

Land to the Rear of 251 Pagham Road: Reptile Mitigation Addendum

Background

The site known as Land to the Rear of 251 Pagham Road, PO21 3QB (**Fig 1**) was granted planning permission (P/125/14/PL) for the development 40 new dwellings in 2016. This proposal was supported by Phase I & II Ecological Surveys report (Ecosupport 2015) which identified a 'Good' population of Slow Worms (*Anguis fragilis*) and a 'Low' population of Grass Snakes (*Natrix natrix*) and Common Lizard (*Zootoca vivipara*).

Figure 1. Bing aerial image of the site with approximate redline boundary.



The original intention was to undertake some significant habitat improvement works on the site to accommodate the reptile populations within a 'wildlife buffer'. However this would require a full year for the areas to reach maturity (i.e. become suitable to accommodate the reptiles), and the developer has therefore asked that we explore alternative strategies involving an off site translocation which would avoid these delays and bring forward dwelling delivery from the site.

This addendum therefore outlines the measures that will ensure adherence to the relevant legislation and local policy along with the maintenance of the local reptile populations.

Results of the Reptile Survey on Site

Table 1 and Fig 2 below outlines the results of the reptiles survey undertaken on the site during late summer 2013. Given the nature of the habitats on site and that the management has not changed since the survey, it is not anticipated the numbers noted will have significantly changed.

Table 1. Tabulated results of the reptile survey undertaken on site.

Date	Time	Air temp (°C)	Mat No	Weather conditions	<i>N. natrix</i>	<i>Z. vivipara</i>	<i>A. fragilis</i>
30/9/13	12:30	19	2, 3, 4, 5	Mild and overcast	1 hatchling	-	7 adult females 1 adult male 1 yearling
2/10/13	13:30	22	2, 4, 5, 6	Intermittent sunshine	-	1 adult	4 adult females 1 adult male
4/10/13	11:20	19	5	Overcast, light breeze	-	-	5 adult females
7/10/13	14:30	18	2, 5, 7	Windy, sunny spells	-	-	4 adult females
8/10/13	17:20	17	5, 6, 7	Calm, overcast and mild	-	-	4 adult females 1 adult male
10/10/13	12:00	13	2, 5	Sunny	-	-	3 adult females 2 yearlings
15/10/13	11:30	14	3, 5, 7	Sunny, light breeze	1 hatchling	-	1 adult female 1 adult male

Figure 2. The distribution of reptile mats across the site with red indicating presence and yellow absence.



The following table (**Table 2**) from the Froglife guidelines (1999) provides a scoring system for categorising reptile populations. Based on this information the site can be considered to support:

- A '**GOOD**' population of Slow Worms (i.e. max count of 9)
- A '**LOW**' population of Common Lizards and (i.e. max count of 1)
- A '**LOW**' population of Grass Snake (i.e. max count of 1)

The presence of three reptile species means the site can be considered a 'Key Reptile Site' though presence was confined to the orchard area. There are records for both Lizard and Grass Snake within 2 km of the site though no recent Slow Worm records.

Table 2. Estimating reptile populations. Figures in the table refer to the maximum number of adults recorded per hectare under refugia during a single survey.

Species	Low population (score 1)	Good population (score 2)	Exceptional population (score 3)
Adder	<5	5 - 10	> 10
Grass snake	<5	5 - 10	> 10
Common Lizard	<5	5 - 20	> 20
Slow Worm	<5	5 - 20	> 20

To qualify for the Key Reptile Site Register, the site in question must meet at least one of the following criteria:

- Supports 3 or more reptile species
- Supports two or more snake species
- Supports an 'exceptional' population of one species (see above)
- Supports an assemblage of species scoring at least 4 (see above)
- Does not satisfy points 1 – 4 but which is of particular regional importance (due to local rarity)

Revised Proposal

To allow for works to commence on site following a more timely schedule, the pre existing strategy of retaining the reptile population *in situ* is proposed to be changed to an *ex situ* translocation. The specifics of this revision are outlined in the below sections.

