

**LAND ADJACENT TO 47 BRYANSTON
ROAD, SOUTHAMPTON**

**REPTILE SURVEY & MITIGATION
STRATEGY**



A Report to: Abri

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1. INTRODUCTION

1.1 BACKGROUND

In May 2023, Abri commissioned MMEcology to undertake a Reptile Survey of suitable habitats at a parcel of land adjacent to 47 Bryanston Road in Southampton, Hampshire. This assessment is required to inform a planning application associated with a new housing development of 8 dwellings, along with parking and landscaping. Figure 1 below shows the proposed site layout.



Figure 1. Proposed site layout

1.2 SITE DESCRIPTION

The application site is located at National Grid Reference SU 43900 12130, at the bottom of Bryanston Road which is located on the outskirts of Bitterne in Southampton. The site is approximately 0.38ha in size and located in a predominantly residential area, with dwellings and their gardens located to the east and south of the site. Immediately to west is an active railway track, beyond which is an industrial estate and the River Itchen. Immediately to the north is the private gardens of a row of semi-detached dwellings associated with Ashburnham Close. The site is situated within an urban setting with residential and industrial developments to all sides.

The application site is dominated by dense areas of tall ruderal vegetation and bracken. A small, wooded area is located on an embankment in the eastern corner of the site. There are a small number of trees scattered on site and a small patch of amenity grassland. It is understood that the site has been vacant for a number of years. Figure 2 shows the location of the site in the wider landscape.

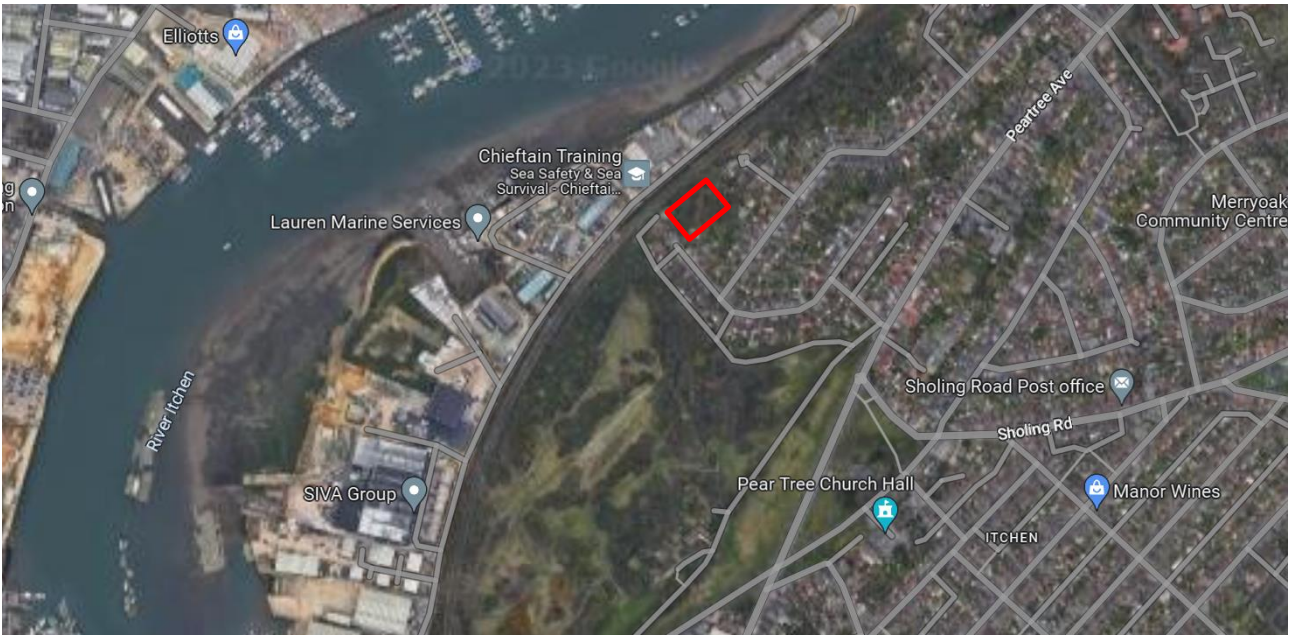


Figure 2. Location of the proposed site (Source: Google maps)

2. METHODOLOGY

2.1 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 works:

- An initial assessment of the habitats on site, in order to identify habitats of potential value to reptile species.
- A total of 30 artificial refugia were installed within the site to facilitate detection of reptiles. These refugia consisted squares of roofing felt, measuring approximately 500mm x 500mm.
- Seven survey visits to inspect the artificial refugia in suitable weather conditions.

