



Land at Tortington, Arundel:

Outline Reptile Mitigation Strategy

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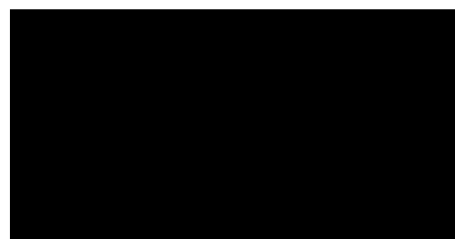
For: The Earl of Arundel

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1 INTRODUCTION

Site Location and General Description

- 1.1 The site consists of three agricultural fields at the southern urban boundary of Arundel. The centre of the settlement of Tortington is approx. 770m to the south of the site.
- 1.2 The site is split across two areas separated by a row of mature trees running in a north to south direction. To the west of these trees is a single arable field and to the east of these trees are two pasture fields.
- 1.3 To the north the site is bounded by the southern urban area of Arundel, in the middle of this boundary there is a large area of allotments. To the east the site is bounded by Ford Road: this is the main route south out of Arundel leading to the settlement of Ford. To the south the site is bounded by the minor road Priory Lane. To the west the site is bounded by a triangular agricultural field.
- 1.4 The OS grid reference at the centre of the site is GR: TQ1100571 and the total site area is approx. 9.8ha.

Purpose of this Document

- 1.5 Representatives of the Earl of Arundel have prepared an Outline planning application for a residential development at the site. The detailed design and layout of the residential area is outside the scope of the application.
- 1.6 Engain were first engaged to provide ecological advice to feed into the application design process in 2018. Completing various surveys and assessments up until 2020 to inform the application and planning decision. The results of all surveys and results undertaken to date are present within a report titled Ecological Assessment Report, dated 27th October 2020.
- 1.7 At the time of writing the outline planning application (ref: AB/135/20/OUT) is in determination. The Council's Ecology Officer Liz Annalls has reviewed the application and made the following comments with regard to reptiles on 15th December 2020.

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“As detailed within the Ecological Assessment Report (Nov 2020) reptiles have been found onsite. Due to this mitigation is required. Unfortunately no mitigation proposals have been included within the assessment, we require that prior to the determination a full mitigation strategy is submitted. The mitigation strategy will need to include details of reptile fencing, translocation methods, the translocation site / enhancements and the timings of works.”

- 1.8 The Ecology Officer also commented on the same date in respect of great crested newts.

“We are pleased to see that areas of grassland and a new wetland area will be created on site which will benefit GCN. We require that a precautionary approach is taken for GCN and further details of this should be included within the reptile mitigation strategy discussed above.”

- 1.9 This document provides the outline mitigation strategy for reptiles. It includes a summary of the relevant survey information, an assessment of the likely impacts of the consented development in the absence of mitigation and details the proposed mitigation strategy to avoid impacts and ensure habitat enhancements for reptiles are incorporated into the development design.
- 1.10 The measures set out in this document to protect reptiles will also protect other wildlife, such as great crested newts, as these species are only likely to be found in the same habitats within the construction area.

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2 LEGISLATION

2.1 The four widespread species of reptiles in the UK, comprising adders (*Vipera berus*), slow-worms (*Anguis fragilis*), grass snakes (*Natrix helvetica*) and common lizards (*Zootoca vivipara*), are protected under *The Wildlife and Countryside Act 1981* (as amended). This makes it an offence to intentionally or recklessly:

- Damage or destroy any structure or place used for shelter or protection;
- Disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Obstruct access to any structure or place which any such animal uses for shelter or protection.

2.2 The legislation therefore requires that, before destroying or removing habitat where reptiles are likely to be present, suitable precautions are taken to ensure that no reptiles are harmed, either through the habitat destruction itself or through the consequences of habitat removal (i.e., the loss of habitat sustaining that population).

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3 BASELINE CONDITIONS

Survey Methods

- 3.1 Reptile presence/absence surveys were carried out during 2019, following standard guidance and methodologies outlined in the Herpetofauna Workers' Manual (Gent & Gibson, 2003) and Froglife Advice Sheet 10 (Froglife, 1999), updated in Sewell *et al.* (2013).
- 3.2 A total of 100 reptile mats (sections of roofing felt approximately 0.5 m x 0.5 m) were distributed throughout the site on the 7th August 2019. Mats were positioned within suitable reptile habitat at the field margins of the site (see Appendix 1: Reptile Mat Locations).
- 3.3 After installation, the mats were left for ten days to “bed in” (i.e., settle into the vegetation and for reptiles to become accustomed to their presence) before surveys began. Seven checks were conducted periodically between 12th of September 2019 and the 22nd of October 2019.