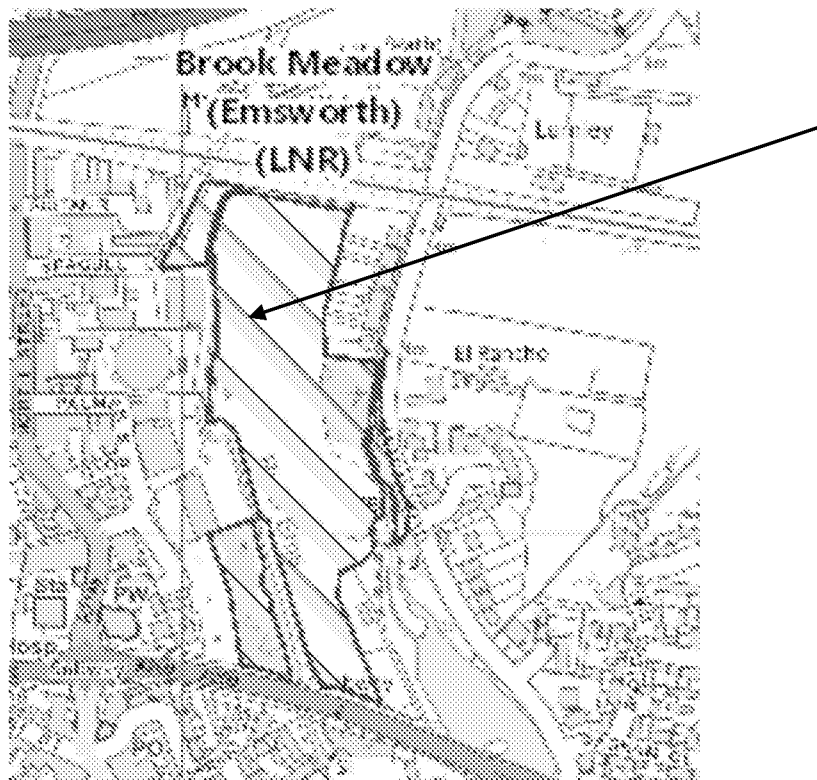
Receptor Area

The basic principles required of an offsite receptor as stated within the Herpetofauna Workers Manual (Gent & Gibson, 2003) are as follows:

- Be of a suitable size for the number of animals to be moved;
- Provide good quality habitat according to known ecological requirements of the translocated species;
- Be safe, at least in the foreseeable future, from land use changes that would harm the population.
- Preferably hold some form of protected status or be open land of low intensity use where survival is highly likely.

A suitable site to accommodate the reptiles (and which meets the above specification) has been identified within part of the Brook Meadow Local Nature Reserve (LNR) (**Fig 3**) which is located approximately 9 miles from the development site.

Figure 3. The Brook Meadow LNR (reproduced under OS licence number 100048821). The arrow indicates the approximate position of the north meadow where the reptiles will be moved too (and have been previously).



The potential usage of this site has been agreed by the Brook Meadow Conservation Group and (in principle) the Havant Borough Council ecologist (Tristan Norton). In support of works previously undertaken on site the LNR has been described as (CSa 2015):

'The site comprises c.4.5 hectares of meadow, scrub and woodland habitats. Two tributaries of the River Ems run southwards through the site, towards Mill Pond to the south of the site, flanked by damp woodland. The site comprises three meadow areas (north, central and south) with the southern and to some extent central meadow being subject to flooding from the River Ems tributaries during heavy flood events. The northern meadow, which comprises c. half of the meadow area, has a drier nature, with no flooding of this area being recorded. The north meadow and associated scrub / woodland habitat is considered to provide excellent habitat for reptiles providing both foraging, basking and hibernation opportunities. The site is bordered by the railway line to the north, the south-facing banks of which are colonised with scrub and tall ruderal vegetation, providing further resources and connectivity to additional habitat within the wider area

The site is managed by the Brook Meadows Conservation Group, on behalf of Havant Borough Council who own the site. A Management Plan (2015 to 2018) for the site is in place, and management practices and objectives set out within the plan are compatible with the

requirements for reptile mitigation. Meadow areas are cut on a rotational basis (every 2-3 years), with one cut in July and remaining areas being cut in October. Cuts are made in a mosaic style, whereby only small areas of are cut at any one time using smaller machinery over a long time period to minimise impacts on wildlife. Some marginal areas are left uncut, or cut by hand / power scythe once every three years.'

