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WYG Environment
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Linden Homes

Hampshire Farm, Emsworth

Reptile Presence/Absence Survey Report 2009 and 2010

30 October 2009

Updated 16 June 2010

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Hampshire Farm, Emsworth

Reptile Survey

EXECUTIVE SUMMARY

Site Location	The Hampshire Farm site lies beyond the north-eastern boundary of Emsworth, Hampshire near the county border with West Sussex. The site is centred on Ordnance Survey Grid Reference SU 751 076 (475125, 107691).
WYG Survey	An Ecological Scoping/Phase 1 Habitat Survey was undertaken in July 2009 which identified the Hampshire Farm site as holding ***Moderate*** potential for reptiles. The report recommended that a presence/absence reptile survey to be undertaken prior to development. The aim was to determine the extent to which reptiles use the site and to ensure compliance with the legislation that protects them.
Site Overview	Hampshire Farm comprises approximately 24.9ha, of which 8.0 ha is proposed to be developed for housing, whilst the remaining area will be left for the 'Open Space'. The site comprises a matrix of field units with hedgerow boundaries. The reptile survey effort was concentrated on the scrub/ruderal/rough grassland interface along the boundaries. The site is bordered by residential areas to the west, south and north. The eastern boundary of the site is bordered by agricultural fields which are to form the land for the 'Open Space' area.
Results	**2009 survey:** The presence/absence survey confirmed the presence of one reptile species – slow worm (*Anguis fragilis*). A maximum count of two juvenile slow worms were recorded on site during any one survey visit. These individuals were found along the northern boundary of the site, along the field/scrub/hedgerow interface. No adult slow worms were identified during the survey and therefore the population size could not be calculated. **2010 survey:** Five visits were undertaken in 2010 to update results from the previous year. The presence of two reptile species, slow worm (*Anguis fragilis*) and grass snake (*Natrix natrix*), was confirmed. The maximum number of adult slow worms recorded during the 2010 surveys was 33 adults and this was for the main field alone. During this survey, artificial refugia were replaced within the horse grazed field in the north western corner of the site and also within the grounds of the property 'The Glen' where access previously could not be gained. 33 adult slow worms were observed over 0.48 hectare of land. A maximum count of three adult grass snakes were recorded on site during any one survey visit along the northern boundary of the site and within the horse grazed field within the north western corner of the site indicating a Low population of grass snakes.
Recommendations	• To avoid breaching the Wildlife and Countryside Act 1981 (as amended) by killing or injuring reptiles, it is recommended that reptiles are removed from the site prior to any works commencing by means of a translocation. Due to the size of the site, it is

	recommended that habitat manipulation is undertaken rather than the installation of reptile-proof fencing around the areas of reptile habitat. However, if the translocation is phased throughout the site reptile-proof fencing is recommended to exclude these areas from the rest of the site. • It is understood that the proposed development footprint occupies the interior of the site and it is likely that the majority of the habitat suitable to support reptiles (semi-improved grassland, tall ruderal and scrub) will be directly impacted through construction activities. It is recommended that the reptiles are translocated to an off-site receptor within the 'Open Space' land. This should be detailed within a reptile mitigation method statement. A Good population of slow worms and a Low population of grass snakes suggest that approximately 70 visits should be allowed for translocation. The results will be reviewed and the number of visits amended accordingly; at least five clear visits will be required before the translocation can cease. • In order to assess the carrying capacity of the receptor site, a reptile survey should be undertaken of it. This will identify species of reptile currently using the site and will help to target future habitat creation/management in order for the site to support any existing population and the translocated population of reptiles.

1.0 Introduction

WYG Environment (WYG) was commissioned by Linden Homes to undertake a reptile survey at Hampshire Farm, Emsworth, following the recommendations of the Phase 1 Habitat Survey report undertaken by WYG in July 2009. The 2009 report identified the site as holding moderate potential for reptiles and recommended that a presence/absence reptile survey be undertaken prior to development. The aims of the survey were to:

- Confirm the presence/absence of reptile species at the Hampshire Farm site:
- Give an indication of the species present and a population estimate;
- Make recommendations to minimise the impact of the proposed development on reptiles; and
- Make recommendations to allow the development to be undertaken within the constraints of UK wildlife related legislation.

1.1 Site Description

The Hampshire Farm site lies beyond the north eastern boundary of Emsworth, Hampshire, near the county border with West Sussex. The site is centred on Ordnance Survey Grid Reference SU 751 076 (475125, 107691).

Hampshire Farm is bordered by residential areas to the west, south and north. The eastern boundary of the site is bordered by agricultural fields, which are to form the land for the 'Open Space' area. Beyond the eastern boundary of the 'Open Space' lies the River Ems and the Westbourne Rural Enterprise (WREN) Centre.

Hampshire Farm is identified within the Local Plan as a 'reserve' housing site to be developed once sufficient housing need is identified. Hampshire Farm is approximately 24.9ha in area including the 'Open Space' area, and it is proposed to develop 8ha of the site for housing. The remaining area will be left for the 'Open Space'. It is proposed that a maximum of 280 residential units will be built on the land. A requirement of the Local Plan is to maintain the 'Open Space' area to the east of the site between Emsworth and the village of Westbourne to the west of the site. It is intended that the area designated as 'Open Space' land is maintained as open land in perpetuity and transferred to the local community to safeguard and manage appropriately.