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. The surveys were undertaken in suitable weather conditions 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 1 below.

Parameter	Value
Temperature	9 - 17° C
Sunshine	Preferable.
Cloud	Little or none, unless on warm days
Wind	Low or none

Table 1. Suitable weather conditions for reptile surveys

In order to provide an assessment of site importance for reptiles, the results of the survey were analysed in the context of Froglife Advice Sheet 10 - Survey Assessment: Key Reptile Sites (Froglife, 1999). This provides a simple methodology for assessing the value of a site to reptile species, based upon the number of species recorded on site and the peak adult count for each species per hectare, when refugia are installed at a density of up to 10 per hectare. The guidelines for assessing the value of the site to reptile species are summarised in Table 2.

Reptile Species	Low Population	Good Population	Exceptional Population
Slow worm	<5 individuals/ha	5-20 individuals/ha	>20 individuals/ha
Common lizard	<5 individuals/ha	5-20 individuals/ha	>20 individuals/ha
Grass snake	<5 individuals/ha	5-10 individuals/ha	>10 individuals/ha
Adder	<5 individuals/ha	5-10 individuals/ha	>10 individuals/ha

Table 2: Reptile population assessment criteria

3. LEGISLATION

All of the UK's native reptiles are protected by law. Common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix natrix* are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional killing or injuring. The two rarest species, sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*, are additionally protected under The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019, extending the protection to their habitats and against disturbance.

4. RESULTS

On 09 May 2023, a total of 10 reptile refugia were installed within the small patch of amenity grassland on site and left for 10 days before checking to allow them to 'bed-in' (Figure 3). The dense areas of bracken and tall ruderal vegetation were considered to be unsuitable for reptiles. During the first check, as a result of periodic management of the site, pathways previously heavily covered by tall ruderal vegetation and bracken were cleared, resulting in open areas of value to reptiles as per Figure 4 below and therefore 20 additional reptile mats were deployed. In total 30 reptile mats were placed on site in May 2023. The approximate location of the refugia is marked on Figure 5. The presence/absence checks were carried out between May and June 2023.



Figure 3. View of the reptile mats on site



Figure 4. Example of pathways cleared to allow access to the site, creating more areas of suitable habitat for reptiles on site



Figure 5. Approximate location of the reptile refugia on site

Table 3 below summarises the weather conditions and the findings of the presence/absence survey work, with Figures 6 and 7 showing example of species found on site.

Visit number	Date	Weather & Time	Slow worm	Common lizard	Adder	Grass snake
1	19.05.23	10% (cloud), 12°C (temperature), F1 (wind), Dry (precipitation), 10:30 (time)	5 Adults (3 Female + 2 Male) 1 Juvenile	-	-	-
2	23.05.23	0%, Sunny, 15°C, F1, Dry, 11:00	3 Adults (2 Females + 1 Male)	-	-	-
3	26.05.23	40% with intermittent sun, 14°C, F1, Dry, 11:00	2 Adult (1 Male + 1 Female)	-	-	-
4	29.05.23	0%, Sunny, 13.5°C, F1, Dry, 10:30	1 Adult (1 Female)	-	-	-
5	02.06.23	0%, Sunny, 14°C, F1, Dry, 10:00	2 Adults (1 Male + 1 Female)	-	-	-
6	06.06.23	0%, Sunny, 14.5°C, F1, Dry, 10:00	-	-	-	-

7	09.06.23	15°C, F1, 0%, Sunny, Dry, 09:00	3 Adults (2 Female + 1 Male) 1 Juvenile	-	-	-
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Table 3. Presence/absence survey results



Figure 6. Example of slow worms found on site



Figure 7. Example of slow worms found on site

The reptile surveys confirmed the presence of slow worms within the surveyed areas. The location of positive records of reptiles is shown on Figure 8. No other reptile species were found during the surveys.