Survey Results

- 3.4 The overall site provides poor terrestrial habitat for reptiles, being agricultural land subject to regular disturbance. However the margins of the site and adjoining habitats, particularly the allotments do provide a good mosaic of habitats with structural diversity favoured by reptiles.
- 3.5 The surveys detected the presence of three herpetofauna species, comprising slow worms, common lizard and grass snake. The majority of the reptiles were observed in the area of the site adjoining the allotments to the north as per the Reptile Location Plan at Appendix 2.
- 3.6 The peak count of individuals found for the three species was as follows:
 - slow worm – three individuals on two occasions
 - common lizard – one individual on three occasions
 - grass snake – one individual on one occasion

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- 3.7 Male and female slow worms were recorded; however, no juveniles were observed. Adult male and female common lizards were observed as well as juveniles. A single large adult grass snake was observed next to the allotment.
- 3.8 Full survey details (including date, weather conditions and temperatures) are given in Table 1.

Table 1: Reptile Survey Results (2019)

Date	Time	Weather Conditions	Temp (°C)
12 th September	10:30 – 12:30	Wind: 1; Rain: 0; Cloud: 2	18
17 th September	12:30 – 14:00	Wind: 2; Rain: 0; Cloud: 0	20
18 th September	08:00 – 09:00	Wind: 1; Rain: 0; Cloud: 0	15
26 th September	11:20 – 13:00	Wind: 3; Rain: 0; Cloud: 7	18
18 th October	13:00 – 15:30	Wind: 3; Rain: 0; Cloud: 3	19
15 th October	13:30 – 15:40	Wind: 3; Rain: 0; Cloud: 4	16
22 nd October	11:00 – 12:45	Wind: 1; Rain: 0; Cloud: 1	16

- 3.9 It is difficult to convert survey counts of reptiles into a reliable indication of relative population size, as each survey visit only reveals a small sample of the

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population. It is possible however to obtain a basic evaluation following the categories set out in *Froglife Advice Sheet 10*.

- 3.10 Following these guidelines, the population of the tree reptile species found onsite is considered 'Low'.

4 POTENTIAL IMPACTS

Construction

- 4.1 The construction process will involve vegetation clearance and ground works in suitable habitat within the site. The exact location of this work is yet to be determined. This is the critical part of the project during which reptiles and other wildlife are most at risk from harm. Once these works have been completed, the residual risk of harm during construction relates only to the potential for wildlife to enter the construction area. This risk is minimised so as to be negligible by the removal of suitable habitat (*i.e.* preventing recolonising of plants on bare ground, raising stored materials above ground level on pallets to prevent the provision of suitable refugia and removal of waste debris).
- 4.2 In the absence of mitigation, there is potential for reptiles or other wildlife to be harmed or killed during vegetation removal and topsoil stripping throughout the site.
- 4.3 In the absence of mitigation, it is possible that reptiles or other wildlife would be harmed during the construction period following demolition and vegetation clearance, should they enter the work area to bask or shelter amongst materials or debris.

Operation

- 4.4 After construction is complete, the consented development will comprise a mixture of built form and landscaping. A holistic approach, considering both amenity and biodiversity provision, will be considered when managing landscaping in and around the development site.
- 4.5 In the absence of mitigation, the loss of field margins and other vegetative features at the site will result in a reduction in suitable reptile habitat, impacting reptiles at a site level.

Summary

- 4.6 In the absence of mitigation, the likely effect of the project on reptiles is:

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- Killing or injury of reptiles during construction; and
- Loss of suitable habitat.

4.7 These effects therefore need to be avoided, mitigated or compensated, the details of which are provided in the following section.