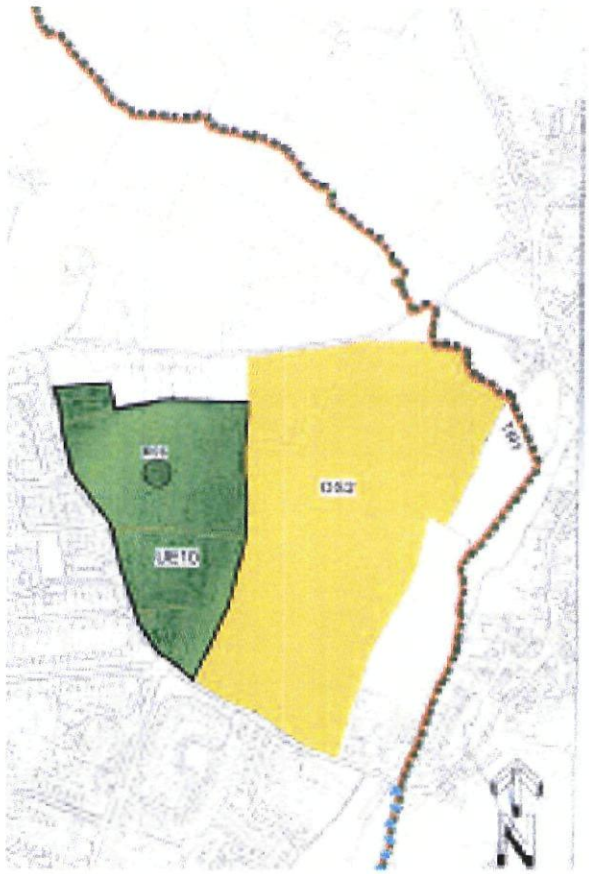
The site comprises a matrix of fields. The southern most field was formerly used for agriculture and has been previously ploughed, but has not been for some years; however the field is occasionally cut. The northern fields are grazed by horses and predominantly comprise semi-improved grassland. The horses are confined to a small area of the northern field (Field C) but are moved throughout the entire field. Beyond Field C to the west and east are a further two compartments of land which are located outside the site boundary. The western compartment comprises a stable block and a fenced area, the land within this area is heavily poached by horses. The eastern section is well maintained grassland with a small area of ruderals along the northern boundary. See Appendix B: A056755/Rep for field descriptions.

As the fields are occasionally cut, the tall ruderal/scrubby field boundaries are considered to be of favourable habitat for reptiles and hence survey effort was focused on these boundaries. The area of the site surveyed for reptiles is approximately 8ha, however only the boundaries of the fields are considered to be suitable reptile habitat.

Figure 1 below shows the location of the proposed development (in green) and the area to remain undeveloped as 'Open Space' land (in yellow).

Development Area

Local Gap



1.2 Report Conditions

For a detailed review of the extent and limitations of this report, attention is drawn to the report conditions in Appendix A and the WYG EPT proposal document forwarded previously.

2.0 Consultation

Hampshire Farm is located in Hampshire but lies approximately 350m from the West Sussex County boundary; hence both Hampshire Biodiversity Information Centre (HBIC) and Sussex Biodiversity Records Centre (SxBRC) were consulted to obtain all records of notable and protected species including reptiles within two kilometres of the site.

2.1 Hampshire Biodiversity Information Centre (HBIC)

No reptile records were provided by HBIC for the Hampshire Farm site. However within two kilometres of the site, HBIC hold records for three of the six of the UK's reptile species:

- adder (*Vipera berus*);
- common lizard (*Lacerta vivipara*);
- grass snake (*Natrix natrix*).

Details of the records from HBIC can be viewed in Appendix C.

2.2 Sussex Biodiversity Records Centre (SxBRC)

SxBRC holds no records of reptiles for the Hampshire Farm site. However, within two kilometres of the site, SxBRC hold records of three of the six UK's reptile species:

- slow worm (*Anguis fragilis*);
- common lizard;
- grass snake.

Details of the records from SxBRC can be viewed in Appendix C.

3.0 Methodology

3.1 Survey

The method used for carrying out a presence / absence survey for reptiles was that prescribed by Gent and Gibson (2003) and guidance was also taken from the Froglife Advisory Sheet No 10 Reptile Survey (Froglife, 1999). Reptile ecology and legislation is discussed in Appendix D and E respectively.

The survey was based on the following methods:

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

Reptile mats were placed throughout the site on 21st September 2009. The recommended density of artificial refuges is 10 per hectare. 100 mats were placed in the 0.5 ha survey area (the field margin areas), which exceeds that recommended by Froglife. The locations of the reptile mats during 2009 and the subsequent survey in 2010 are indicated within Appendix B (see Drawing No. A056755/Rep and A056755/Rep2010).

The seven reptile survey visits were initially undertaken between the 25th September and 15th October 2009. As this was late in the survey season when numbers may have been under-recorded, an additional five visits were completed between 30th April and 3rd June 2010.

3.2 Constraints

3.2.1 2009 Surveys

Access could not be gained to the residential property 'The Glen'; however mats were placed adjacent to the property but on the field side in order to determine the potential for reptiles within the grounds of the

residential property. At some point between the fourth and fifth visit, the reptile mats along the south western boundary of the southern field adjacent to the residential property 'The Glen' were removed. This meant that the possible use of the habitat (e.g. as reptile dispersal habitat) between 'The Glen' and the adjacent field, could not be reliably concluded.

In addition to the removal of reptile mats from the site, a number of fields were cut and the horse fencing realigned. This type of habitat management could have impacted the local distribution of reptiles and caused some individuals to disperse away from the surveyed areas.

No mats were placed within the south west corner of Field C as this is where the horses were confined to.

The optimal survey period for reptiles is between March and May and in September. October is considered a sub-optimal survey period. However, time constraints necessitated the completion of the reptile survey during late September and October. It should be noted that the weather during October remained warm, which increases the likelihood of reptiles being identified during the sub-optimal timeframe.

3.2.2 During the 2010 survey

The first survey was undertaken on the 30th April 2010 but, as some mats had been removed during the 2009 surveys, these mats were replaced (mats 1-9). Further, following the 2009 survey, mats had been removed from the horse grazed field in the north west of the site and therefore these were replaced. The 2010 surveys gained access to 'The Glen' so mats were also placed within this area. As some mats were only laid during the first of the 2010 surveys, an additional visit to the site was made (1a) in order to ensure a total of five survey visits were made to all areas.

