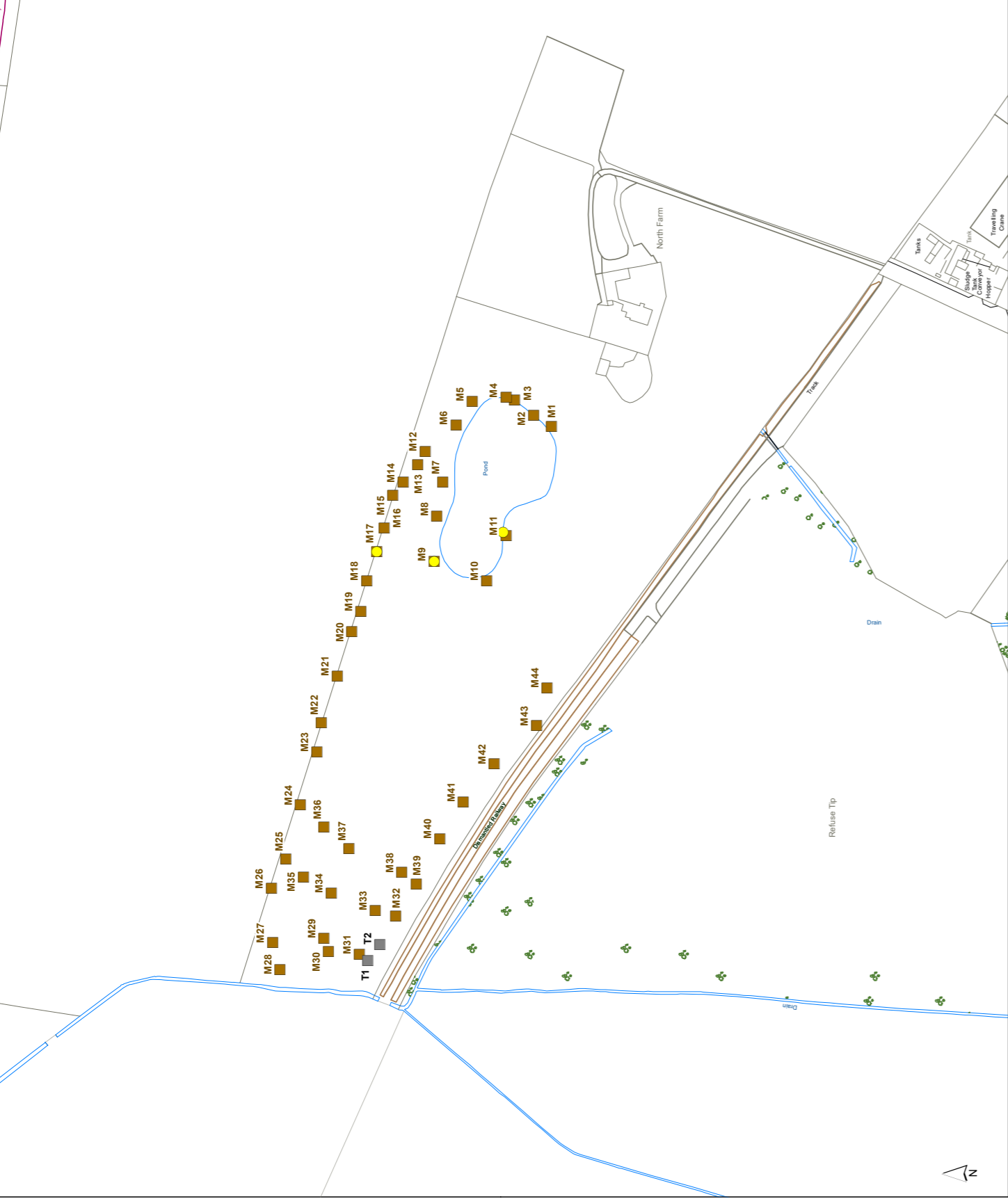
Yours sincerely



**Mark Johnson**  
Assistant Ecologist

Peer Reviewed:  
**Alex Scott**  
Senior Ecologist

North Arrow



KEY:

- M - Mat
- T - Tin
- Confirmed Reptile Sightings
- Grass Snake

Rev	Chg	Description	Date
01	184	MJ TB Created	01/09/2021

Purpose of Issue  
**S2 - Issued for Information**

Classification  
**Commercial in Confidence**

Client  
**GCP**

Project  
**CSET**

Drawing  
**Reptile Survey - North Farm**

Scale @ A3  
**1:2,500**

Drawn	Checked	Approved
SH	MJ	TB

Project No  
**CS101272**

Date  
**01/09/2021**

Drawing Identifier  
 Project - Originator - Zone - Level - File Type - Size - Number  
**P01.1**

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Plot date: 01/09/2021