



Ref: A086068

Sent by email only to: [REDACTED]

December 2015

Dear David,

Toddington Lane, North Littlehampton – South Lyminster Bypass

Background

WYG Environment was commissioned by Persimmon Homes to complete reptile presence/likely absence surveys, a bat roost assessment and update invertebrate habitat assessment at Toddington Lane, North Littlehampton (hereafter referred to as 'the site'). This is following recommendations from the Update Ecological Appraisal (WYG, 2014).

Site location and general description

The site as a whole is located within, Littlehampton, West Sussex, centred on Ordnance Survey National Grid Reference TQ 031 036. The section of the site to the south of the West Coastway Railway line comprises areas of semi-improved grassland separated into small field compartments via with small stretches of fencing, tree lines and hedgerows. However the site is separated by the West Coastway railway line; to the north of the line the site consist of Fairhaven nursery which is predominantly hardstanding and industrial buildings. There are areas of scrub scattered throughout the southern area of the site, which is particularly dense at the southern extent. The northern field compartment is grazed by horses. The site is bordered by the Toddington Lane to the north, the residential properties to the east, allotments to the west and by A259 Worthing Road to the south. The wider area is dominated by residential properties.

Development Proposals

The construction of a the South Lyminster road bypass, which will extended from Toddington Lane in the north to the A259 Worthing Road in the south bridging the West Coastway railway line.

Reptile Presence/Likely Absence Surveys

Methodology

The method used for carrying out the presence/likely absence survey for followed guidelines set out by Gent and Gibson (2003). Further guidance was taken from the Froglife **Advisory Sheet No. 10 Reptile Survey** (Froglife 1999). The reptile presence/likely absence were completed between 9th and 28th October 2015. Please find enclosed information regarding results of the surveys.

The survey was based on the following methods and was undertaken by suitably qualified and experienced WYG ecologists;

- Direct Observation – Whilst carrying out a walkover survey, locations of basking animals were noted and mapped inductively. This method is especially important for grass snakes as they generally bask close to their winter hibernacula.
- Refugia Searches – Any suitable naturally occurring refugia were carefully searched especially log-piles, rubble and discarded pallets or old carpets. In-situ refugia on site were mapped only if reptiles were found using them during the survey period.



- Mats – Artificial refugia were placed in suitable reptile habitat within rough grassland and at the edges of scrub vegetation for 3 weeks prior to the commencement of the surveys.

The seven reptile surveys visits were undertaken between the 9th and 28th October 2015 in suitable weather conditions.

Results

Desktop Study

Sussex Biological Records Centre (SxBRC) returned nine records within 2 km of the site, comprising slow worm (*Anguis fragilis*) and grass snake (*Natrix natrix*). The closest record

Consultation with SxBRC provided the following records for reptiles (see below, Table 1).

Table 1: Reptile Information from Records Office Consultation

Date	Grid Ref	Distance (Km) and Direction from site.	Reptile details
2003	TQ020027	1.9 km south west of the site	Slow worm
1986	TQ026042	0.95 km west of the site	Slow worm
1993	TQ029061	1.6 km north of the site	Slow worm
1993	TQ0502	2 km north of the site	Slow worm
1991	TQ028038	0.71 km west of the site	Grass snake
1993	TQ030063	1.8 km north of the site	Grass snake
1993	TQ0506	2 km west of the site	Grass snake

Site Survey

Weather Conditions

Table 2 provides the weather conditions in which the reptile surveys were completed. These were all completed during optimal weather conditions with temperatures between 9th October and 28th October 2015.

Table 2: Survey Weather Conditions

Survey	Date	Time	Air Temperature (°C)	Rain	Wind Speed	Cloud Cover (%)
1	09/10/15	13:40	16	Nil	0	20
2	12/10/15	15:00	12.1	Nil	2	30
3	15/10/15	12:00	11.8	Nil	1	80
4	19/10/15	11:30	12	Nil	1	30



5	22/10/15	11:15	13.4	Nil	2	60
6	26/10/15	11:25	14.4	Nil	2	90
7	28/10/15	11:40	13.3	Nil	1	90

Table 3 provides the maximum count of reptiles recorded during any one visit to the development site.