Figure 8. Location of slow worms on site (red dots)

As only slow worms were found to be present on site, the development site could not be considered a key reptile site, as it does not meet any of the criteria detailed in Section 2.4. As the maximum number of adult slow worms recorded within the surveyed area during one visit was 5, according to Froglife Advice Sheet 10 (1999) a 'Good' population of slow worms is present (i.e. 5 individuals in 0.38ha = 13 individuals/ha [5-20 individuals/ha]).

5. CONCLUSIONS

5.1 SUMMARY OF PROPOSALS

Construction of 8 residential units, along with parking and landscaping is proposed.

5.2 FINDINGS OF REPTILE SURVEY

The reptile surveys undertaken between May and June 2023 confirmed the presence of a 'Good' population of slow worm on site. During the surveys, a maximum count of 5 adult slow worms were identified during any one site visit. No other reptile species were recorded during the surveys.

5.3 CONCLUSIONS

The proposed construction of the residential units will result in the permanent loss of the majority of the areas of suitable habitat for reptiles. If unmitigated, the proposed works are likely to result in killing/injury of slow worms within the works footprint. Therefore, to avoid any adverse impacts such as killing or injury and loss of habitat, mitigation measures are required to ensure compliance with relevant wildlife legislation.

6. MITIGATION STRATEGY

In order to achieve the proposed development, loss of the majority of the existing suitable habitat on site for reptiles is unavoidable. An estimated area of 0.04ha of species-rich grassland will be created on site, along the western and north-western boundaries of the site. This habitat will be located between the offsite railway track to the west and new residential gardens to the east. This onsite receptor site will have connectivity to the retained woodland and new scrub planting located in the north-east of the site, along with residential gardens, allowing the population to disperse. Through tree planting, installation of features such as hibernacula and log piles and sensitive management, the carrying capacity of this area will be further increased, providing a better quality habitat for reptiles on site. The location of the onsite receptor site for reptiles is shown below:



Figure 9. Location of onsite reptile receptor site

To ensure that individual reptiles are removed from the area which will become part of the development plot, it is proposed that a programme of capture and exclusion will be implemented as per below:

- The extent of reptile exclusion fencing will be marked out on site (Figure 10).
- Direct search of the fence line prior to installation will be carried out by a suitably qualified ecologist.
- The reptile exclusion fence line will be installed around the works footprint to English Nature (2004) specification (Figure 11). The exclusion fence will be erected around the works footprint and retained during the construction zone to prevent reptiles from entering the working area once trapping and re-location is complete. The condition of the exclusion fencing will be monitored throughout the trapping programme and construction phase, and repairs will be carried out as necessary.

- Due to the majority of the site being unsuitable for reptiles due to the presence of dense tall ruderal vegetation and bracken, these areas will initially be cleared to 150mm above ground, during the active reptile season (March – October). This will allow the installation of refugia.
- Reptile refugia will then be installed along the inside of the fence line and around suitable habitat features to attract reptiles and aid capture. Refugia will consist of tiles of roofing felt approximately 0.50 m x 0.50 m. Approximately 50 refugia will be used.
- The refugia will be checked once a day with trapping and re-location of reptiles carried out for a minimum of 30 consecutive days (with 5 clear days) during reptile active season to the receptor area. Trapping of reptiles will be undertaken during the optimal weather conditions outlined in the Herpetofauna Workers Manual (Gent and Gibson, 1998).
- In addition to the installed refugia, any discarded materials on site such as rubble, household waste, garden waste, etc. will be dismantled and removed offsite under the supervision of an ecologist.
- Upon completion of the trapping period, vegetation will be cleared to ground level under the supervision of an experienced ecologist, to facilitate topsoil stripping to be carried out.
- Supervision of destructive search to strip the topsoil and make the habitats on site unsuitable for reptiles will be carried out.
- The exclusion fencing will be removed at the end of the construction period.

