

# SEAWARD PROPERTIES LTD

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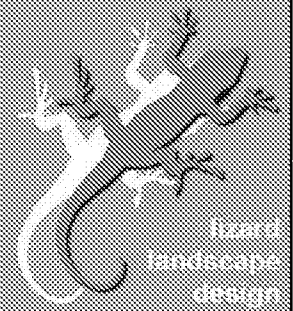
**Land at Lake Lane, Barnham,  
West Sussex**

***– Detailed Reptile Survey***

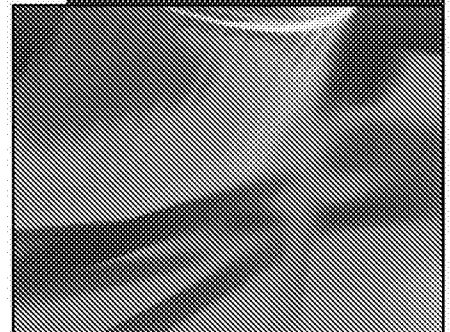
Approved By: Joe Jackson  
Signed:   
Position:  Principal  
Date: 29<sup>th</sup> November 2016

**November 2016 – Planning Issue**

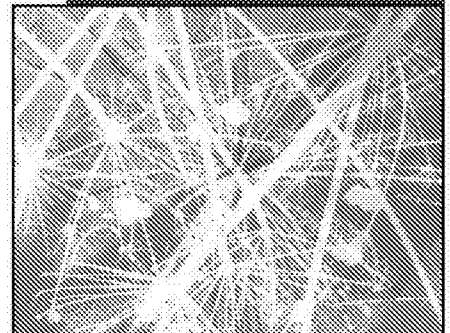
*LLD898.LakeLane.ReptileSurvey.Rev02.29.11.16*



*Landscape Architecture*



*Environmental Design*



*Landscape Planning*

***Lizard Landscape Design***

## SUMMARY

Seaward Properties Limited has commissioned Lizard Landscape Design and Ecology to undertake a Reptile Population Class Assessment Presence / Absence Survey of land at Lake Lane, Barnham, West Sussex (*Grid Reference: SU 965 047 – hereafter referred to as 'the site'*)

35 no. artificial reptile refugia (*roofing felt / Coroline; 0.50 x 1.0 m<sup>2</sup>*) were laid out around the site on 16<sup>th</sup> September 2015 and allowed to settle for 14 days prior to commencement of the survey. (*Location of the artificial reptile refugia is shown in Figure No. 01*). 07 no. site visits were conducted, and the number, species, age and sex of the reptiles present were recorded.

No reptiles were recorded during reptile surveys undertaken in September / October 2015. Amphibians including low numbers of common toad (*Bufo bufo*) and palmate newt (*Lissotriton helveticus*) were recorded on 57% of the survey visits.

Small populations of reptiles can be difficult to detect, but the negative results obtained should provide adequate reassurance that development can proceed without legislative contravention of legal framework protecting reptiles within England and Wales (*The Wildlife and Countryside Act 1981*).

The survey was undertaken towards the end of the survey season. Despite some survey visits being undertaken during October, weather conditions during the surveys were optimal with temperatures of 13-18°C and fine, dry days. The optimum weather conditions add further confidence to the negative result.

The lack of reptiles on site is probably attributable to the highly shaded nature of the site. The tall southern tree line casts a shadow over much of the site for long periods of the day. This combined with the tall vegetation over much of the site means that sunlight at ground level is extremely limited while the dense nature of the scrub limits basking opportunities further. Basking is essential for any reptile; therefore the lack of opportunity for this behaviour negates the potential for reptiles to be present on this site.

