

**MIRA TECHNOLOGY PARK SOUTH SITE,
WATLING STREET, WARWICKSHIRE**

REPTILE SURVEY

A Report to: ERI MTP Limited

Report No: RT-MME-154920-07 Rev A

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development".

Report Version	Date	Completed by:	Checked and Approved by:
Final	08/11/2021	Hannah Lewis MCIEEM (Senior Ecological Consultant) and Helen Griffin ACIEEM (Senior Ecological Consultant)	Hannah Train ACIEEM (Principal Consultant)
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The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 24 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to assess any changes in the status of reptile species on site, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

Middlemarch Environmental Ltd was commissioned by ERI MTP Limited to undertake a Reptile Survey at the site of a proposed development located south of Watling Street near Caldecote. The purpose of this survey was to determine the presence/absence of reptiles within the site.

As part of the Preliminary Ecological Appraisal completed by Middlemarch Environmental Ltd, a desk study for records of protected species was completed. This study identified one record of grass snake recorded within a 1 km radius of the site.

The hedgerows and dense vegetation along the stream on site offer suitable foraging and refuge opportunities for reptiles while also connecting the site to further habitat within the wider landscape. The patch of ephemeral/short perennial vegetation in the southern section of the site, along with the denser vegetation around it, provides a mosaic of habitats suitable for basking, foraging, and refuge. The wider landscape offers further suitable habitat in the form of hedgerows and fields.

No reptiles were recorded; therefore, no further survey or mitigation works regarding this species are required. Nevertheless, the site does provide suitable habitat for reptile species, and it is possible that individuals of more mobile species, namely grass snake, could pass through site on occasion.

Following assessment, the following recommendations are made:

- R1** The clearance of suitable reptile habitat (including field boundaries, the wide field margin along the southern section of the watercourse and the semi-improved grassland at The Elms Farm) should be undertaken under the supervision of an experienced ecologist. This will involve the clearance of vegetation in a directional manner to allow any herpetofauna to disperse and careful removal of any hibernacula. This should be completed when reptiles and amphibians are active. This is weather dependent but generally extends between March and October inclusive.
- R2** If works do not commence within 24 months, then this survey should be updated to assess whether reptiles have colonized the site in the intervening period.

CONTENTS

1. INTRODUCTION	4
1.1 PROJECT DESCRIPTION	4
1.2 DEVELOPMENT SITE DESCRIPTION AND CONTEXT	4
1.3 DOCUMENTATION PROVIDED	4
2. METHODOLOGIES.....	5
2.1 DESK STUDY	5
2.2 SITE SUITABILITY ASSESSMENT	5
2.3 PRESENCE/ABSENCE SURVEY.....	5
3. DESK STUDY	6
3.1 BIOLOGICAL RECORDS.....	6
4. RESULTS	7
4.1 INTRODUCTION	7
4.2 SURVEY CONSTRAINTS	7
4.3 SITE SUITABILITY ASSESSMENT	7
4.4 PRESENCE / ABSENCE SURVEY	8
5. DISCUSSION AND CONCLUSIONS.....	9
5.1 SUMMARY OF SITE PROPOSALS	9
5.2 REPTILE STATUS ON SITE	9
5.3 CONCLUSIONS AND SUMMARY OF POTENTIAL IMPACTS.....	9
6. RECOMMENDATIONS	10
7. DRAWINGS.....	11
REFERENCES AND BIBLIOGRAPHY	13
APPENDIX 1	14

1. INTRODUCTION

1.1 PROJECT DESCRIPTION

In May 2021, ERI MTP Limited commissioned Middlemarch Environmental Ltd to undertake a Reptile Survey at the site of a proposed development located south of Watling Street near Caldecote.

Middlemarch Environmental Ltd has also carried out a number of additional ecological surveys at the site. The results of these surveys can be found in the following reports:

- Preliminary Ecological Assessment Report (RT-MME-154920-01 Rev B);
- Great Crested Newt Habitat Suitability Index Assessment and eDNA survey (RT-MME-1054920-02 Rev B);
- Badger survey (RT-MME-1054920-03 Rev B);
- Bat Surveys (RT-MME-1054920-04 Rev B);
- Bat Activity Surveys (RT-MME-1054920-05 Rev B); and,
- Breeding Bird Survey (RT-MME-1054920-06 Rev A).

All native reptile species receive protection under UK law and are capable of being material considerations in the planning process. Further information about the legislation that protects reptile species is provided in Appendix 1.