3.3 Analysis

Analysis of the results follows the guidelines set out in the Froglife (1999) document and in Table 1 below. This enables a broad assessment of the size of the reptile population at each location and assesses the areas in relation to the criteria used to select Key National Reptile Sites.

Table 4.1 Key Reptile Sites criteria

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, by one person in one day.

4.0 Results

4.1 2009 Survey

The presence/absence survey confirmed the presence of one reptile species – slow worm (*Anguis fragilis*). A maximum count of two juvenile slow worms was recorded on site during any one survey visit. These individuals were found along the northern boundary of the site, along the field/scrub/hedgerow interface. (Tables 4.1 and 4.2 below summarise the survey visit details and results.

Table 4.1 – 2009: Survey visit dates and weather conditions

Visit Number	Date	Time	Weather Conditions (Temperature)
	21/09/09	Mats initially placed	N/A
1	25/09/09	09.30-11.00	Air temp:14.6-17.5°C,ground temp:14.3-23.4°C
2	29/09/09	09.45-11.05	Air temp:14.9-18.2°C, ground temp:14.3-14.8°C
3	01/10/09	9.20-10.45	Air temp:17.3-18.2°C, ground temp: 15.4-15.7°C
4	08/10/09	9.40-11.15	Air temp:11.9-14.0°C, ground temp: 12.6-12.7°C
5	12/10/09	10.20-11.40	Air temp:14.8-15.0°C, ground temp: 15.6-15.3°C
6	13/10/09	11.30-12.30	Air temp:16.5-17.6°C, ground temp: 18.9-19.2°C
7	15/10/09	10.30-12.00	Air temp:13.3-17.14°C,ground temp:14.4-16.8°C

Table 4.2 - Details of the 2009 survey findings

Visit Number	Location/Mat No.	Date	Species	No.	Stage[1]	Activity[2]
1	-	25/09/09	-	-	-	-
2	-	29/09/09	-	-	-	-
3	-	01/10/09	-	-	-	-
4	-	08/10/09	-	-	-	-
5	95a	12/10/09	Slow worm	1	JU	A
	98		Slow worm	1	JU	A
6	-	13/10/09	-	-	-	-
7	98	15/10/09	Slow worm	1	JU	A

4.2 2010 survey

The further five presence/absence visits of 2010 confirmed the presence of two reptile species – slow worm (*Anguis fragilis*) and grass snake (*Natrix natrix*). The maximum number of adult slow worms recorded during the 2010 surveys was 33 and this was for the main field alone (0.48 hectares). During this survey mats were replaced within the horse grazed field in the north western corner of the site and mats were also placed within the grounds of the property 'The Glen', where access previously could not be gained. Given that the mats were laid throughout the site at a much higher density than detailed in the survey guidelines, and that cutting towards the centre of the field is likely to have encouraged reptiles to move to the less disturbed areas around the field perimeter, the slow-worm population is considered best assessed as **Good** (Table 4.3 and 4.4).

A maximum count of three adult grass snakes were recorded on site during any one survey visit along the northern boundary of the site and within the horse grazed field within the north western corner of the site indicating a Low population of grass snakes (Table 4.3 and 4.4).

[1] AF adult female; AM adult male; AU adult unsexed; IM immature male; L larvae; IF immature females; IU immature unsexed; JU Juvenile unsexed; ES eggs/spawn; - no data

[2] RS resting; B breeding behaviour; A active; H hibernating

Table 4.3 – 2010: Survey visit dates and weather conditions

Visit Number	Date	Time	Weather Conditions (Temperature)
	21/09/09 and 30/04/10	Mats initially placed	N/A
1	30/04/10	11.30-12.30	Air temp: 17.4 °C, ground temp 21.5 °C.
1a	07/05/10	11.15-12.45	Air temp:11.8-13.4°C,ground temp:14.7-16.0°C
2	11/05/10	12.20-14.10	Air temp:12.6-15.0°C, ground temp:13.3-23.4°C
3	20/05/10	10.30-12.20	Air temp:17.3-18.2°C, ground temp: 15.4-15.7°C
4	25/05/10	09.00-10.30	Air temp:16-23°C, ground temp: 20.1-23.6°C
5	03/06/10	9.50-11.45	Air temp:21.0-25.1°C, ground temp: 18.2-15.8°C

Table 4.4 - Details of the 2010 survey findings

Visit Number	Location/Mat No.	Date	Species	No.	Stage[3]	Activity[4]
1	65	**30/04/10**	Slow worm	3	AM	A
			Slow worm	1	J	a
	64		Slow worm	2	J	A
	61		Slow worm	2	AM	A
	55		Slow worm	2	J	A
	53		Slow worm	1	AF	RS
	52		Slow worm	1	AM	RS
	Plank of wood		Slow worm	2	AF	RS
			Slow worm	2	J	RS
	51		Slow worm	5	AF	RS
			Slow worm	2	AM	RS
			Slow worm	1	J	RS
	50		Slow worm	1	AM	RS
			Slow worm	1	SAM	RS
			Slow worm	1	SAF	RS
			Slow worm	1	JU	RS
	47		Slow worm	1	AM	RS
			Slow worm	1	JU	RS

[3] AF adult female; AM adult male; AU adult unsexed; IM immature male; L larvae; IF immature females; IU immature unsexed; JU Juvenile unsexed; ES eggs/spawn; - no data