## 1.0 INTRODUCTION

- 1.1 Seaward Properties Limited has commissioned Lizard Landscape Design and Ecology to undertake a Reptile Population Class Assessment Presence / Absence Survey of land at Lake Lane, Barnham, West Sussex (*Grid Reference: SU 965 047 – hereafter referred to as ‘the site’*)
- 1.2 The survey was recommended within the Extended Ecology Phase 1 Habitat Survey undertaken on 9<sup>th</sup> September 2015, due to habitat being identified as having the potential to support protected species of reptiles. This report outlines the results of the reptile surveys, reptile mitigation strategy and habitat enhancements. This report has been prepared by Catherine O’Reilly (*BSc; Project Ecologist – Lizard Landscape Design and Ecology*) and reviewed by Joe Jackson (*BA (Hons) LA DipLA CMLI; Director; Lizard Landscape Design and Ecology*).

### **Site Information**

- 1.3 The development site is located due south of Lake Lane, towards the eastern edge of Barnham, West Sussex. The site is approximately 8.00 metres above sea level and measures approximately 0.40 hectares. The site is comprised in the majority by tall ruderal, scrub and tree lines with a central gravel access drive.
- 1.4 The site boundaries are edged by Lake Lane to the north; residential properties to the west; horticultural glasshouses to the south; and the eastern boundary of the site is abutted by amenity grassland. Soil on site is described as loamy with naturally high groundwater. There are no areas of *Ancient Woodland* or woodland highlighted on *The National Inventory of Woodland and Trees* within the development area or immediately adjacent to the site area.

### **Survey Rationale**

- 1.5 The ecological survey conducted during September 2015 identified habitats of tall ruderal, dense / continuous scrub and improved grassland vegetation with hedging and tree lines to the site boundaries.

- 1.6 The matrix of dense scrub, tall ruderal, grassland and tree lines provides optimal habitat for a range of UK reptile species. The potential for reptiles to be present on the site is further augmented by confirmed populations of grass snake, slow worm and common lizard to the south of the development area.

### ***Development Proposals***

- 1.7 The development proposals consist of the construction of 5 no. new residential units on the site. This survey has been undertaken on the assumption that development proposals would incorporate a large percentage of the available site area; to include associated residential properties; hard standing and amenity / garden areas.

### ***Widespread Reptiles***

- 1.8 The common or viviparous lizard (*Zootoca vivipara*) has a wide range over most of Europe. Its body can reach 7.0 centimetres in length and can have variable patterns and colour. Slow worm (*Anguis fragilis*) is also found over most of Europe and they can reach lengths of up to 50.0 centimetres and are typically brown, grey or reddish, with females frequently having a dorsal stripe. The grass snake (*Natrix natrix*) is a thick-bodied snake that may reach up to 120.0 centimetres in length, with many of the species having a distinctive yellow and black collar. The adder (*Vipera berus*) has a characteristic diamond pattern along its back.
- 1.9 Adders, grass snakes, common lizards and slow worms are protected against killing, injury or sale under *The Wildlife and Countryside Act 1981*. Developments that could predictably kill or injure reptiles could result in an offence. Furthermore, these species are targets of UK and Local Biodiversity Action Plans and listed as *Species of Principle Importance* under *Section 41* of *The Natural Environment and Rural Communities Act 2006*. This obligates local authorities to have regard to the purpose of conserving biodiversity with particular emphasis on targeted species.
- 1.10 The *National Planning Policy Framework (published March 2012)* states that the planning system should minimise impacts on biodiversity and provide net gains, where possible.

## 2.0 SCOPE OF SURVEY

2.1 The aim of the reptile survey was to:

- *identify the presence / absence of reptile species within the site as a whole;*
- *estimate population size classes for said populations;*
- *advise mitigation for reptiles within the proposed development scheme.*

## 3.0 METHODOLOGY

3.1 35 no. artificial reptile refugia (*roofing felt / Coroline; 0.50 x 1.0 m<sup>2</sup>*) were laid out around the site on 16<sup>th</sup> September 2015 and allowed to settle for 14 no. days prior to commencement of the survey. (*Location of the artificial reptile refugia is shown in Figure No. 01*).