1.2 DEVELOPMENT SITE DESCRIPTION AND CONTEXT

The proposed development site is located to the South of Watling Street near Caldecote in Warwickshire. Its central grid reference is approximately SP 358 951. The surrounding landscape is predominantly agricultural although the town of Nuneaton lies nearby to the south and the village of Caldecote is situated to the west. The northern boundary of the site is formed by Watling Street (the A5) and the south-western boundary by Weddington Lane (the A444). The south-eastern boundary abuts other fields, but a dismantled railway line, now the Weddington Way, is situated nearby, joining the proposed development site in the northeastern corner of the site.

The site is approximately 69 ha in size and dominated by arable fields. Field margins comprise hedgerows and a stream flowed from north to south through the centre of the site. The Elms Farm is also situated within the site. This comprises a residential dwelling and a complex of barns and associated gardens. Two farm ponds are also present on site.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Masterplan Option 10 B / 21092 SGP XX 00 DR A 111010 Rev M	SGP Architects + Masterplanners

Table 1.1: Documentation Provided by Client

2. METHODOLOGIES

2.1 DESK STUDY

As part of the Preliminary Ecological Appraisal (Report RT-MME-154920-01 Rev B) an ecological desk study was undertaken. The consultees for the desk study were:

- Warwickshire Biological Records Centre (in August 2020); and,
- Leicestershire and Rutland Environmental Record Centre (in October 2021).

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations. Relevant reptile data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

2.2 SITE SUITABILITY ASSESSMENT

An assessment of the suitability of the site to support reptile species was undertaken, based on a review of habitat characteristics and other parameters known to influence reptile distribution. The following parameters were considered:

- Location of site in relation to species range of native reptiles;
- Site management and disturbance;
- Topography and aspect of site;
- Vegetation type and structure;
- Likely prey abundance;
- Presence of refugia and potential hibernation habitat;
- Egg-laying site potential (grass snake and sand lizard only); and,
- Connectivity to surrounding habitat of potential value to reptiles.

The suitability assessment was used to design the route of survey transects for the presence/absence survey (see Section 2.3).

2.3 PRESENCE/ABSENCE SURVEY

A presence/absence survey for reptiles was undertaken in accordance with the best practice methodology detailed in the Herpetofauna Workers Manual (Gent and Gibson, 2003). This consisted of the following:

- An initial assessment of the potential reptile habitat characteristics was undertaken, in order to identify features and habitats of potential value to reptile species.
- Survey transects through the site were identified to ensure all suitable habitats were covered by the survey.
- Checks of any natural refugia present within the survey area, such as log piles or rubble piles, were undertaken.
- A series of artificial refugia were installed within the site to facilitate detection of reptiles (further detailed below).
- Seven survey visits to the site were undertaken to inspect natural and artificial refugia in suitable weather conditions.

100 artificial survey refugia were installed within the site during the first survey visit. These refugia consisted of squares of roofing felt approximately 500 mm x 500 mm.

Reptiles are ectotherms, deriving their body heat from the external environment. Therefore, the timing of the survey visits was dictated by the time of year and weather conditions. Where possible, surveys were undertaken on warm sunny days with little cloud cover and wind to maximise the probability of recording reptiles within the site. Suitable weather conditions for undertaking refugia checks are outlined in the Herpetofauna Workers Manual and are summarised in Table 2.1.

Parameter	Value
Temperature	9 - 17° C
Sunshine	Preferable
Cloud	Little or None
Wind	Low/None

Table 2.1: Suitable Weather Conditions for Reptile Surveys

3. DESK STUDY

3.1 BIOLOGICAL RECORDS

As part of the Preliminary Ecological Appraisal completed by Middlemarch Environmental Ltd, a desk study for records of protected species was completed which identified a single reptile record. This was a record of grass snake *Natrix Helvetica*, situated approximately 670 m north-east of the proposed development site.

It should be noted that the absence of records should not be taken as confirmation that a species is absent.

4. RESULTS

4.1 INTRODUCTION

The reptile habitat assessment and presence/absence survey were undertaken between 23rd August 2021 and 4th October 2021 by Hannah Lewis (Senior Ecological Consultant), Rowell Bingham (Ecological Consultant) and Joseph Graham (Ecological Project Officer).

4.2 SURVEY CONSTRAINTS

Three of the reptile survey visits were completed when the temperature was above the optimum range for surveys (9-17 °C). Two of these were just one or two degrees above this recommended temperature range and this is not considered to be a significant deviation from the methodology. Whilst one was three degrees over the recommended temperature range, the majority were conducted in good conditions, and this is not considered to present a significant constraint to a robust site assessment.

