



Persimmon Homes

Toddington Lane, North Littlehampton

**Reptile Presence / Likely Absence Survey
Report**

20 April 2015

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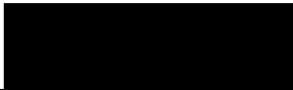
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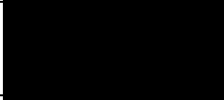
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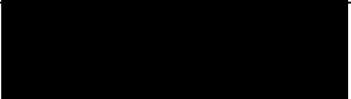
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Executive Summary

Contents	Summary
Site location	The site is located at the North Littlehampton Nursery complex, Littlehampton, West Sussex (TQ035039). The majority of the site comprises a nursery complex which is dominated by greenhouses and associated buildings, interspersed with amenity grassland, mature trees, scrub, semi-improved grassland and areas of ornamental planting. An area of floodplain, dominated by unimproved grassland, is present within the northern part of the site. This report has been prepared for the first reserved matters phase; A1 which is located to the west of the site.
Previous reports/surveys	Previously reptile surveys have been completed of the site between 26th June to 8th October 2008 and a low population of slow worms and grass snakes were recorded at the site. An update extended Phase 1 habitat survey was conducted in April 2014 by WYG. The survey identified that the habitats are the same as the habitats recorded at the site in 2006, and the management of these habitats have remained the same. The survey confirmed that the habitats within the site were potentially suitable for reptiles including the first phases of the development which is A1, B2 and B3 (See Figure1)
WYG Survey	To discharge condition 19, it was agreed with West Sussex County Ecologist that update reptile presence/likely absence surveys will be completed for each reserved matters phase that has suitable habitat. The surveys set out to confirm presence or likely absence of reptiles within Parcels A1, B2 and B3 at Toddington Lane, North Littlehampton. Reptile presence / likely absence surveys were completed, between 11th September 2014 and 10th October 2014 during optimal weather conditions
Results	A low population of slow worms were recorded within Parcel A1. A maximum count of one slow worm was recorded within Parcel A1 during any one survey visit, and reptiles were recorded on two of the seven visits only. No reptiles were recorded within Parcels B2 and B3.
Mitigation and Enhancement	To avoid breaching the <i>Wildlife and Countryside Act, 1981</i> (as



Recommendations	amended) by killing or injuring reptiles, The following is recommended for Phase A1 and also B2 and B3 for a precautionary approach: ✦ Installation of reptile exclusion fencing to prevent reptile migrating back into the works area along the boundaries of the site that support suitable habitat (See Figure2) ✦ Removal of rubble piles by hand and supervised by an ECOW between the reptile active seasons mid March to October (dependent upon weather conditions). Any reptiles found will be moved to the reptile receptor which is floodplain grazing marsh towards the northern extent of the site ✦ Following which the remaining grass areas will be strimmed to 15 cm. An ECOW will then complete a hand search of these areas. ✦ The clearance of this area will be finalised by a destructive search.
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1.0 Introduction

1.1 Background

WYG was commissioned by Persimmon Homes in August 2014 to complete a reptile presence / likely absence survey within Parcel A1 and B2/B3 at Toddington Lane, North Littlehampton (hereafter referred to as 'the site') with the aim of identifying potential ecological constraints to development. This follows recommendations made in the update extended Phase 1 habitat survey which was completed at the site in April 2014.

Previously reptile surveys have been completed of the site between 26th June to 8th October 2008 and a low population of slow worms and grass snakes were recorded at the site.

1.2 Site Location

The site is located at the North Littlehampton Nursery complex, Littlehampton, West Sussex (TQ035039). The majority of the site is comprises a nursery complex which is dominated by greenhouses and associated buildings, interspersed with amenity grassland, mature trees, scrub, semi-improved grassland and areas of ornamental planting. An area of floodplain, dominated by unimproved grassland, is present within the northern part of the site.

The site is bordered by hedgerows to the north, east and west and by Toddington Lane and the railway line to the south. Surrounding land to the north and east comprises further floodplain areas dominated by unimproved grassland, while surrounding land to the south and west of the site is dominated by residential development.