5 AVOIDANCE, MITIGATION AND ENHANCEMENT

Construction

- 5.1 The primary means of avoiding harm to reptiles and other wildlife including amphibians during construction (specifically during the vegetation clearance and topsoil strip) will be to translocate animals out of the construction area.
- 5.2 Suitable habitat that falls within the construction area will be encircled by temporary exclusion fencing. The exact positioning of the exclusion fencing will be determined once the full amount of habitat removal is known, likely to be after the approval of reserved matters. An illustrative plan is provided here, which will need to be updated once the final layout is designed.
- 5.3 Prior to the translocation, the baseline surveys for reptiles will be repeated to verify the population estimate and assist in targeting areas for the translocation. Depending on the results of this, the site may be further sub-divided by reptile fencing.
- 5.4 A minimum capture effort of 30 days, or until five clear days with no reptiles caught, will be employed during the translocation. Any reptiles found during the translocation will be removed to the receptor area (the wider landscape).
- 5.5 Dismantling of suitable refugia within or adjacent to the translocation area (such as rubble or woody debris) will avoid the gravid period (May to July) and will be supervised by a suitably qualified ecologist. Any individuals found during this exercise will be translocated to the receptor site (the wider landscape). The exercise would also find any amphibians such as great crested newts that were present.
- 5.6 Vegetation clearance and topsoil stripping at the translocation area will be supervised by a suitably qualified ecologist and take place during periods of fine and warm weather (generally above 10°C) and will be undertaken in a sensitive and phased manner (with a period of 48 hours between phases), to make habitats less suitable for wildlife and encourage independent movement away or to installed refugia where they can be captured and translocated to the receptor site:

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- *Phase 1* – Cut rough grassland, scrub and other tall vegetation to a height of c. 15 cm and remove arisings;
- *Phase 2* – Cut vegetation to ground level and remove arisings; and
- *Phase 3* – Soil strip in construction areas.

5.7 After soil stripping, the construction area will be maintained as bare earth until construction begins, to minimise the likelihood of vegetation recolonising the area and providing new habitat for reptiles. The exclusion fencing will remain in place for the duration of the construction period or until such time as no suitable habitat remains and the fencing is no longer required to protect reptiles.

Operation

5.8 Providing habitat enhancements in the receptor site, around the boundary of the development site, and at retained and enhanced habitat, will mitigate the effects of the loss of habitat as a result of construction. An illustrative plan of these enhancements is provided here, which will need to be updated once the final layout is designed.

5.9 The majority of existing hedgerows will be retained, protected and enhanced for wildlife. Additional infill planting will include shrub and understory species planting, incorporating a similar variety of native woody species, (such as hazel, elder and dog rose) that are known to increase structural diversity and attract appropriate fauna for foraging reptiles.

5.10 Mitigation for loss of the reptile habitat at the site will be provided through the retention and future management of green infrastructure with higher value (*i.e.* the species-rich hedgerows), and the creation of new green and blue infrastructure, where existing reptile habitat will be retained and enhanced as an area of green public open space.

5.11 The Sustainable Urban Drainage System (SUDS) for the proposed development includes an attenuation basin that can be planted with appropriate plant species associated with ponds and wet ditches. This will increase the diversity of invertebrates at the site and provide a new foraging resource for reptiles.

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- 5.12 Providing a hibernaculum in a suitable area of the development can enhance the value of the site for reptiles and amphibians by providing additional sheltering opportunities for these species. To be of optimal value, the hibernaculum should be built in a sunny (ideally south-facing) and well-drained area of the site, in an area of tussocky grassland. A hibernaculum would ideally be created at the base of a hedge bank in an appropriate location. A suitable design for the hibernaculum will be provided in the LEMP, although it could also be created via informally piled logs or stones with or without a covering of turf.
- 5.13 Management of reptile habitats in and around the site will be the responsibility of the organisation in charge of construction during the construction phase of the development and a resident's management company during the occupation phase.
- 5.14 Management will comprise maintaining retained and newly created reptile habitat in and around the site boundaries through an annual vegetation maintenance regime, never cutting grassland to less than 15 cm to avoid injuring or killing individuals. This annual cut will take place outside of the breeding bird season (March to August inclusive) to avoid disturbing nests with eggs or fledglings. The optimal time of year will be the autumn transitional period, to ensure that wildlife is active and can move away independently. The condition of the reptile hibernacula will be assessed during these annual cutting periods and should maintenance be required this will be carried out.

Summary and Conclusion

- 5.15 The proposed translocation strategy will ensure that the risk of injuring or killing reptiles is avoided. It will also capture and remove other wildlife such as amphibians that are within the construction area. The proposed mitigation, in the form of habitat enhancements, will both safeguard the longevity of existing good quality habitat and create new foraging and refuge opportunities for reptiles and amphibians at the site.