4.3 SITE SUITABILITY ASSESSMENT

The habitat characteristics of the site with regard to suitability to support reptile species are summarised in Table 4.1. Photographs of the habitats present on site are provided in Chapter 8

Reptile Habitat Characteristic	Description
Location of site in relation to species range of native reptiles	The site falls within the known ranges of the following UK reptile species: slow worm, common lizard, grass snake and adder. The desk study returned one record of grassland snake from within 1 km of the survey area.
Site management and disturbance	The site was dominated by arable fields which were regularly managed. Two ponds were located within the largest of these fields. A stream ran centrally through the site which was mostly shaded and overgrown with terrestrial vegetation. Managed gardens were present within the southern section of the site along with a small pasture and an area of semi-improved grassland. An area measuring approximately 80 m ² in the southern corner of the site was un-sown, with some colonising ephemeral/short perennial vegetation noted. A range of hedgerows delineated the field and site boundaries.
Topography and aspect of site	Three banks are present on site, the A5 road verge, an internal field margin and a bund adjacent to The Elms Farm. Banks can create high quality basking habitat for reptiles. The A5 road verge was south facing with high quality reptile habitat. The internal field boundary had a southerly aspect but was predominantly shaded by a hedgerow. The bund by The Elms Farm had a section with a southerly aspect and suitable habitat, and it was anticipated that the north-east aspect might catch the early morning sun and therefore provide basking opportunities.
Vegetation type and structure	The site comprises predominantly managed arable fields; however, the hedgerow lined field and site boundaries provide a network of vegetated corridors throughout the survey area. These are also connected to the stream which runs centrally through the site. Most field boundaries were narrow and vegetated with tall grasses and ruderal species. The locations with the most suitable vegetation structure for reptiles were the A5 road verge, a wide verge adjacent to the stream at the south of the site and the bund and semi-improved grassland around the Elms Farm.
Likely prey abundance	Habitats on site are likely to support invertebrates capable of sustaining common lizard and slow worm populations. Grass snakes are primarily associated with aquatic habitats and the stream and ponds on site may provide prey for this species. The ponds are known to support great crested newts and are suitable for other amphibian species too. Areas of unmanaged vegetation throughout the site are also likely to support populations of small mammals upon which grass snakes can predate.
Presence of refugia and potential hibernation habitat	Areas of unmanaged vegetation, particularly the hedgerows and along the stream, provide good quality shelter and protection for reptiles. No hibernacula were recorded on site.

Table 4.1: Summary of Reptile Habitat Characteristics (continues)

Reptile Habitat Characteristic	Description
Egg-laying site potential (grass snake only)	The site does not support any features which could provide potential egg-laying habitat.
Connectivity to surrounding habitat of potential value to reptiles	Overall habitat connectivity is generally good, with suitable reptile habitat present within the wider landscape. The hedgerows and stream provide opportunities for dispersal into areas of suitable habitat for reptile populations.

Table 4.1 (continued): Summary of Reptile Habitat Characteristics

The most suitable reptile habitats have been identified as the A5 road verge, the wide field margin along the southern section of the watercourse and the semi-improved grassland at The Elms Farm.

It should be noted that the presence of good quality reptile habitat (e.g. habitat providing features of value to reptiles) does not confirm that reptiles will be present at the site, just as the presence of low quality habitat does not confirm that reptiles will be absent.

As no impacts are anticipated to the A5 road verge, reptile transects were established along the southern section of the stream and at The Elms Farm. The location of reptile survey transects are plotted on Drawing C154920-07 in Chapter 7.

4.4 PRESENCE / ABSENCE SURVEY

Weather conditions at the time of each of the survey visits are presented in Table 4.2.

Date/Time	Parameter	Cloud cover (%)	Air temperature (°C)	Precipitation	Wind speed (F)
23-08-2021* 10:00	Preceding survey	Sunny			
	During survey	40	20	Dry	F1
13-09-2021 17:50	Preceding survey	Overcast			
	During survey	80	19	Dry	F2
20-09-2021 08:50	Preceding survey	Sunny			
	During survey	0	13	Dry	F2
21-09-2021 11:00	Preceding survey	Sunny with some clouds			
	During survey	30-50	18	Dry	F0-F3
22-09-2021 10:00	Preceding survey	Sunny			
	During survey	20	16	Dry	F1-F2
27-09-2021 10:20	Preceding survey	Sunny			
	During survey	20	14-15	Dry	F1-F3
30-09-2021 11:45	Preceding survey	Cloudy			
	During survey	100	13	Dry	F2-F4
04-10-2021 11:50	Preceding survey	Sunny			
	During survey	100	13	Dry	F2-F4

*Artificial refugia set out on site

Table 4.2: Weather Conditions During Survey Visits

No reptiles or signs of their presence (such as sloughed skins) were found during the site visits.