[4] RS resting; B breeding behaviour; A active; H hibernating

Visit Number	Location/Mat No.	Date	Species	No.	Stage[3]	Activity[4]
	46		Slow worm	1	AF	RS
	45		Slow worm	1	JU	RS
	41		Slow worm	1	AM	RS
	42		Slow worm	1	AF	RS
			Slow worm	1	SAF	RS
			Slow worm	1	JU	RS
	43		Slow worm	1	AM	RS
			Slow worm	1	JU	RS
	36		Slow worm	1	AF	A
	35a		Slow worm	1	AF	RS
			Slow worm	1	AM	RS
			Slow worm	1	SAM	RS
			Slow worm	1	JUS	RS
	35		Slow worm	1	AF	RS
			Slow worm	1	JU	RS
	31		Slow worm	2	JU	RS
	23		Slow worm	1	AF	RS
	20		Slow worm	1	AM	RS
	19		Slow worm	1	AM	RS
	17		Slow worm	1	JU	RS
	12		Slow worm	3	JU	RS
	19		Slow worm	1	JU	RS
1a	**Main Site**	**07/05/10**	-	-	-	-
	85		Slow worm	2	AF	RS
2	**Main Site**	**11/05/10**	-	-	-	-
	65		Slow worm	1	AF	RS
			Slow worm	6	JU	A
			Slow worm	2	IU	A
			Slow worm	2	IM	RS
	64		Slow worm	1	JU	A
	60		Slow worm	1	IM	A
	52		Slow worm	1	JU	A
	51		Slow worm	1	AF	A
			Slow worm	1	JU	A
			Slow worm	2	AM	A
			Slow worm	1	IU	A
	50		Slow worm	2	IM	A
			Slow worm	1	IF	A
			Grass Snake	1	AU	A
	46		Grass Snake	1	IU	RS
	41		Grass Snake	1	IU	RS
	39		Slow worm	1	IF	A
	36		Slow worm	1	IM	A
			Slow worm	1	JU	A
	26		Slow worm	1	AF	A
	17		Slow worm	1	JU	A

Visit Number	Location/Mat No.	Date	Species	No.	Stage[3]	Activity[4]
	92		Slow worm	1	JU	A
	45		Slow worm	1	IF	RS
	42		Slow worm	1	JU	A
	43		Slow worm	1	JU	RS
	31		Slow worm	1	JU	A
	20		Slow worm	1	IM	RS
	12		Slow worm	1	IM	RS
	1		Slow worm	1	JU	RS
3	**Glen Site**	**20/05/2010**				
	7		Slow worm	1	JU	RS
	Main Site					
	1		Slow worm	1	IF	RS
	11		Slow worm	1	JU	RS
	12		Slow worm	1	JU	RS
	15		Slow worm	1	AF	RS
	17		Slow worm	1	JU	RS
	31		Slow worm	2	JU	RS
			Slow worm	1	IF	RS
	37		Slow worm	1	AM	RS
	43		Slow worm	1	AF	RS
	42		Slow worm	1	AF	RS
	43		Slow worm	1	AF	RS
	42		Slow worm	1	AF	RS
	41		Slow worm	1	AM	RS
	44		Grass Snake	1	AU	A
	45		Slow worm	1	JU	RS
	47		Slow worm	1	IF	RS
	50		Slow worm	1	AF	RS
	51		Slow worm	2	AM	RS
			Slow worm	1	JU	RS
	55		Slow worm	2	JU	RS
	58		Slow worm	1	AM	RS
	64		Slow worm	1	IF	RS
	65		Slow worm	2	AM	RS
			Slow worm	2	AF	RS
			Slow worm	2	JU	RS
	85		Slow worm	1	AM	RS
			Slow worm	1	AF	RS
			Grass Snake	1	AU	A
	92		Slow worm	1	IM	RS
			Slow worm	2	JU	RS
	93		Slow worm	2	JU	RS
	94		Slow worm	1	AM	RS
	99		Slow worm	1	AM	RS
4	65	**25/05/10**	slow worm	2	AF	A
	65		slow worm	1	AM	A

Visit Number	Location/Mat No.	Date	Species	No.	Stage[3]	Activity[4]
	65		slow worm	1	SAF	A
	65		slow worm	1	JU	A
	64		slow worm	1	JU	A
	55		slow worm	1	JU	A
	51		slow worm	1	AF	A
	50		slow worm	1	AM	A
	50a		slow worm	2	AF	A
	47		slow worm	2	SAF	A
	46		slow worm	1	AF	RS
	45		slow worm	2	SAF	RS
	44		slow worm	1	AF	A
	41		grass snake	1	AU	a
	41		grass snake	1	SAU	A
	1		slow worm	1	SAF	A
	80		slow worm	1	AM	RS
	81		slow worm	1	AM	RS
	85		slow worm	1	AF	RS
	85		grass snake	1	AU	A
	90		slow worm	1	AF	A
	92		slow worm	2	JU	A
	4		slow worm	1	JU	A
	7		slow worm	1	JU	A
	8		slow worm	2	JU	A
5	**Main Site**	**03/06/10**	-	-	-	-
	4		Slow worm	1	AF	RS
	7		Slow worm	1	AM	RS
	14		Slow worm	2	AM	RS
			Slow worm	1	IF	RS
	20		Slow worm	2	AF	RS
	26		Slow worm	1	AM	RS
	30		Slow worm	1	JU	RS
	42		Slow worm	1	AF	RS
	40		Grass Snake	1	AU	A
	45		Slow worm	1	IM	RS
	46		Slow worm	1	AM	RS
	47		Slow worm	1	AM	RS
	48		Slow worm	1	AM	RS
			Slow worm	1	AF	RS
	64		Slow worm	1	IM	RS
			Slow worm	1	JU	RS
	85		Slow worm	2	AM	RS
	92		Slow worm	1	JU	RS

5.0 Discussion

The slow worm and grass snake receive protection under Section 9(1) and 9(5) of the *Wildlife and Countryside Act 1981* (as amended). It is thus an offence to intentionally or recklessly kill or injure an animal and sell, offer to sell, possess or transport for the purposes of sale, and advertise for buying or selling of any of these animals. It may, therefore, be a breach of legislation to undertake works on a site that may result in the death or injury of native reptiles. Refer to Appendix E for further information.

