



Roxhill (Junction 15) Ltd

Northampton Gateway, Northamptonshire

REPTILE REPORT

OCtober 2017

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1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Ltd on behalf of Roxhill Developments Ltd. The report provides the results of a series of reptile surveys undertaken at M1 Junction 15, Northampton in 2014 and 2016/17. The proposed development site includes an area of land off Junction 15 of the M1 known as the main site and a site to the south of this known as the highway mitigation works site.
- 1.2 The report has been produced to accompany an Ecological Assessment of the development proposals and should be read in conjunction with that document.

Site Location & Context Site Location and Context

- 1.3 The 'Main Site' area covers approximately 180ha and is bound to the north by Collingtree Road, to the east by the M1, to the south by the A508 / Northampton Road and to the west by arable fields. The site itself comprises arable fields bisected by hedgerows of varying ages and structures, with areas of woodland, tree belts, grassland, ponds, wet ditches and several abandoned buildings (central grid reference SP 748 547).
- 1.4 The Bypass Corridor encompasses the majority of the Highway Mitigation Works. This area is bound to the north by arable fields and woodland, to the east by Roade and to the south and west by a mix of arable and grazed field compartments. The site itself comprises areas of grassland, a mix of arable and grazed fields bound by hedgerows and standard trees, with scrub, grassland, running water, dry ditches. The surrounding landscape consists of arable farmland with woodland blocks, pasture and scattered urban areas including the residential environs within the village of Roade to the east (centred on grid reference SP 748 516).
- 1.5 Additional sections encompassed by the 'Highway Mitigation Works' are located to the north and south of the main site and Roade Bypass.

Development Proposals

- 1.6 The development proposals comprise the construction of
- an intermodal freight terminal including container storage and HGV parking, rail siding to serve individual warehouses, and with the capability to also provide a 'rapid rail freight' facility as part of the intermodal freight terminal
 - Warehousing and ancillary buildings, with additional floorspace provided in the form of mezzanines
 - New road infrastructure and works to the existing road network, including the provision of a new access and associated works to the A508, a new bypass to the village of Roade, substantial improvements to J15 and to the J15A of the M1 motorway, the A45, and other highway improvements at junctions on the local highway network
 - Strategic landscaping and tree planting, including diverted public rights of way
 - Earthworks and demolition of existing structure on the main site

Objectives of Study

- 1.7 This report details the results of reptile surveys and the status of the reptile population, with mitigation, compensation and enhancement measures provided to ensure that the conservation status of the local reptile population is maintained following development.

Legislation

- 1.8 All common reptile species, including slow worm *Anguis fragilis*, common lizard *Zootoca vivipara* and grass snake *Natrix natrix*, are partially protected under Sections 9(1) and 9(5) of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This legislation protects these animals from:
- intentional killing and injury;
 - selling, offering for sale, possessing or transporting for the purpose of sale or publishing advertisements to buy or sell a protected species.
- 1.9 Reptiles native to the UK are also classified as a species of principle importance under the Natural Environment and Rural Communities Act 2006 (NERC).

2.0 METHODOLOGY

Desktop Study

- 2.1 In order to compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations including:
- Northamptonshire Biodiversity Records Centre (NBRC)
 - Northamptonshire Amphibian and Reptile Recorder
- 2.2 Further inspection, using colour 1:25,000 OS base maps and aerial photographs (www.ordnancesurvey.co.uk) was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

Field Survey

- 2.3 A strategic reptile presence / absence survey was undertaken at specific locations identified as offering potential habitat within the area of survey. The survey was undertaken based on methodology detailed in the *Herpetofauna Workers Manual* (Gent and Gibson, 1998) and the *Froglife Advice Sheet 10 - Reptile Survey* (Froglife 1999). Methods involved a search for basking reptiles on / under naturally occurring and strategically positioned artificial refugia. These were placed in locations that offered the most suitable habitat for common reptiles, i.e. structurally diverse grassland habitats with areas of bare ground/short vegetation, cleared woodland areas. In 2014 an area of suitable habitat within the Main site was surveyed while the Highway Mitigation Works was surveyed in 2016/17 with approximately 151 refugia placed across the site. The indicative location of refugia and the areas surveyed is shown in figure 1.
- 2.4 Surveys at the main site were undertaken in September/October 2014 while the highway mitigation works site surveys were undertaken in September 2016 and May 2017 by suitably experienced FPCR ecologists. The prevailing weather conditions, including relative wind speed, cloud cover, ambient temperature and any other notable weather, are provided in Table 1.
- 2.5 Guidelines recommend that reptile surveys be undertaken during the following periods:
- Air temperatures of between 9°C – 18°C
 - On sunny/cloudy days with little or no wind;
- 2.6 In addition, the surveys also followed the guidelines' recommendations by:
- Using regularly spaced roofing felt (0.5m²) as artificial refugia, with a black upper side;
 - Approaching refugia from downwind and avoiding casting a shadow and with care so as to not disturb basking animals when checking;
 - That lifting and replacing tins, to check for the presence of reptiles underneath in hot weather is undertaken with care, to avoid potential harm to any animals underneath.