3.2 07 no. site visits were conducted and the number, species, age and sex of the reptiles present were recorded.

3.3 Surveys were undertaken during recommended times (*08:00–11:00 and 16:00–18:30*) with suitable weather conditions for surveying reptiles (*guidelines recommend temperatures between 9°C and 18°C, with intermittent or hazy sunshine during warm days*). Weather conditions recorded at each survey visit are shown in Table No. 01.

**Table No. 01 – Details of Weather Conditions during the Reptile Surveys**

| <b>Survey</b> | <b>Date of Visit</b> | <b>Time</b> | <b>Weather</b>                    |
|---------------|----------------------|-------------|-----------------------------------|
| <b>01</b>     | 30.09.15             | 10:00       | 16°C – Fine, dry, calm            |
| <b>02</b>     | 01.10.15             | 10:00       | 15°C – Fine, dry, calm            |
| <b>03</b>     | 02.10.15             | 10:00       | 15°C – Fine, dry, calm            |
| <b>04</b>     | 06.10.15             | 15:00       | 13°C – Sun / showers              |
| <b>05</b>     | 08.10.15             | 15:00       | 14°C – Sun with periods of clouds |
| <b>06</b>     | 09.10.15             | 10:00       | 18°C – Fine, dry, calm            |
| <b>07</b>     | 13.10.15             | 10:00       | 14°C – Fine, dry, calm            |

### **Constraints**

- 3.4 Much of the site was inaccessible due to the dense nature of the vegetation. However, it is not envisaged that these particularly dense areas would have provided optimum reptile habitat.
- 3.5 The area of the site along the public footpath is subject to moderate levels of foot traffic. Initially, the artificial refugia within this area were removed; however, after signs were erected and mats replaced, no further issues of this type were encountered.

### **3.6 Evaluation Methodology**

Despite its withdrawal, *Natural England Technical Information Note TIN102* still provides a valuable resource tool to allow the comparison and evaluation of reptile populations on site. A population size class category has been derived using guidance provided by the Key Reptile Site Register mechanism (*Froglife – Advice Sheet 10*), designed to promote the protection of key reptile areas.

- 3.7 To meet the key reptile site selection criteria, the site must:
- *support 3 no. or more reptile species;*
  - *support 2 no. snake species;*
  - *support an exceptional population of 1 no. species (see Table No. 02);*
  - *support an assemblage of species scoring at least 4 (see Table No. 02);*
  - *support a local rarity or adder with low population score.*
- 3.8 The population size classes used in this instance are provided in *Froglife – Advice Sheet 10* and displayed in Table No. 02.

**Table No. 02 – Population Scores for Selection of Key Reptile Sites**

| <b>Species</b>       | <b>'Low'<br/>Score 1</b> | <b>'Good'<br/>Score 2</b> | <b>'Exceptional'<br/>Score 3</b> |
|----------------------|--------------------------|---------------------------|----------------------------------|
| <b>Adder</b>         | < 5                      | 5 – 10                    | > 10                             |
| <b>Grass Snake</b>   | < 5                      | 5 – 10                    | > 10                             |
| <b>Common Lizard</b> | < 5                      | 5 – 20                    | > 20                             |
| <b>Slow Worm</b>     | < 10                     | 5 – 20                    | > 20                             |

- 3.9 Figures in Table No. 02 refer to the maximum number of reptile adults seen by observation and / or under refugia by one person during one survey visit with artificial refugia placed at a maximum density 10/ha.

## 4.0 RESULTS

### **Background Information**

- 4.1 Previous survey work carried out by Lizard Landscape Design and Ecology identified a low population of grass snake (*Natrix natrix*), slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) on land directly to the south of the site.