Table 3: Maximum counts of reptiles recorded during any one survey visit at the proposed development site – Fields A and B

Visit Number	Date	Species	Adult	Juvenile	Mat Number
1	09/10/15	Common Lizard	2	0	90
2	12/10/15	-	0	0	-
3	15/10/15	-	0	0	-
4	19/10/15	-	0	0	-
5	22/10/15	Common Lizard	1	0	90
6	26/10/15	-	0	0	-
7	28/10/15	-	0	0	-

Limitations

This area of the site (South Lyminster Bypass) was accessible on all occasions and was completed in accordance with the relevant guidelines; however the surveys did take place outside of the normal survey season (April to September). The overnight temperatures remained suitable and did not drop below ten degrees for a sustained period and daytime temperatures remained within the suitable range (9°C-18°C) therefore the survey result are considered valid.

Conclusions and Recommendations

Common lizards were recorded at within the South Lyminster Bypass area of the site. A maximum count of two adult common lizards were recorded on the 9th October 2015, however no juvenile common lizards were recorded within the development site.

Table 3: Calculating Populations (from Froglife 1999)

	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

Figures in the table refer to maximum number of adults seen by observation and/ or under refugia (places at a density of up to 10 per hectare), by one person in one day.



Froglife guidelines (1999) (Table 3 above) suggest that the population of common lizards is 'low' within the South Lyminster Bypass area of the site based on the number of adults seen during the survey visits.

Given that reptiles have been recorded at the development site, reptile mitigation will need to be implemented at the site to prevent breaching the Wildlife and Countryside Act 1981. The mitigation programme is explained below. Given that three reptiles were recorded, reptile displacement northwards along the proposed route from the southern boundary and then eastwards from the road is considered to be the best option. **Reptile displacement can only be undertaken during animals' active period which runs from mid-March until mid-October and in suitable weather conditions.** Reptile capture may not take place between November and February, as reptiles are not active during this period.

Reptile Displacement

It is recommended that a two phased displacement of the works area is undertaken between March and October. An Ecological Clerk of Works will supervise the strimming of the vegetation firstly to a height of 300 mm then to a height of 150 mm. A finger tip search will then be conducted to check for reptiles. If any reptiles are found they will be translocated to the eastern retained section of this area of the site. Following the clearance of the area the erection of reptile exclusion fencing will take place and then finalised with a destructive search this must be agreed with the Local Planning Authority Ecologist before implementation. The details of these methods are described below.

Fence Installation

Temporary reptile-proof fencing will be installed around the entirety of the proposed works area to protect the retained suitable reptile habitat from the construction phase of the development and which will also be utilised as a receptor area for displaced reptiles. The fencing will either be specifically made reptile fencing or posts with plastic fencing as detailed below:

- Fence constructed from polythene or similar impermeable material.
- Supported by wooden posts dug at least 300 mm into the ground and standing at least 600mm above ground.
- The plastic sheet will be dug 150 mm into the ground with a 100 mm horizontal 'lip' turning back away from the working area.
- The plastic will be buried with compacted backfill so that no gaps remain.
- The plastic will be nailed to the fence posts and folded over at the top, away from the working area, and stapled to form an overhang.
- The plastic must contain no holes and, at the meeting of two sheets, the join must be secured with 100 mm waterproof tape.
- The fence must remain in place around the whole development area for the entire duration of the works phase.
- The fence must be maintained and any defects fixed as soon as possible.
- The areas where fencing is to be installed will be hand searched for reptiles by an ecologist prior to installation of the fence to ensure that no reptiles are harmed during this operation.