This report has been prepared in relation to specific Reserved Matters phases which are as follows:

Parcel A1

Parcel A1 is present at the western extent of the wider North Littlehampton site. This Parcel of land comprises a derelict two storey house with associated garden, a number of greenhouses / polytunnels and



associated nursery buildings which appeared to have been subject to fire damage. The grass within the garden had become long at the time of the 2014 extended Phase 1 habitat survey and at the northern extent of this Parcel where there was previously hardstanding present vegetation has started to establish. Narrow strips of semi-improved grassland are present surrounding the building and hardstanding.

Parcel B2 and B3

Parcels B2 and B3 comprise a number of greenhouses which were being used for raspberry production at the time of the 2014 survey. Between the greenhouses is hard standing and some narrow strips of grassland providing potential habitat for reptiles

1.3 Proposed Work

The proposed master plan includes:

- ✦ A total of 1,260 dwellings (with the outline planning permission allowing for a further 200 dwellings on third party land);
- ✦ A local centre which will provide local convenience shopping together with other retail and food and drink uses and a health club;
- ✦ Commercial uses comprising 10,000 sq m of employment floor space (including an Enterprise Centre) and a hotel;
- ✦ Community facilities including a primary school, a community centre, a youth facility with associated all-weather multi-use games area, sports pitches, a fitness trail, allotments and land for an extension to the household waste recycling centre;
- ✦ Highway improvements – most importantly, delivery of the southern section of the Lyminster Bypass from the site southwards to the A259 Worthing Road (which must bridge both Toddington Lane and the railway line) together with all other elements of the site access strategy including closure of the Toddington Lane level crossing to vehicular traffic;
- ✦ Transport – a new bus route to serve the site, linking it with the Wick shopping centre, Littlehampton town centre and the Academy;
- ✦ An extensive network of open space, providing for both formal sports and informal recreation, including a biodiversity area in the northern and eastern parts of the site.
- ✦ This report focuses on parcels A1 and B2/3 parcel A1 will accommodate 114 residential properties with associated access, parking and landscaping. Parcel B2/3 will also accommodate residential properties however exact number are unknown at this stage.



1.4 Survey Objectives

The update ecological appraisal carried out by WYG in April 2014 identified the potential for reptiles to occur on site. The aims of the survey work and the subsequent report presented herein were to:

- ✦ Determine the presence or likely absence of reptiles within the Reserved Matters application phases A1, B2 and B3;
- ✦ Determine the population size class of reptiles if confirmed to be present;
- ✦ Provide an appraisal of the potential implications on the proposed development created by the potential presence of reptiles at the site;
- ✦ Establish if any potential effects on reptiles resulting from the development are permissible;
- ✦ Ensure that the required level of survey work and information is present to inform a method statement, should one be necessary; and
- ✦ Provide preliminary advice on mitigation strategies against any adverse affects on local reptile population(s) which may arise as a result of the proposed development.

1.5 Legislation

All six species of reptiles native to the UK are protected under the Wildlife and Countryside Act 1981 (as amended) and benefit from various levels of protection. The adder (*Vipera berus*), grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*) receive partial or full protection under Section 9 of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to:

- ✦ Intentionally or recklessly kill or injure these animals; and
- ✦ Sell, offer for sale, possess or transport for the purpose of sale or publish advertisement to buy or sell individual reptiles.

The smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are listed in Annex IVa of the EC Habitat and Species Directive and in Annex II of the Bern Convention. They are also listed in Schedule 5 of



Section 9 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of the Conservation of Habitats and Species Regulations (Amendment) 2010. As a result it is an offence to:

- ✦ Intentionally or recklessly kill or injure these animals;
- ✦ Deliberately disturb these animals;
- ✦ Take or destroy their eggs;
- ✦ Damage, destroy or disturb or impede access to breeding or shelter sites used by these species;
and
- ✦ Sell, offer for sale, possess or transport for the purpose of sale or publish advertisement to buy or sell individual reptiles.



2.0 Methods

2.1 Site Survey

In accordance with the guidance outlined in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee - JNCC, 2003), Advice Sheet 10 – Reptile Survey (Froglife, 1999) and the Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring (Hill *et al.*, 2005) surveys were undertaken to establish the presence or absence of reptile species. This involved seven visits during September and October 2014 in suitable weather conditions. Clearly numbered artificial refugia (sections of bituminised roofing felt) were placed across the site in August 2014, in areas considered to have habitat suitable for reptiles (refer to Figure 1; Appendix C). Guidelines state they are to be placed at a density of 10 per hectare of suitable habitat. In Parcel A1 mats were placed at an average density of 18.75 per hectare and in Parcel B2/mats were placed at a density of 25 per hectare of suitable habitat, significantly higher than the recommended density.