Receptor Site Population Baseline

Based on information provided by CSa, it is understood the site has been used as a donor from two previous development schemes in 2014 and 2015. The 2014 exercise moved an estimated 100 reptiles (just Slow Worms) (The Ecology Co-Op 2014) with a further 31 Slow Worms in 2015 (CSa 2015). Following the completion of these surveys a monitoring survey was undertaken by CSa in 2016 to ascertain the success of the translocation. This survey covered the north meadow area and the results are provided below in **Table 3**.

Table 3. Reptile monitoring results from north meadow as provided in CSa (2016)

Date	Reptiles Recorded	Area Reptiles Recorded	Weather Conditions
01.09.2016	2 ♂, 1 ♀, 4 immature	Seagull lane patch, North Meadow (North and East) and Central meadow	17°C, 3/8 Cloud cover, Wind - 1, Dry
09.09.2016	3 ♂, 4 ♀, 10 immature	Seagull lane patch and North Meadow (North and West)	19°C, 8/8 Cloud cover, Wind - 1, Recent rain
12.09.2016	3 ♂, 3 ♀, 8 new born	Seagull lane patch and North Meadow (North)	18°C, 8/8 Cloud cover, Wind - 2, Recent rain
19.09.2016	1 ♂, 2 ♀, 2 new born	Seagull lane patch and North Meadow (North)	17°C, 8/8 Cloud cover, Wind - 2, Light shower at end of survey
21.09.2016	5 ♂, 3 ♀, 8 immature, 4 new born	Seagull lane patch, North Meadow (North and East) and Central meadow	17°C, 8/8 Cloud cover, Wind - 1, Recent rain
23.09.2016	4 ♂, 4 ♀, 1 immature, 1 new born	Seagull lane patch and North Meadow (North)	18°C, 1/8 Cloud cover, Wind - 1, Shower at end of survey
27.09.2016	2 ♂, 1 ♀, 3 immature, 3 new born	Seagull lane patch and North Meadow (North and East)	16°C, 8/8 Cloud cover, Wind - 1, Recent rain

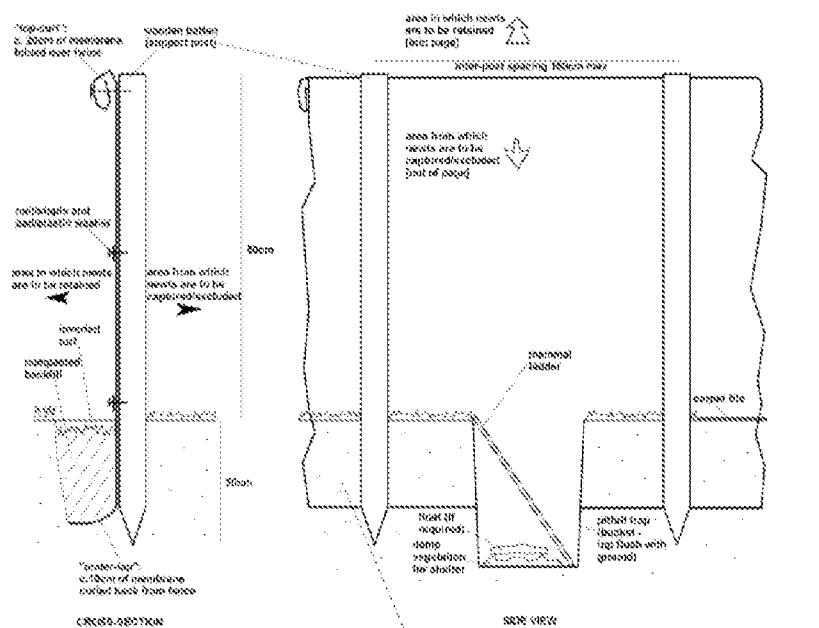
The above results indicate the persistence of a 'Good' population of Slow Worms although no Common Lizards were noted (which would likely be explained by their increased mobility as a species and dispersal into contiguous habitats). Although no Grass Snakes have been found, the habitats can be considered suitable for the species according to their known requirements (Edger et al., 2010)