Table 1: Date and Weather Conditions during Reptile Surveys

Survey	Date	Weather	Time
2014 Main Site Survey Conditions			
1	27/09/14	20% Cloud cover, 15°C	15:00
2	30/09/14	30% Cloud cover, 14°C	10:00
3	02/10/14	70% Cloud cover, 15°C	15:30
4	04/10/14	50% Cloud cover, 16°C	17:00
5	05/10/14	20% Cloud cover, 16°C	14:00
6	06/10/14	60% Cloud cover, 15°C	15:00
2017 Highway Mitigation Works Survey Conditions			
1	15/09/16	Cloud cover, light breeze, 17°C	10:05
2	20/09/16	Sunny, light breeze, 17°C	08:05
3	22/09/16	Sunny, cloud cover, 18°C	16:27
4	28/09/16	Sunny, light breeze, 15°C	09:31
5	30/09/16	Sunny, 15°C	09:04
6	15/05/17	Cloud cover, 16°C	12:45
7	31/05/17	Cloud cover, 18°C	20:00

Assessment

- 2.7 Reptile populations were assessed in accordance with population level criteria as stated in the Key Reptile Site Register (HGBI, 1998). This system classifies populations of individual reptile species into three population categories assessing the importance of the population (Table 2). These categories are based on the total number of animals observed during individual survey occasions.

Table 2: Key Reptile Site Survey Assessment Categories (HGBI 1998)

Species	Low Population (No. of individuals)	Good Population (No. of individuals)	Exceptional Population (No. of individuals)
Adder	<5	5 - 10	>10
Common lizard	<5	5 - 20	>20
Grass snake	<5	5 - 10	>10
Slow worm	<5	5 - 20	>20

3.0 RESULTS & ASSESSMENT

Desk Study

- 3.1 The following records were received within 1km from the local records centre/recorder and NBN:

- Two adder records: one 1km south west of the Highway Mitigation Works within the Stoke Bruerne Brickpits (LWS) and one 620m south west from 2003;
- Three grass snake records: 620m south west in 2003; 970m north in 2014 and 1km south west from 2007;
- One common lizard record 415m east;
- Slow worms were also recorded in the wider landscape over 1km from the site.

Field Survey

- 3.2 The arable fields that dominate the Main Site and Bypass Corridor represented a homogenous and intensively managed habitat that was unsuitable for reptiles. The unmanaged grassland of the road verges, including those of the M1, did provide some potential opportunities for reptiles to forage and shelter. However, as affected habitat was both limited in overall extent and fragmented from any other significant areas of suitable habitat, it was considered to be sub-optimal for reptiles. As a result of the very poor quality and / or fragmented nature it is considered reasonably likely that reptiles are absent from these habitats.
- 3.3 Suitable habitat was observed centrally within the main site and in the bypass corridor where vegetation structure was more favourable providing the required juxtaposition of areas of potential shelter, basking and foraging. The following evaluates the results of reptile survey and habitat assessment at each Site.

Main Site

- 3.4 A small population of common lizard (peak count 2 adults) is present in the grassland and scrub located immediately south of Churchills, which was identified incidentally during walkover surveys. Subsequent focused surveys failed to find this species suggesting that the population is small. Common lizards are a Species of Principal Importance that are widespread. The small population at the Main Site is therefore considered to be of no more than Local importance.
- 3.5 The watercourse RW1 in the south of the Main Site provides some limited potential commuting and/or foraging habitat for grass snake *Natrix natrix*. It is considered probable that grass snake may make occasional use of these habitats.