Destructive Search

Following the successful completion of the displacement of reptiles from the areas of proposed construction, these areas will be destructively cleared. This will involve two parts, hand search and a mechanical search, completed to the following specifications:

- A suitably qualified ecologist will supervise all aspects of the destructive search;
- Hand searches will be conducted, including the removal of debris on the ground in order to remove potential refuges;



- Using a medium sized excavator (approximately 8-10 tonnes) with a toothed bucket carry out a gradual scrape of the top one to two inches (25-50 mm) of top soil;
- Both the areas from where soil is removed and the subsequent spoil heaps should be checked for reptiles and amphibians;
- Carry out deeper scrapes where necessary, such as beneath rot systems, buried material, cracks or holes in the ground;
- The excavated spoil will be stored as directed by the ECOW, in consultation with the developers, in an area identified as unsuitable as reptile habitat.

Habitat Management

It is recommended that the vegetation located within the areas of retained habitat adjacent to the proposed road be allowed to grow and to be seeded with native species to create a tall wildflower/grassland meadow to enhance the habitat providing an important reptile foraging habitat by encouraging invertebrates to the area.

Bat Roost Assessment

Methodology

The bat roost assessment was completed on the 1st September 2015 by WYG Ecologist, Emmanuelle Amiral, Assistant Ecologist using methodology based on the Bat Conservation Trust's (BCT) Bat Survey: Good Practice Guidelines (2012) and the Joint Nature Conservation Committee (JNCC's) *Bat Workers Manual* (2004). Only those trees likely to be directly or indirectly affected by the proposed works, within the proposed development site, were examined.

Bat roost potential is determined by a variety of factors including physical attributes of the tree, and proximity to good feeding sites and safe commuting routes. A brief summary of the known factors which influence a trees potential to support bats provided in Table 4.1 below.

Table 4.1: Factors influencing potential for trees to be used by bats (adapted from BCT, 2012)

Features of trees used by bats	Signs indicating possible use by bats
• Natural Holes • Woodpecker Holes • Cracks/Splits in Major Limbs • Loose Bark • Behind Dense, Thick-stemmed Ivy • Hollows/Cavities • Within Dense Epicormic Growth • Bird and Bat Boxes	• Tiny Scratches around Entry Point • Staining around Entry Point • Bat Droppings in/around/below Entrance • Audible Squeaking at Dusk or in Warm Weather • Flies around Entry Point • Distinctive Smell of Bats • Smoothing of Surfaces around Cavity

The trees which were surveyed were all within the site boundary as those likely to be affected by the development.

These trees were visually inspected for their bat roosting potential, including potential access points into the trees and connectivity to the wider environment. These were categorised in accordance with Table 4.2,



through a visual assessment of the trees to record the presence of features such as crevices, holes, fissures, split bark and arboreal ivy (*Hedera Helix*).

Table 4.2: Categories of trees, based on their potential to support bat roosts (taken from BCT, 2012)

Tree Category	Description
Known of Confirmed Roost	Confirmed bat roost tree with field evidence demonstrating bats are present e.g. droppings, scratch marks, grease marks or urine staining.
1*	Trees with multiple, highly suitable features capable of supporting larger roosts.
1	Trees with definite bat potential, supporting fewer suitable features than Category 1* trees or with potential for use by single bats.
2	Trees with no obvious potential although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.
3	Trees with no potential to support bats

Please note that Tables 4.1 and 4.2 identify what are generally considered to be the most important influences on bat roost preferences. There are 18 species of bats in the UK, each with its own specific requirements. Additionally males generally have different roost preferences to females and, therefore, it is not practical to assess a feature against all the possible permutations of an 'ideal' roost.

Limitations

The trees which the survey focused on were all those within the proposed development site boundary as those most likely to be affected by the development, if proposed plans are changed, further surveys may be required.

The survey will remain valid for 12 months, if works or further surveys have not commenced within this time, it is recommended that an update survey is completed to determine whether their potential value to roosting bats has changed.

Results

Desktop Study

Sussex Biological Records Centre (SxBRC) returned records of up to eight species of bat recorded within 2 km of the site, comprising an unidentified pipistrelle (*Pipistrellus sp.*), common pipistrelle (*Pipistrellus pipistrellus*), brown long-eared bat (*Plecotus auritus*), Natterer's bat (*Myotis Nattereri*), whiskered bat (*Myotis mystacinus*), barbastelle (*Barbastelle barbastellus*) and a serotine (*Eptesicus serotinus*). The nearest record is of a common pipistrelle, located approximately 1.2 km south east of the site at Wallace Road, Rustington.