Reptiles will be re-located and allowed to remain within onsite receptor site along the western and north-western boundaries of the site, covered by an area of newly created species-rich grassland. Prior to the commencement of the capture and relocation programme, the receptor site will be made suitable and landscaped for reptiles. This will include the removal of any bracken and scrub. The area will then be seeded with a species-rich grassland seed mix such as Emorsgate EM10 tussock mixture. This mixture supports 20% native wildflowers and 80% grasses such as Yarrow *Achillea millefolium*, Common Knapweed *Centaurea nigra*, Musk Mallow *Malva moschata*, Ribwort Plantain *Plantago lanceolata*, Salad Burnet *Poterium sanguisorba*, Meadow Buttercup *Ranunculus acris*, Wild Carrot *Daucus carota*, Crested Dogstail *Cynosurus cristatus*, Red Fescue *Festuca rubra*, Tufted Hair-grass *Deschampsia cespitosa* and Meadow Fescue *Schedonorus pratensis*. Further tree planting (5no. small trees) will be carried out in this area to provide a mosaic of habitats.

An appropriate grassland management for reptiles will be employed. Once established, tussocky grassland requires minimal maintenance, including a main late summer/early autumn hay cut. The annual mowing will be carried out on a rotational basis to maintain good structural diversity (only 50% of the grassland to receive a cut to 150mm on each given year).

A single log pile and a hibernacula will be created within the receptor site. Approximate location of these features is shown on Figure 10. The specifications follow those shown in Design Manual for Roads and Bridges (DMRB) Annex D Volume 10 Section 4 Part 7 HA 116/05.

Population monitoring will give an indication as to the success of the re-location project, as well as indicating if any remedial actions may be required. Therefore, monitoring of the re-located reptile population is recommended to be undertaken for a period of two years after the first occupation of the dwellings on site.

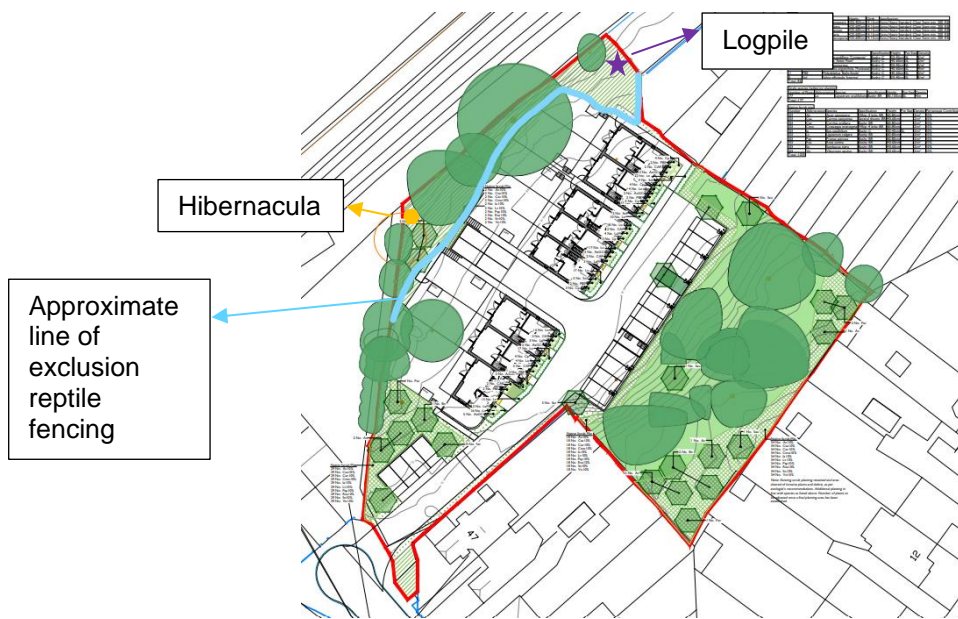


Figure 10. Location of exclusion fencing & approximate location of logpile and hibernacula