Bypass Corridor

- 3.6 A small population of common lizard (peak count 2 adults) made use of habitat located immediately adjacent to Roade Field pLWS and close to the Roade Cutting pLWS. The latter was inaccessible to direct reptile survey and it is considered that the common lizard population are also likely to make use of suitable habitat along this railway cutting, which extends north and south beyond the boundary of the Bypass Corridor. The presence of a common lizard population is considered to be of Local importance.
- 3.7 Grass snake were recorded on the banks of the ditch DD1 and also on the margins of the off-site pond P18, which is likely to represent a suitable foraging area for this species. Grass snake are a wide-ranging species and its use of habitats within the vicinity of the Bypass Corridor is considered to be of no more than Local importance.
- 3.8 No other species of reptile was noted during the surveys.

Table 3: Reptile Survey Results

Survey Occasion	Date	Grass Snake	Common Lizard	Other Reptiles
2014 Main Site Survey Results				
1	27/09/14	0	0	0
2	30/09/14	0	0	0
3	02/10/14	0	0	0
4	04/10/14	0	0	0
5	05/10/14	0	0	0
6	06/10/14	0	0	0
2017 Highway Mitigation Works Survey Results				
1	15/09/16	0	0	0
2	20/09/16	0	0	0
3	22/09/16	0	1 Adult*	0
4	28/09/16	0	0	0
5	30/09/16	0	1 Adult	0
6	15/05/17	1 Adult	0	0
7	31/05/17	1 Juvenile*	0	0

*off-site but within the wider survey area

Assessment

- 3.9 Grass snake are a wide-ranging species that make use of a variety of habitats and, as assessed under the Key Reptile Site Register (Table 2), it is considered that the site supports a 'Low' population of grass snake is present on site. The presence of a 'Low' population of common lizard was also confirmed.

4.0 DISCUSSION AND RECOMMENDATIONS

- 4.1 The following section provides details of mitigation required and an assessment of residual impacts as a result of the proposals. Habitat creation and enhancements designed as part of the final site layout are considered sufficient to ensure that the conservation status of local reptile populations is maintained.

Potential Impacts

- 4.2 Given that the use of habitats is likely to be no more than occasional, the loss of habitat is not considered significant. However, without mitigation there is a low risk that site clearance operations may result in an increased incidence of grass snake mortality through accidental killing or injury. Although this impact is considered to be of minor significance, mitigation measures are required to ensure legal compliance. The following section provides detail of best practice to ensure that grass snake are not harmed during the proposals. The presence of an off-site population of common lizard is not considered to propose a constraint to development.

Mitigation

- 4.3 In order to ensure that this species comes to no harm during development it is recommended displacement and sensitive removal of potential refuges from areas of affected suitable habitat. This would involve removing all potential refuges by hand and directional strimming under the supervision of a suitably qualified ecologist.
- 4.4 The following outlines the method for removal of reptile hibernation features within the application site boundary:
- The removal of the potential hibernation features described above will only take place during suitable weather conditions (daytime temperatures exceeding 9°C) within the reptile active season, which runs mid-March to mid-October, inclusive.
 - The removal of potential hibernation features, including dismantling of rubble piles and requires the supervision of a suitably qualified ecologist.
 - A fingertip search of the working area will be made immediately prior to any further ground works to ensure that grass snake are absent from the area of work. Further operations will only continue once grass snake are confirmed to be absent from the working area
- 4.5 Directional displacement will be applied to the clearance of suitable habitat located the site. This approach will involve the following key steps:
- Displacement shall only be undertaken during suitable weather conditions; (daytime temperature 9°C or higher) within the reptile active season, i.e. mid-March - mid-October, inclusive
 - Grassland will first be strimmed directionally to a height of 100mm and 1-2 hours later it will be reduced to 50mm. All strimming will be carried out from the centre of the working areas towards the retained / off-site areas of suitable reptile habitat
 - All arisings will be completely removed from the working area to prevent potential areas of refugia from being used by reptiles moving across the area

- A fingertip search of the working area will be made immediately prior to any ground works to ensure that all common reptiles are absent from the area of work. Further operations will only continue once common reptile species have been confirmed to be absent from the working area
- A sward height of 100mm will then be maintained until clearance (top soil stripping) is complete.

Residual Impacts

- 4.6 The mitigation measures described above are considered sufficient to ensure that the risk of harm to reptiles is minimised. Therefore, the implementation of these measures is sufficient to ensure that the proposals have a negligible impact upon the local reptile population.