The refuges were then left undisturbed on the site for at least 2 weeks prior to survey; to allow for reptiles on the site to find and utilize. Each refuge was then first checked for basking individuals from a distance before being slowly approached and searched for sheltering reptiles. Terrestrial habitat between artificial refugia was also searched for reptile species on each visit. The location of each reptile sighting was then recorded to allow for analysis of population distributions across the site.

As a guideline it is recommended that the optimal time to survey reptiles is between 8:30am to 11:00am and between 16:00pm and 18:30pm or when air temperature is between 9°C and 18°C. Strong rain and wind are deemed unsuitable (Froglife, 1999). As reptile activity is heavily dependent on weather conditions the following conditions were recorded during each survey: air temperature, wind levels, rain levels, and the cloud cover.



3.0 Results

3.1 Site Survey

The surveys were undertaken during optimal weather conditions between 14 and 18 degrees Celsius when there was no rain fall, see Table 1 below.

3.1.1 Weather Conditions

Table 1: Survey Weather Conditions

Survey Number	Date	Time survey commenced	Air Temperature (°C)	Rain	Weather Conditions
1	11-09-14	11:50	16	0	Light breeze
2	19-09-14	10:00	17	0	Light breeze
3	25-09-14	12:00	16	0	Light breeze
4	30-09-14	14:45	18	0	Brisk breeze
5	31-10-14	11:35	17	0	Light breeze
6	7-10-14	12:25	14	0	Light breeze
7	10-10-14	12:15	16	0	Light breeze



3.2 Survey Results

Table 2 and Table 3 below provide the survey findings for Parcel A1 and Parcel B2 and B3 respectively.

Table 2: Parcel A1 Survey Results

Survey	Date	Parcel A1			
		Species	Adult	Juvenile	Mat Num:
Visit 1	11-09-14	Slow worm	1 female	0	4
Visit 2	19-09-14	None found	0	0	N/A
Visit 3	25-09-14	None found	0	0	N/A
Visit 4	31-10-14	None found	0	1	5
Visit 5	31-10-14	None found	0	0	N/A
Visit 6	7-10-14	None found	0	0	N/A
Visit 7	10-10-14	None found	0	0	N/A

**Table 3:** Parcel B2/B3 Survey Results

Survey	Date	Parcel B2/3			
		Species	Adult	Juvenile	Mat Num:
Visit 1	11-09-14	None found	0	0	N/A
Visit 2	19-09-14	None found	0	0	N/A
Visit 3	25-09-14	None found	0	0	N/A
Visit 4	30-09-14	None found	0	0	N/A
Visit 5	31-10-14	None found	0	0	N/A
Visit 6	7-10-14	None found	0	0	N/A
Visit 7	10-10-14	None found	0	0	N/A



4.0 Ecological Constraints, Impacts and Mitigation Advice

4.1 Summary of findings

One adult and one juvenile slow worm were recorded during the reptile presence / likely absence survey within Parcel A1, and reptiles were only recorded on two of the seven survey occasions.

No reptiles were recorded in Parcel B2/3 throughout the surveys.

4.2 Population estimate

Analysis of the results follows the guidelines set out in the Froglife (1999) document, summarised in Table 5 below. This enables a broad assessment of the size of the reptile populations at Parcels A1, B2 and B3 at North Littlehampton.

Table 5: Reptile population estimate

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

NB. Figures in the table refer to maximum number of adults seen by observation and/or under tins/mats, placed at a density of 10 per hectare, in one day.

Froglife guidelines (1999) (Table 5 above) suggest that the population of reptiles within Parcels is very low given that slow worms were only recorded on two occasions, located at the north-east corner and south-west corner of Parcel A1 out of the seven survey occasions. As only a maximum of one adult and one juvenile slow worm was recorded throughout the duration of the surveys, it is considered that the populations of this species are very '**Low**' within this Parcel.