During the initial reptile survey in September and October 2009 one species of reptile - slow worm, was recorded at Hampshire Farm in low numbers. Only juvenile slow worms were recorded during the reptile presence/absence survey and these were located within the bramble scrub along the northern boundary of the site, adjacent to the boundary tree line/scrub. A maximum of two juvenile slow worms were recorded during the initial reptile survey in 2009 on any one day and were only recorded during two of the seven surveys. No reptiles were observed on the remaining five visits.

The presence of juvenile slow worms at the site indicated an adult breeding population was likely to be present on site or adjacent to the site. Furthermore, during the installation of the reptile mats the tenant of the site informed the WYG surveyor that a dead adult slow worm was seen on the site earlier in the year.

September is considered an optimal period to observe reptiles although half of the surveys were undertaken in October 2009. It was considered that a number of factors are likely to have constrained the reptile survey, including the site disturbance between site visits 4 and 5 (8th to 12th October 2009) when the fields were cut, the horse fencing realigned and the reptile mats (numbers 1-9) were removed from the south western boundary.

Froglife guidelines (1999) suggest that the population of reptiles present at the site is based on the number of adults seen during the survey visit. During the presence/absence survey of 2009 only juvenile slow worms were recorded at the site and no adults were seen. As a result, it was recommended that an additional five surveys were undertaken at the site in optimal conditions in spring 2010 in order to determine the true population of reptiles on the site and to design an appropriate translocation programme and locate a suitable receptor site.

An additional five surveys were undertaken between April and early June 2010. The maximum number of adult slow worms recorded during the 2010 surveys was 33 adults; these was for the main field alone (0.48 hectares) and for grass snakes a maximum of 3 adults were observed along the northern boundary of the

main field and within the horse grazed field within the north west of the site. Mats had remained onsite since the 2009 survey and were more likely to be used by reptiles than mats that had been placed out closer to the 2010 survey start date, further as the main site is obviously cut at the site infrequently it is considered likely that reptiles tend to inhabit the perimeter of the fields and therefore an elevated population of reptiles is present towards the field margins. As a result, it is considered that the reptile populations at the site are best assessed as **Good** for slow worms and **Low** for grass snakes.

It should be noted that reptiles have been recorded throughout the entire site including the main development field, the horse grazed field within the north west of the site and within the grounds of the property 'The Glen'.

6.0 Recommendations

To avoid breaching the *Wildlife and Countryside Act 1981* (as amended) by killing or injuring reptiles, it is recommended that reptiles are removed from the site prior to any works commencing by means of a translocation. Due to the size of the site, it is recommended that habitat manipulation is undertaken rather than the installation of reptile-proof fencing around the areas of reptile habitat. However, if the translocation is phased throughout the site reptile-proof fencing is recommended to exclude these areas from the rest of the site.

It is understood that the proposed development footprint occupies the interior of the site and it is likely that the majority of the habitat suitable to support reptiles (semi-improved grassland, tall ruderal and scrub) will be directly impacted through construction activities. It is recommended that the reptiles are translocated to an off-site receptor to the adjacent 'Open Space' land this should be detailed within a reptile mitigation methods statement. A Good population of slow worms and a Low population of grass snakes suggest that approximately 70 visits should be allowed for translocation. The results will be reviewed and the number of visits amended accordingly; at least five clear visits will be required before the translocation can cease.

In order to assess the carrying capacity of the receptor site, a reptile survey should be undertaken at the proposed receptor site. This will identify species of reptile currently using the site and will help to target future habitat creation/management in order for the site to support the existing population and the translocated population of reptiles (as determined from the 2010 presence/absence survey).

Mitigation is detailed within the WYG Reptile Translocation Methods Statement, June 2010.

7.0 Documents Consulted

- Arnold & Ovenden (2002) *A Field Guide to the Reptiles and Amphibians of Britain and Europe.* HarperCollins, London.
- Office of the Deputy Prime Minister (August 2005). *Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS 9).* H.M.S.O., London.
- Froglife (1999*) Reptile Survey: Planning, conducting and interpreting surveys for snake and lizard conservation.* Froglife Advice Sheet 10. Froglife, Halesworth.
- Herpetofauna Groups of Britain and Ireland (1998) *Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards.* HGBI advisory notes to for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth. Unpubl.
- Joint Nature Conservation Committee (1998) *Herpetofauna Worker Manual,* JNCC, Peterborough.
- *Wildlife and Countryside Act 1981.* H.M.S.O., London.
- WYGE *Ecological Scoping/ Phase 1 Habitat Survey Report*, August 2009
- *WYGE Reptile Translocation Methods Statement*, June 2010.

Appendices

Appendix A – Report Conditions

WYG ENVIRONMENT

REPORT CONDITIONS

Hampshire Farm, Emsworth
Reptile Survey

This report is produced solely for the benefit of Linden 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 WYGE. 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 WYGE 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 WYGE 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.