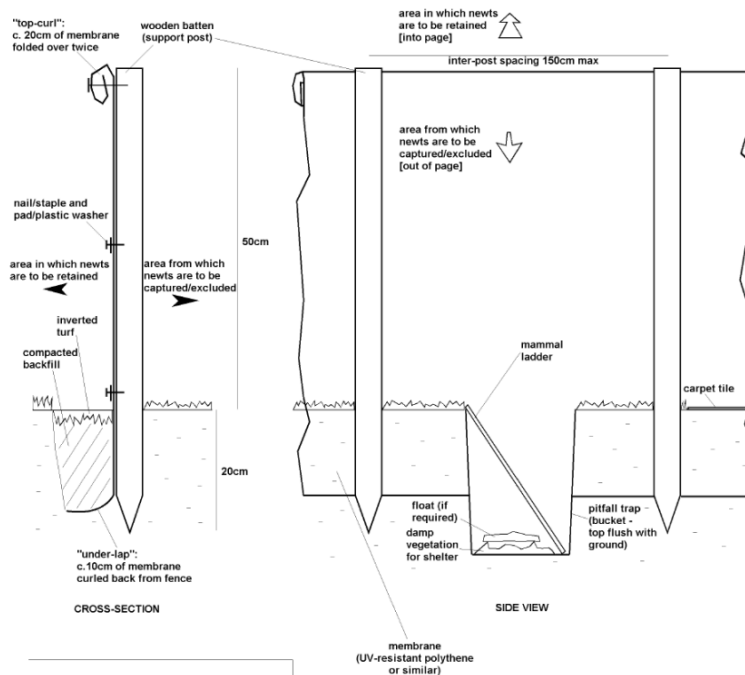


Figure 11. Exclusion fencing specification

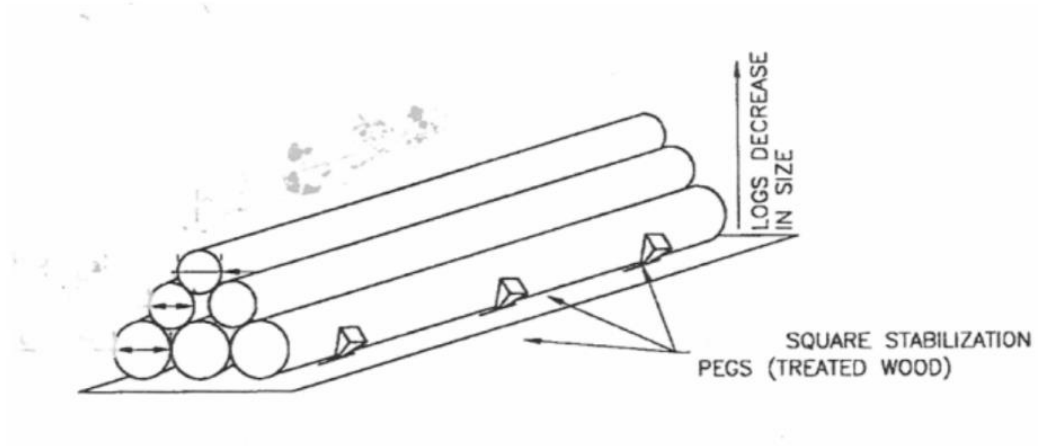


Figure 12. Logpile specification

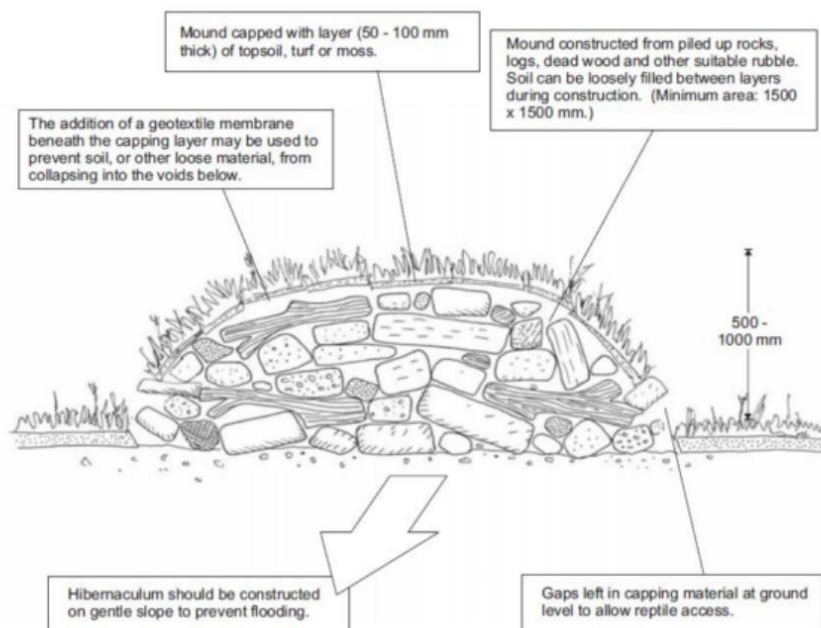


Figure 13. Hibernacula specification

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