Parcel B2/3

No reptiles were recorded within Parcel B2/3. The habitats here are largely unsuitable for reptiles as approximately 4.1 of the 4.9 hectares within this parcel comprises buildings and hardstanding. However, Parcel B2 is connected to suitable reptile habitat to the east (slow worms were recorded to the east of this area in 2008) and south and Parcel 3 is connected to suitable reptile habitat to the west, south and east of the site

4.3 Reptile Receptor Site

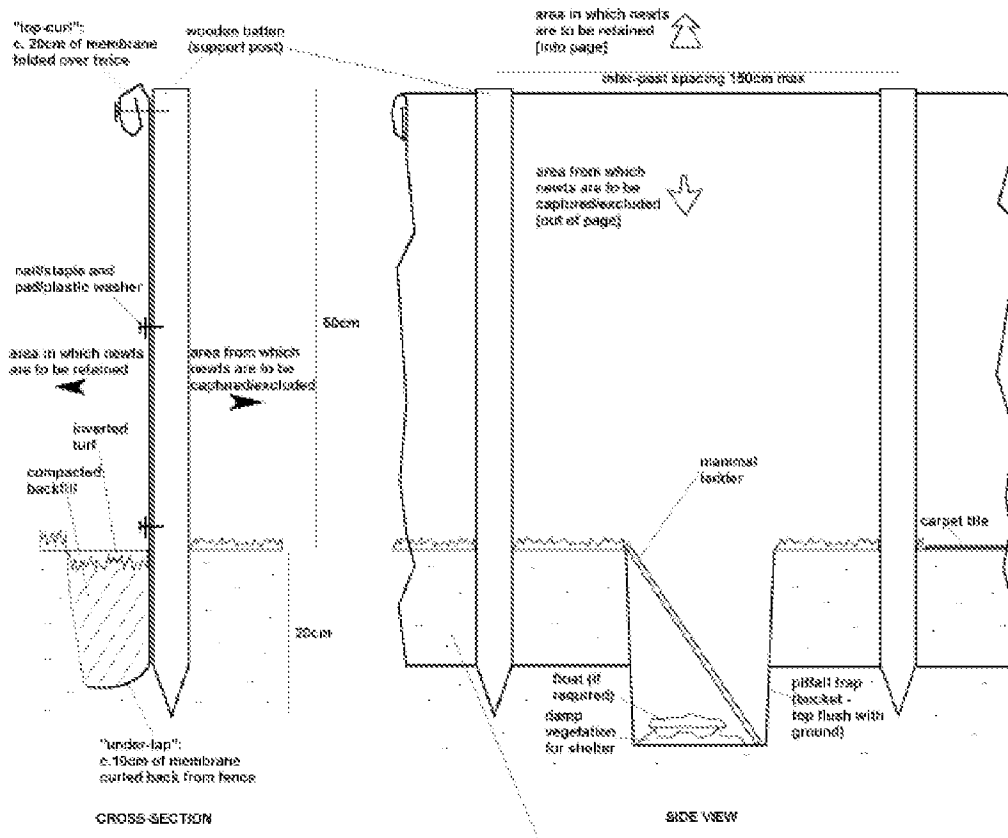
The receptor area for reptiles translocated from Parcel A1 will comprise of an area of approximately 14.8 hectares of grazing marsh habitat which will be retained along the northern boundary of the main North Littlehampton development site. This area is a floodplain, dominated by unimproved grassland. Running along the northern boundary is the Black Ditch. This area is considered to be the most suitable habitat to reptiles at the site. Enhancement of receptor will include installation of three hibernacula (See Figure 3) and sensitive management of the grassland habitats at the site (See section 5.0 below).

4.4 Installation of Reptile Exclusion Fence

Reptile exclusion fencing will be installed around the development site (as per Figure 2, Appendix A) prior to the commencement of works; the fence will be installed between March and October and following confirmation from Hampshire County Council that the prescriptions within this document have been approved.

It is proposed to phase the proposed development site into two phases as shown on Figure 4 in Appendix A. The Ecological Clerk of Works will be present to determine the final route of the fence which will need to take account of, for example, tree roots and scrub, and to supervise its installation. The fence will be a minimum of 500mm tall and extend 300mm below ground. The backfill will be placed vegetation side down to suppress re-growth. The fence will have a top curl to prevent reptiles from climbing over and posts will be placed on the development area side of the fence. Drawing 2 presents a schematic example of reptile fencing. Drawing 2 presents fencing for great crested newt but the design is synonymous with reptile fencing.