Survey Area



Reptile mats installed on 07/08/19 at approx. 10m intervals in suitable habitat (approx. 100 in total)



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ON BEHALF OF

The Norfolk Estate

PROJECT

Land at Tortington, Arundel

SCALE

NTS

PROJECT NO

eg17809 003

DATE

08.02.2021

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TITLE

Reptile Mat Locations



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Key



Slow worm record



Common lizard record



Grass snake record

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DATE

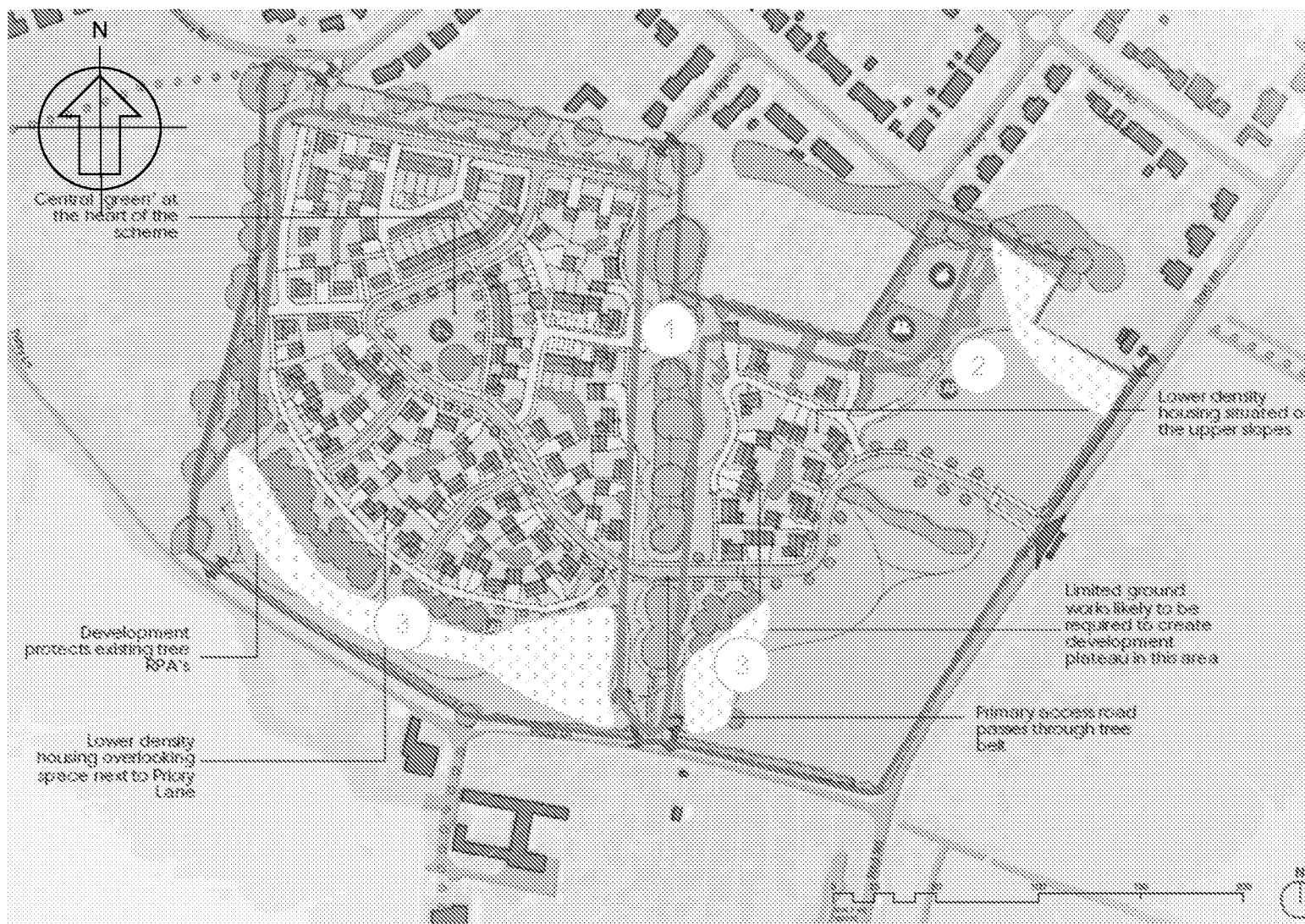
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Reptile Location Plan



Temporary exclusion fencing around suitable reptile habitat that falls within the illustrative development areas. Upon completion of construction, the north-south habitat corridor will become available as reptile habitat again.

Existing reptile habitat with south-facing areas fenced and enhanced prior to construction, to provide a receptor area for any reptiles removed from the exclusion zone

Area enhanced for reptiles during the construction period, to include new SUDS features, scrub habitat, hibernacula and south-facing basking habitat



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ON BEHALF OF
The Arundel Estate

PROJECT
Land off Ford Road, Arundel

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Figure 2: Illustrative Reptile Mitigation Plan