Consultation with SxBRC provided the following records for bats (see below, Table 5).

Table 5: Bat Species within 2km of the site

Date	Grid Ref	Distance (Km) and Direction from site.	Species details
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Date	Grid Ref	Distance (Km) and Direction from site.	Species details
2006	TQ042062	1.8 km north of the site	Whiskered Bat
2006	TQ042062	1.8 km north of the site	Natterer's Bat
1998	TQ054031	1.2 km south-east of the site	Common Pipistrelle
2006	TQ042062	1.8 km north of the site	Serotine
2006	TQ042062	1.8 km north of the site	Pipistrelle sp.
2006	TQ042062	1.8 km north of the site	Barbastelle
2006	TQ042062	1.8 km north of the site	Brown long-eared

Survey Results

The results of the tree assessment are given below:

Known Confirmed Roosts

No trees were identified as confirmed roosts at the time of the bat roost assessment.

*Category 1**

There were no trees identified within this area of the site as Category 1*.

Category 1

There were no trees identified within this area of the site as Category 1.

Category 2

There were no trees identified within this area of the site as Category 2.

Category 3

The bat potential of the trees within this area of the site falls under this category, and have negligible potential to support roosting bats.

Conclusions and Recommendations

Impacts

No trees offering potential to support roosting bats will be felled as a result of the development proposals.

Mitigation and Enhancement Measures

The proposed mitigation and enhancement measures are stated below:

- Where hedgerows are to be bisected to accommodate the Fitzalan Link road, tall mature trees or tree stands are to be retained or planted to create a vegetated 'hop-over'. These will maintain connectivity for commuting and/or foraging bats by guiding the bats up and over the link road and the height of traffic.



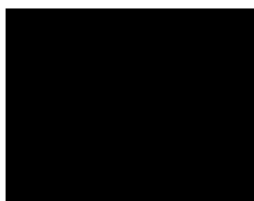
- The creation and enhancement of a 'bat-friendly' habitat through the planting of specific flora species to increase the presence of potential food sources for bats.
- Adequate consideration should be given to the type and position of lights to minimise the impact on bats that may be roosting, foraging or commuting in the area. Lights should only be used in those areas where it is necessary for Health and Safety and avoided in areas which are found to support bats. Light spillage should be controlled through the use of hoods and appropriate angling of the light itself and low or high pressure sodium lamps should be used instead of mercury or metal halide lamps. For further technical detail see the Institute of Lighting Engineers (ILE) *Guidance Notes For The Reduction Of Obtrusive Light* (2011).

Invertebrate Assessment

The dominate habitats onsite is semi-improved grassland with scrub/hedgerows, it is considered unlikely that notable species of invertebrate are present due to a lack of botanical diversity. The habitats on site are however likely to be a suitable for a range of widespread and common invertebrates associated with scrub/hedgerows and grassland. Mitigation measures such as providing floristically rich habitats are likely to enhance the invertebrate assemblage on site.

Please do not hesitate to contact us if you wish to discuss this further.

Yours sincerely,



Ben Cooke
Assistant Ecologist
for and on behalf of WYG



David West MCIEEM
Principal Ecologist



References

Froglife (1999). *Reptile Survey: Planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.