Drawing 2 (Taken from the Great Crested Newt Mitigation Guidelines 2001)



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.

The fencing will be checked daily by the Site Manager to ensure no holes damage is done to the reptile exclusion fencing and ensuring it is maintained throughout the translocation phase and the entire construction phase of the development.



4.5 Mitigation

Ecological Clerk of Works (ECOW) to supervise clearing Parcel A1, B2 and B3

Given that a very low number of slow worms were recorded in A1 and as no reptiles were recorded in B2 or B3 however suitable reptile habitat borders the site, it is recommended that a precautionary approach is adopted, it is considered preferable that an Ecological Clerk of Works supervises the vegetation removal within this area. This will involve:

- ✧ Installation of reptile exclusion fencing to prevent reptile migrating back into the works area along the boundaries of the site that support suitable habitat as described in section 4.4 above
- ✧ Removal of rubble piles by hand and supervised by an ECOW between the reptile active season mid March to October (dependent upon weather conditions). Any reptiles found will be moved to the reptile receptor site as described in section 4.3
- ✧ Following which the remaining grass areas will be strimmed to 15 cm. An ECOW will then complete a hand search of these areas.
- ✧ The clearance of this area will be finalised by a destructive search. The details of this method are described in section 4.5 below

4.6 Destructive search

The development site will be destructively cleared. This will involve two parts, a 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 - 50mm) 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 root 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 and in an area identified as unsuitable as reptile habitat.





6.0 References

- ◆ Eds. Hill, D.A., Fasham, M., Tucker, G., Shewry, M. & Shaw, P. (2005) Handbook of Survey Methods: Survey, Evaluation and Monitoring. Cambridge University Press, UK.
- ◆ Froglife (1999) Advice Sheet 10: Reptile Survey
- ◆ Gent, T. & Gibson, S. (2003) Herpetofauna Workers' Manual. JNCC.
- ◆ WYG (2008) North Littlehampton: Reptile presence/likely absence survey
- ◆ WYG (2014) North Littlehampton: Updated Extended Phase 1 Habitat Survey



Appendix A – Report Conditions



Report Conditions

North Littlehampton - Reptile presence / likely absence survey report.

This report is produced solely for the benefit of Persimmon homes, and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to WYG Environment. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYG using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to WYG Environment by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties. The performance of environmental protection measures, e.g. of buildings and other structures in relation to acoustics, vibration, noise mitigation, and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.



Appendix B – Desk Based Study Information



Records of reptile within 2km of the site, returned by SxBRC

Date	Grid Ref	Distance (km) and Direction from site.	Reptile details
1996	TQ0102	513.60 km west of the site.	Slow worm
2003	TQ020027	1.92 km south west of the site	Slow worm
1986	TQ026042	0.95 km west of the site	Slow worm
1993	TQ029061	2.28 km north of the site	Slow worm
1993	TQ0502	513.59 km west of the site	Slow worm
2002	TQ012067	3.62 km north west of the site	Grass snake
1991	TQ028038	0.71 km west of the site	Grass snake
1993	TQ030063	2.45 km north of the site	Grass snake
1993	TQ0506	513.59 km west of the site	Grass snake



Appendix C – Figures



Legend

- Reptile mats A1
- Reptile mats B2-3
- Area boundary



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creative minds safe hands

North Littlehampton

Reptile mat location

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

Drawn by: EA	Date: 09/10/14	Checked By: EA	Date: 09/10/14	Approved By: CM	Date: 09/10/14
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Legend

- Retiling mats A1
- Retiling mats B2-3
- Area boundary
- Mitigation retiling fencing

0 20 40 80 Metres

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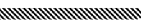
Retiling fence location

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Project No: A086068		Office 45	Type 94	Drawing No. Figure 2	Revision

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Legend

-  Area boundary
-  Hibernacula loaction



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North Littlehampton

Reptile hibernacula location

			Drawn by: Date:	Checked By: Date:	Approved By: Date:
			EA 17/10/14	EH 17/10/14	CM 17/10/14
Project No:	Office	Type	Drawing No.		Revision
A086068	45	94	Figure 3		