### **Field Survey**

- 4.2 A summary of reptiles seen on the site during the survey visits is shown below in Table No. 03. The full results are shown in *Appendix No. 01 – Full Survey Results*.
- No reptiles were recorded during reptile surveys undertaken in September / October 2015.
  - Amphibians including low numbers of common toad (*Bufo bufo*) and palmate newt (*Lissotriton helveticus*) were recorded on 57% of the survey visits (04/07).

**Table No. 03 – Full Reptile Survey Results**

| <i>Visit</i> | <i>Date</i> | <i>°C</i> | <i>Weather</i>            | <i>Opt?</i> | <i>Trap No.</i> | <i>Species</i> | <i>M/F/J</i> |
|--------------|-------------|-----------|---------------------------|-------------|-----------------|----------------|--------------|
| 01           | 30.09       | 16        | Fine, dry, calm           | Y           | 11              | CT             | M            |
|              |             |           |                           | Y           | 30              | PN             | J            |
| 02           | 01.10       | 15        | Fine, dry, calm           | Y           | 15              | CT             | J            |
| 03           | 02.10       | 15        | Fine, dry, calm           | Y           | 19              | CT             | J            |
| 04           | 06.10       | 13        | Sun / showers             | Y           | N/A             | N/A            | N/A          |
| 05           | 08.10       | 14        | Sun with periods of cloud | Y           | N/A             | N/A            | N/A          |
| 06           | 09.10       | 18        | Fine, dry, calm           | Y           | N/A             | N/A            | N/A          |
| 07           | 13.10       | 14        | Mostly sunny, some cloud  | Y           | 11              | CT             | J            |

CT – Common Toad; PN – Palmate Newt; M/F/J – Male /Female/ Juvenile

## 5.0 EVALUATION

- 5.1 No reptiles were recorded during the survey undertaken September / October 2015. The survey strongly suggests that the site area potentially affected by development is not of value to the *Favourable Conservation Status* of reptiles within the vicinity. Moreover, the results suggest that reptiles should not be an ecological constraint to these development proposals. There is a '*negligible*' risk of killing and / or injuring reptiles during the construction process.
- 5.2 Small populations of reptiles can be difficult to detect, but the negative results obtained should provide adequate reassurance that development can proceed without legislative contravention of legal framework protecting reptiles within England and Wales (*The Wildlife and Countryside Act 1981*).
- 5.3 The survey was undertaken towards the end of the survey season. Despite some survey visits being undertaken in October, weather conditions during the surveys were optimal with temperatures of 13-18°C and fine, dry days. The optimum weather conditions add further confidence to the negative result.
- 5.4 The lack of reptiles on site is probably attributed to the highly shaded nature of the site. The tall southern tree line casts a shadow over much of the site for long periods of the day. This combined with the tall vegetation over much of the site means that sunlight at ground level is extremely limited, while the dense nature of the scrub limits basking opportunities further. Basking is essential for any reptile so the lack of opportunity for this behaviour negates the potential for reptiles to be present on this site.
- 5.5 The shaded nature of the site creates a perpetually damp atmosphere well suited to amphibians during their terrestrial life stage. Common toads were recorded on 3 no. survey visits, and a palmate newt was identified on 1 no. visit. No great crested newts were recorded during the survey. The common toad (*Bufo bufo*) is listed as a UK Priority species due to recent population decline, and although it is not offered any protection through EU or UK legislation, local planning authorities should consider issues relating to any UK Priority species.

- 5.6 The area immediately adjacent to the southern tree line is to be retained under current development proposals. This area is believed to provide optimum habitat for common toad (*Bufo bufo*) and could be further enhanced with the addition of log piles to provide a damp, stable environment. It is believed that the most beneficial ecological enhancement that could be implemented would be to incorporate linear areas of long herbaceous / rough grassland vegetation around the site periphery within the development scheme. The results of this survey do not justify the formulation of a detailed reptile mitigation strategy. Any such actions completed to the basic specification outlined would be considered an enhancement and not compensation or mitigation.