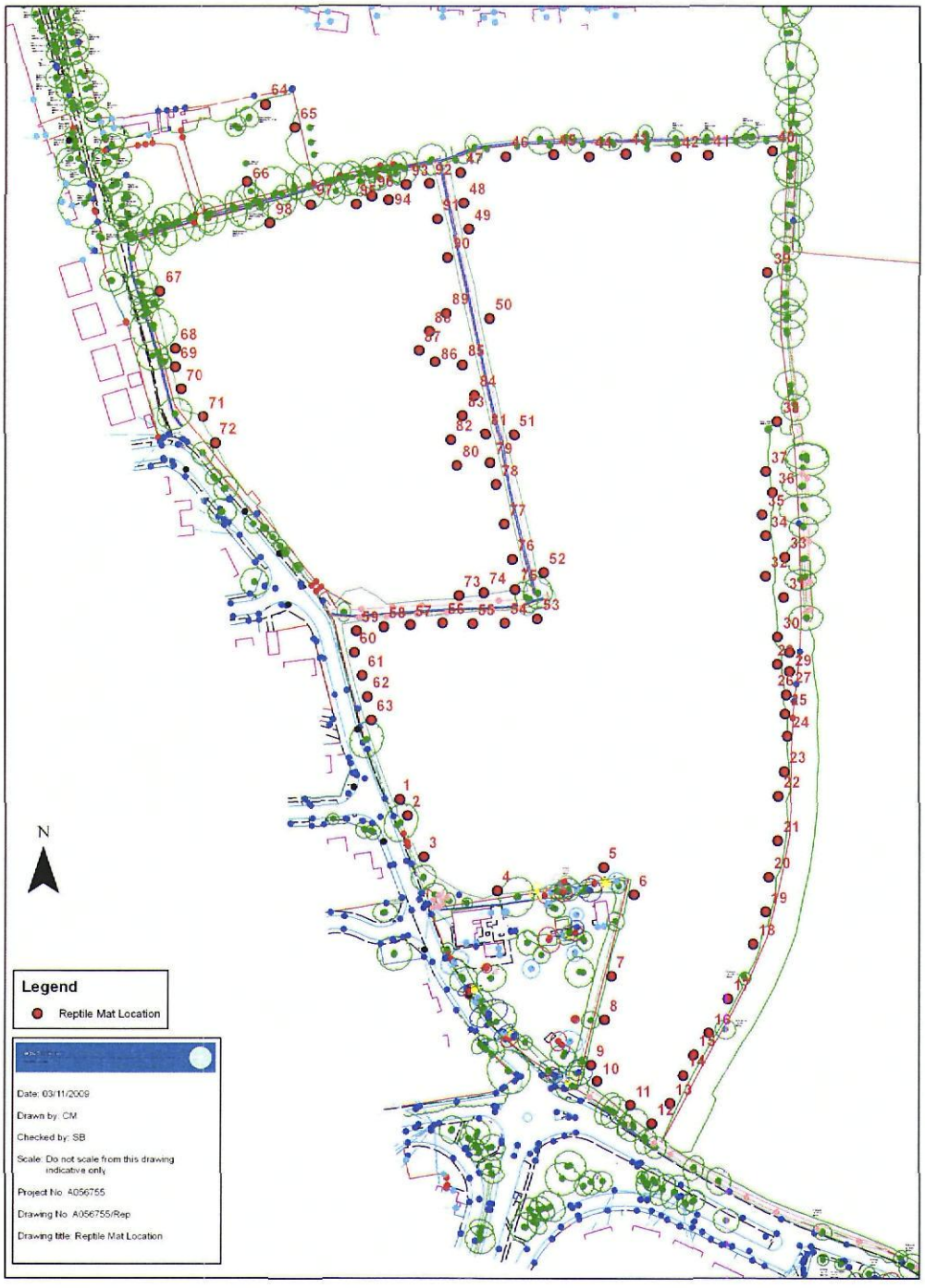
The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and 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. WYGE accepts no liability for issues with performance arising from such factors.

WYG Environment Planning Transport Ltd.

Appendix B – Figures

Location of Reptile Mats during 2009 survey : A056755/Rep


N
Legend
Reptile Mat Location
Date: 03/11/2009
Drawn by: CM
Checked by: SB
Scale: Do not scale from this drawing indicative only
Project No: A056755
Drawing No: A056755/Rep
Drawing title: Reptile Mat Location

Location of Reptile Mats during 2010 survey: A056755/Rep2010

DO NOT SCALE: CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ANY OMISSIONS OR ERRORS



● MAT LOCATION AND NUMBER

— — HORSE FENCING

REV	DESCRIPTION	BY	CHK	APP	

LINDEN HOMES

EMPRESS HOUSE
12 EMPRESS ROAD
LYNDHURST, HAMPSHIRE
SO43 7AE

TEL: +44 (0)23 8028 3226
FAX: +44 (0)23 8028 2623
e-mail: enviro.lyndhurst@wyg.com

Project:

HAMPSHIRE FARM

Drawing Title:

REPTILE MAT

LOCATION PLAN

Scale @ A3	Drawn	Date	Checked	Date	Approved	
1:2500	AP	14-6-2010	CM	14-6-2010	CM	1 2010
Project No.	Office	Type	Drawing No.			
A056755	3804	ENV	A056755-REP2010			0

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Appendix C – Consultation Response

Records from HBIC and SxBRC

Taxon Name	Common Name	Status	Grid Ref.	Location	First Year	Last Year	No. of Records
Amphibians and Reptiles							
Bufo bufo	Common Toad	UKBAP NERC_s41	SU741056	Greysands, Emsworth	1986	1986	1
			SU746079	White Lodge Emsworth	1999	1999	2
			SU748059	Church Path Emsworth	1999	1999	2
			SU748059	Havant Borough: 29 Church Path, Emsworth	1999	1999	1
Natrix natrix	Grass Snake	UKBAP WCA_s5p91(k) NERC_s41	SU730070	Havant Thicket	1999	1999	1
			SU746079	White Lodge Emsworth	1999	1999	3
Triturus cristatus	Great Crested Newt	EU_Hab_2np EU_Hab_4 UKBAP HBAP WCA_s5p91(k) WCA_s5p91(t) WCA_s5p94a WCA_s5p94b EPS NERC_s41 CI	SU75300540	Selangor Avenue, Emsworth	1988	1988	1 *
			SU753054	Selangor Avenue, Emsworth	1988	1988	1

Vipera berus	Adder	UKBAP WCA_s5p91(k) NERC_s41	SU730070	Havant Thicket	1999	1999	1
Zootoca vivipara	Common Lizard	UKBAP WCA_s5p91(k) NERC_s41	SU7308	Edge Of BartonÆs Copse	1990	1990	1