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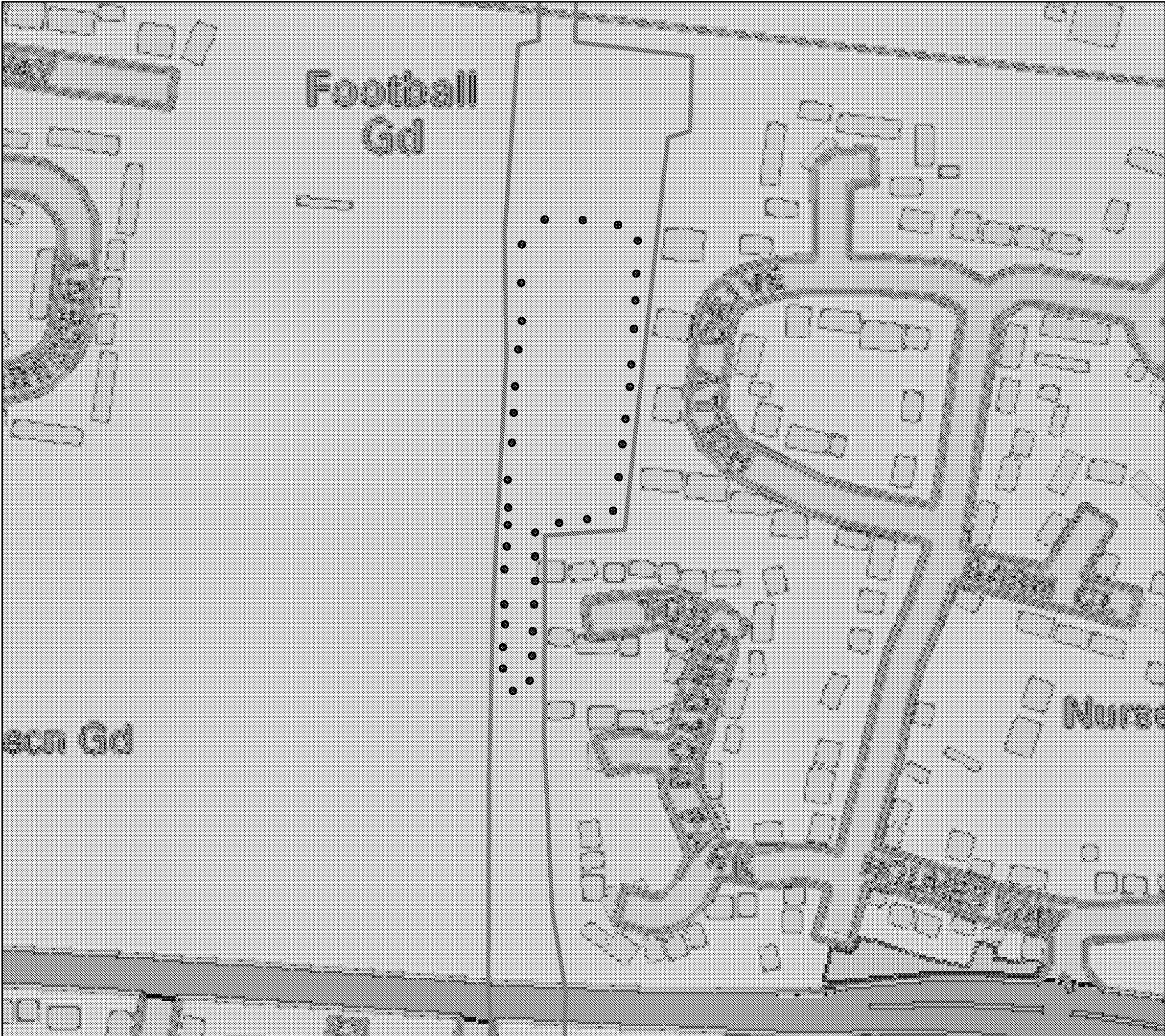
Hundt (2012). *Bat Surveys, Good Practice Guidelines 2nd Edition*, Bat Conservation Trust, London.

Institute of Lighting Professionals (ILP). (2011). *Guidance for the Reduction of Obtrusive Light*, ILP, Rugby.

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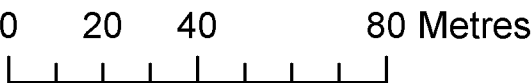


Appendix A



Legend

- South Lyminster Bypass Refugia
- Site Boundary



The Pavillion, 1st Floor
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WYG
creative minds safe hands

Toddington Lane, North Littlehampton

South Lyminster Bypass- Reptile Refugia Locations

Project No:		Office	Type	Drawing No.	Revision
A086068		45	94	Figure 1	

Base map provided by Persimmon Homes