## 6.0 REFERENCES

*Griffiths, R. A. and Inns, H.: Surveying: Herpetofauna Workers' Manual; (1998)*

*Gent, A. H. and Gibson, S. D. (Eds.): Joint Nature Conservation Committee; Peterborough, Pp. 1 – 6*

*www.arc-trust.org – Herptile Conservation Trust and Froglife Merged (2009)*

*The Guidelines from Froglife (Factsheet 10); Froglife (1999)*

*Natural England Technical Information Note TIN102; Natural England (2011)*

## **Appendix No. 01 – Reptile Artificial Refugia Survey Full Results**

Site: Land at Lake Lane, Barnham

Client: Seaward Properties Ltd

Surveyor: CO

| <i>Visit No.</i> | <i>Date</i> | <i>Time</i> | <i>°C</i> | <i>Weather</i>  | <i>Trap No.</i> | <i>Species</i> | <i>Ad/J</i> |
|------------------|-------------|-------------|-----------|-----------------|-----------------|----------------|-------------|
| <b>01</b>        | 30.09.15    | 10:00       | 16        | Fine, dry, calm | 11              | CT             | M           |
|                  |             |             |           |                 | 30              | PN             | J           |

| <i>Visit No.</i> | <i>Date</i> | <i>Time</i> | <i>°C</i> | <i>Weather</i>  | <i>Trap No.</i> | <i>Species</i> | <i>Ad/J</i> |
|------------------|-------------|-------------|-----------|-----------------|-----------------|----------------|-------------|
| <b>02</b>        | 01.10.15    | 10:00       | 15        | Fine, dry, calm | 15              | CT             | J           |

| <i>Visit No.</i> | <i>Date</i> | <i>Time</i> | <i>°C</i> | <i>Weather</i>  | <i>Trap No.</i> | <i>Species</i> | <i>Ad/J</i> |
|------------------|-------------|-------------|-----------|-----------------|-----------------|----------------|-------------|
| <b>03</b>        | 02.10.15    | 10:00       | 15        | Fine, dry, calm | 19              | CT             | J           |

| <i>Visit No.</i> | <i>Date</i> | <i>Time</i> | <i>°C</i> | <i>Weather</i> | <i>Trap No.</i> | <i>Species</i> | <i>Ad/J</i> |
|------------------|-------------|-------------|-----------|----------------|-----------------|----------------|-------------|
| <b>04</b>        | 06.10.15    | 15:00       | 13        | Sun / showers  | N/A             | -              | -           |

| <i>Visit No.</i> | <i>Date</i> | <i>Time</i> | <i>°C</i> | <i>Weather</i>             | <i>Trap No.</i> | <i>Species</i> | <i>Ad/J</i> |
|------------------|-------------|-------------|-----------|----------------------------|-----------------|----------------|-------------|
| <b>05</b>        | 08.10.15    | 15:00       | 14        | Sun with periods of clouds | N/A             | -              | -           |

| <i>Visit No.</i> | <i>Date</i> | <i>Time</i> | <i>°C</i> | <i>Weather</i>  | <i>Trap No.</i> | <i>Species</i> | <i>Ad/J</i> |
|------------------|-------------|-------------|-----------|-----------------|-----------------|----------------|-------------|
| <b>06</b>        | 09.10.15    | 10:00       | 18        | Fine, dry, calm | N/A             | -              | -           |

| <i>Visit No.</i> | <i>Date</i> | <i>Time</i> | <i>°C</i> | <i>Weather</i>           | <i>Trap No.</i> | <i>Species</i> | <i>Ad/J</i> |
|------------------|-------------|-------------|-----------|--------------------------|-----------------|----------------|-------------|
| <b>07</b>        | 12.10.15    | 10:00       |           | Mostly sunny, some cloud | N/A             | -              | -           |

**CT – Common Toad; PN – Palmate Newt; M – Male; Ad – Adult; J – Juvenile**