Alkmaria romijni Tentacled Lagoon-Worm

annelid

Sussex Protected Species Register Species
Sussex Rare Species Inventory Species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (taking))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.2)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4b)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)
Wildlife and Countryside Act 1981 (Schedule 5)

Grid Reference	Recorder	Date	Locality
SU752058	Cliff Thorp	1980 - 2001	West Sussex (VC13)

Anguis fragilis Slow-worm

A legally protected legless lizard resembling a small snake. Slow-worms are widespread in southern England and found in open habitats such as rough grassland, heath and on road and railway embankments. They are often common in urban and suburban areas. Like most reptiles and amphibians they have declined considerably and need protection wherever they occur.

reptile

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
Sussex Protected Species Register Species
UK Biodiversity Action Plan priority species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)

Grid Reference	Recorder	Date	Locality
SU744076	SARG 2002 Leaflet	2002	South Hampshire
SU754059	Anon @ Chris Blandfords	03/10/2000	Emsworth
SU756081	SARG Sussex Amphibian & Reptile Grp;Dennis Dey	01/01/1992	West Sussex (VC13)
SU768058	SARG Sussex Amphibian & Reptile Grp	06/09/1999	West Sussex (VC13)
SU769073	SARG 2002 Leaflet	2002	West Sussex

Zootoca vivipara Common Lizard

The most abundant British lizard and widespread in Sussex in the Weald and along the coast. Probably under-recorded and increasingly confined to small areas of open sunny habitat. A legally protected species due to concern about its overall decline.

reptile

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
Sussex Protected Species Register Species
UK Biodiversity Action Plan priority species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)

Grid Reference	Recorder	Date	Locality
SU755092	Graham Roberts	16/06/1993-22/07/1993	Brickkiln Ponds

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Natrix natrix — Grass Snake

A widespread, but legally protected, snake with a normally olive body flecked with black and a distinctive yellow collar. Frequent in Sussex near places where its food, largely frogs, is readily available. Like most reptiles and amphibians, grass snakes have declined considerably and need protection wherever they occur.

reptile

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
Sussex Protected Species Register Species
UK Biodiversity Action Plan priority species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)

Grid Reference	Recorder	Date	Locality
SU7609	SARG Sussex Amphibian & Reptile Grp;Dennis Dey	29/09/1993	West Sussex (VC13)
SU769073	SARG 2002 Leaflet	2002	West Sussex

Chiroptera — Bat

terrestrial mammal

European Protected Species
Sussex Protected Species Register Species

Grid Reference	Recorder	Date	Locality
SU763075	Recorder @ Sussex Bat Group	02/05/1988	West Sussex (VC13)

Pipistrellus pipistrellus — Pipistrelle Bat (species aggregate)

The commonest bat in the British Isles, this small species is found in all types of countryside, except very exposed areas, as well as in towns and suburbs. Summer roosts are usually in buildings, though tree holes and bat boxes are also used. Winter roosts are in buildings, tree holes and caves.

Pipistrelles were often recorded as either 45 kHz or 55 kHz depending on the pitch of the echolocation calls picked up by bat detectors. These are now separate species; Pipistrellus pipistrellus being the 45 kHz animal and P. pygmaeus the 55 kHz.

This is the aggregate version of the Pipistrelle where the audio frequency or specific species is undetermined.

Both Pipistrellus pipistrellus (45 kHz) and P. pygmaeus (55 kHz) are widespread in Sussex and, like all bats are a legally protected species.

terrestrial mammal

Berne Convention Appendix 2
Bonn Convention Appendix 2
European Protected Species
Habitats and species directive Annex 4
Sussex Protected Species Register Species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (taking))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.2)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.4b)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)
Wildlife and Countryside Act 1981 (Schedule 5)

Grid Reference	Recorder	Date	Locality
SU754059	Martin Love	23/09/2000	Emsworth

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Apamea remissa Dusky Brocade **N**

A generally distributed moth of open woodland, marshes, downland, commons and other grassy places that is in marked decline. Larvae live on grasses. Widely recorded in Sussex.

insect - moth

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
UK Biodiversity Action Plan priority species

Grid Reference	Recorder	Date	Locality
SU764091	Graham Roberts;John Veltom;Anne De Potier	04/07/1989	Aldsworth Pond and Meadows, Emsworth

Hoplodrina blanda Rustic **N**

A noctuid moth of gardens, grasslands and heath with larvae that feed on a variety of low-growing plants. Very widely recorded in Sussex, but in marked decline in the UK generally.

insect - moth

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
UK Biodiversity Action Plan priority species

Grid Reference	Recorder	Date	Locality
SU743082	Recorder@ Chi Nat His Soc	21/07/2006	Hollybank Woods
SU756093	John Langmaid;Graham Roberts;Simon Curson	19/08/1996	Brickkiln Ponds

Caradrina morpheus Mottled Rustic **N**

A common noctuid moth whose larvae feed on nettle, dandelion and other low-growing plants. It is in marked decline in the UK, bu has been very widely recorded in Sussex.

insect - moth

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
UK Biodiversity Action Plan priority species

Grid Reference	Recorder	Date	Locality
SU743082	Recorder@ Chi Nat His Soc	21/07/2006	Hollybank Woods

Bufo bufo Common Toad **N**

Still a widespread species in Sussex but declining due to loss of habitat and other factors. Toads tend to have large populations centred on particular breeding sites and they may become locally extinct if these are damaged or destroyed. Common toads are legally protected against sale.

amphibian

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
UK Biodiversity Action Plan priority species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)

Grid Reference	Recorder	Date	Locality
SU755092	Graham Roberts	16/06/1993-22/07/1993	Brickkiln Ponds
SU769073	SARG 2002 Leaflet	2002	West Sussex