5. DISCUSSION AND CONCLUSIONS

5.1 SUMMARY OF SITE PROPOSALS

The proposal is for the construction of seven commercial units with associated access and parking. The entrance to the site from the A5 will utilise the existing site entrance on the roundabout to the existing Horiba MIRA site to the north. The exit onto the Weddington Lane will require the creation of a new site entrance and junction. The stream that runs centrally through the site will be retained in situ. A new crossing will be created over this to allow vehicular access to the western half of the site. Two internal hedgerows will be lost, but the external site boundary features will be preserved intact except the new entrance proposed onto Weddington Lane. Pedestrian and cycle access is proposed onto the site via the Weddington Walk on the disused railway line at the northeast corner of the site. A band of soft landscaping with planting and pools is proposed along this pedestrian walkway, around the eastern, western and southern boundaries of the site, and along the west of the stream. Whilst some of these pools are proposed for site drainage, it is understood that some are proposed for ornamental and wildlife purposes. No construction work is currently proposed on the westernmost field included in the survey area for this study.

5.2 REPTILE STATUS ON SITE

A single reptile record within 1 km of the site was identified in the desk study. This was a record of grass snake *Natrix helvetica*, situated approximately 670 m to the north-east. Whilst this is on the opposing side of the A5, which would be a major barrier to reptile movements, there is habitat connectivity between this record and the development site along the disused railway line, now the Weddington Way.

The most suitable reptile habitats within the site have been identified as the A5 road verge, the wide field margin along the southern section of the watercourse and the semi-improved grassland at The Elms Farm. The other field boundaries offer suitable foraging and refuge opportunities for reptiles while also connecting the site to further habitat within the wider landscape.

No reptiles were recorded on site during the survey.

5.3 CONCLUSIONS AND SUMMARY OF POTENTIAL IMPACTS

No reptiles were recorded; therefore, no further survey or mitigation works regarding this species are required. Nevertheless, the site does provide suitable habitat for reptile species, and it is possible that individuals of more mobile species, namely grass snake, could pass through site on occasion. The risk to reptile species is considered low overall; however, a precautionary recommendation has been provided in Chapter 6 to reduce this risk to negligible.

6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

- R1** The clearance of suitable reptile habitat (including field boundaries, the wide field margin along the southern section of the watercourse and the semi-improved grassland at The Elms Farm) should be undertaken under the supervision of an experienced ecologist. This will involve the clearance of vegetation in a directional manner to allow any herpetofauna to disperse and careful removal of any hibernacula. This should be completed when reptiles and amphibians are active. This is weather dependent but generally extends between March and October inclusive.
- R2** If works do not commence within 24 months, then this survey should be updated to assess whether reptiles have colonized the site in the intervening period.

7. DRAWINGS

Drawing C154920-07-01 – Survey Transects and Findings

REFERENCES AND BIBLIOGRAPHY

Betts, C. (2008). Checklist of Protected British Species. 3rd edition. Environmental Biology, Worcester.

Blomberg, S. and Shine, R. (1996), 'Reptiles'. IN: Sutherland, W. J. (ed). Ecological Census Techniques: a handbook. Cambridge University Press, Cambridge.

English Nature. (2004). Reptiles: guidelines for developers. English Nature, Peterborough.

Gent, T. and Gibson, S. (2003). Herpetofauna Worker's Manual – Second Edition, Joint Nature Conservation Committee, Peterborough.

The Highways Agency, Scottish Executive, Welsh Assembly Government and The Department For Regional Development. (2005). 'Design Manual For Roads And Bridges: Nature Conservation Advice in Relation to Reptiles and Roads'.

National Amphibian and Reptile Recording Scheme. Reptile Methods and Protocols. Available:
<http://www.narrs.org.uk>

Wildlife & Countryside Act (1981) As Amended.

APPENDIX 1

LEGISLATION

All of the UK's native reptiles are protected by law. The two rarest species – sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) – benefit from the greatest protection.

Common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix helvetica*) are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional killing or injuring.

Sand lizard and smooth snake are protected under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended) which together make it illegal to kill, injure, capture, handle or disturb these animals. Places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed. It is also illegal to obstruct these animals from using such areas.

All native reptile species are listed as Species of Principal Importance on the UK Post-2010 Biodiversity Framework (2012), and as such are material considerations in the planning process.

This is a simplified description of the legislation. In particular, the offences mentioned here may be absolute, intentional, deliberate or reckless. Note that where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.

The reader should refer to the original legislation for the definitive interpretation.