Taking into account the numbers of reptiles moved into the LNR, its total area, suitability of contiguous habitat and the low numbers of reptiles anticipated to be captured from the land to the rear of 251 Road Pagham site there are not considered to be any potential issues with exceeding carrying capacity.

Capturing Works

Prior to any reptile capturing taking place, the suitable habitat areas will be set up with a perimeter of reptile exclusion fencing (where practicable) to aid in the capture process. The reptile exclusion fencing will be of a standard design and specification (as described in the *Great Crested Newt Mitigation Guidelines*, English Nature, 2001, **Fig 2**). This fence will remain *in situ* until completion of construction works. The purpose of this is to prevent reptiles moving onto site during the capture operation and subsequent construction.

Figure 4. Fence design and specification as provided in English Nature, 2001).



Artificial bitumen roofing felt and corrugated tin capture refugia will be distributed within all areas of suitable reptile habitat within the exclusion fence boundary to facilitate the capturing process at a minimum density of 100 / ha.

Reptiles will be captured by hand by a Suitably Qualified Ecologist (SQE) from beneath artificial refugia, or wherever they are encountered on site and placed into a suitable transportation container where they will be immediately taken to the Brook Meadow LNR release area.

Following the HGBI (1998) guidelines, it is recommended that for low populations of Slow Worms, Common Lizards and Grass Snake a total of 60 days trapping during suitable weather conditions should be expended.

Capture efficacy will be enhanced through using a high density of capture refugia along with selective habitat management which will seek to create a mosaic of longer grassy areas with shorter ones. In the longer areas a high density of capture refugia will be used which will increase the reptiles reliance of using the refugua for shelter. Any habitat management will be undertaken using a hand held strimmer and cut to a height no lower than 10 cm and under the supervision of an Ecological Clerk of Works (ECoW). Following the conclusion of 60 days of capturing (or before if 5 negative capture visits are recorded), all suitable habitats on

site will be soft stripped by a 360 using a toothed bucket again under the supervision of a ECoW who will capture any remaining reptiles encountered for transportation to the receptor site.

Management, Enhancements & Monitoring

As described within the CSa report (2015) there is an existing management strategy for the Brook Meadows LNR that is sympathetic towards the presence of reptiles (and their habitat requirements). The only ecological enhancement that would therefore be considered appropriate for this new scheme would be the creation of an egg-laying heap for Grass Snakes. Given the grass cuttings from the site would need to be removed, it is considered the most effective solution would be to create a wooden framed open fronted composting area where the grass cuttings can be placed in. Edger et al (2010) suggest such heaps should be at least 1 m³ but ideally much larger and cannot be interfered with between June and September. The heap should also be replenished with fresh material twice per year (in line with when management cuts are taken). The exact location of this feature can be determined through discussions with the Brook Meadow Conservation.

Upon completion of the translocation works a follow up monitoring survey will be conducted by a SQE utilising the same methodology used by CSa (2016) during the next active season following completion of the translocation (anticipated to be spring 2018).

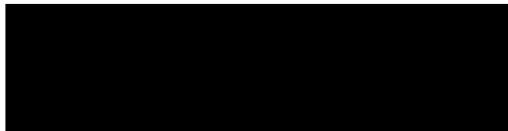
Funding

The developer will pay a commuted sum towards the Brook Meadow Conservation Group (to be agreed) for longer management works along with those required specifically for this scheme (i.e. grass snake egg laying heap). It will also be the responsibility of the developer to pay for the monitoring survey in 2018 to assess the efficacy of this translocation scheme.

Should there be any queries about any aspect of this proposal please get back to me.

Kind regards

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