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Anguis fragilis — Slow-worm — N

A legally protected legless lizard resembling a small snake. Slow-worms are widespread in southern England and found in open habitats such as rough grassland, heath and on road and railway embankments. They are often common in urban and suburban areas. Like most reptiles and amphibians they have declined considerably and need protection wherever they occur.

reptile

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
Sussex Protected Species Register Species
UK Biodiversity Action Plan priority species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)

Grid Reference	Recorder	Date	Locality
SU744076	SARG 2002 Leaflet	2002	South Hampshire
SU754059	Anon @ Chris Blandfords	03/10/2000	Emsworth
SU756081	SARG Sussex Amphibian & Reptile Grp;Dennis Dey	01/01/1992	West Sussex (VC13)
SU768058	SARG Sussex Amphibian & Reptile Grp	06/09/1999	West Sussex (VC13)
SU769073	SARG 2002 Leaflet	2002	West Sussex

Zootoca vivipara — Common Lizard — N

The most abundant British lizard and widespread in Sussex in the Weald and along the coast. Probably under-recorded and increasingly confined to small areas of open sunny habitat. A legally protected species due to concern about its overall decline.

reptile

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
Sussex Protected Species Register Species
UK Biodiversity Action Plan priority species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)

Grid Reference	Recorder	Date	Locality
SU755092	Graham Roberts	16/06/1993-22/07/1993	Brickkiln Ponds

Natrix natrix — Grass Snake — N

A widespread, but legally protected, snake with a normally olive body flecked with black and a distinctive yellow collar. Frequent in Sussex near places where its food, largely frogs, is readily available. Like most reptiles and amphibians, grass snakes have declined considerably and need protection wherever they occur.

reptile

Natural Environment & Rural Communities Act 2006 - Species of Principal Importance in England (s41)
Sussex Biodiversity Action Plan Species
Sussex Protected Species Register Species
UK Biodiversity Action Plan priority species
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.1 (killing/injuring))
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5a)
Wildlife and Countryside Act 1981 (Schedule 5 Section 9.5b)

Grid Reference	Recorder	Date	Locality
SU7609	SARG Sussex Amphibian & Reptile Grp;Dennis Dey	29/09/1993	West Sussex (VC13)
SU769073	SARG 2002 Leaflet	2002	West Sussex

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Appendix D – Reptile Ecology

Reptile Ecology

Six native species of reptile occur in Britain. One snake (smooth snake *Coronella austriaca*) and one lizard (sand lizard *Lacerta agilis*) are considered rare; the others: slow-worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*), the adder (*Vipera berus*) and the grass snake (*Natrix natrix*) being relatively widespread, although there is a distinct southern bias in reptile distribution within Britain. Nomenclature utilised in this report (including vernacular names) for reptiles follows that in Arnold and Ovenden (2002).

Reptiles will generally occupy a variety of habitats, although they occur most frequently in grassland, moor, heathland and sparsely vegetated areas. Important components of the habitat are the places where they can seek refuge, for example log-piles, builder's rubble, old carpets etc. These refugia should also be close to an area where reptiles can bask in the sun, as these species are thermophilic (heat loving) and their body temperatures reflect that of their surroundings. South to south-west facing slopes with open, sparse, as well as tussocky, vegetation provide ideal conditions. Consequently, reptiles tend to be more abundant in southern England and in habitats that warm up rapidly in the sun. All British reptile species hibernate from late autumn to early spring, emerging when temperatures are sufficiently warm. During the early part of the day and especially after periods of wet weather, reptiles will spend much of their time basking.

Both slow worms and grass snakes were recorded at the Hampshire Farm site, but the site does hold potential to support common lizards.

The slow-worm (*Anguis fragilis*) is probably the most commonly encountered British reptile. It is often found in gardens and is widespread throughout the British Isles. This species prefers to raise its body temperature by warming itself from under stones, logs or piece of discarded rubbish such as a sheet of corrugated iron or wood, which when exposed to the sun warm rapidly. Its appearance is always shiny, the males are grey, and the females brown with dark sides and a thin line down the back. Slow-worms give birth to live young in September. The young are very thin, about 4cm long with black bellies and gold or silver backs with a thin black line down the middle.

The grass snake is UKs biggest snake which can grow well over a metre in length. Typically this snake is grey-green in colour with a distinct yellow and black collar round the neck, black bars down the side and sometimes two rows of black marks down the back. The grass snake is often associated with water; it swims well and feeds mainly on amphibians and fish. It is a sun loving animal and is most often encountered basking in the sun.

The grass snake is found throughout England and Wales. It is Britain's only egg laying snake. Females lay eggs in June or July, normally in rotting vegetation (such as a compost heap) which acts as an incubator. The eggs hatch into miniature versions of the adults in September.

The common lizard is found throughout the British Isles, and in a variety of habitats, including grassland, heathland, hedgerows, woodland edges, and road and railway embankments. The onset of hibernation is dependent upon seasonal temperature trends, but typically occurs in October, and is usually spent deep in refugia. Typical adult size is approximately fifteen centimetres (including its tail) and colouration is commonly some shade of brown with patterns of spots or stripes. Unusual colour variations are not uncommon, everything from yellow through to various shades of green to jet black are encountered. Animals normally emerge from their hibernation in late March/April although in mild conditions this can be as early as mid-February. Immediately following hibernation they will spend long periods basking and foraging for insects. Breeding occurs in spring early summer and between four and ten fully formed young are born in late July or August.

Appendix E – Reptile Legislation

Reptile Legislation

All British reptiles receive protection under the *Wildlife and Countryside Act 1981* (as amended). The four more common species of reptile; the common lizard, the grass snake, the slow worm and the adder receive protection from Section 9(1) and all of Section 9(5) of the *Wildlife and Countryside Act 1981* (as amended), which makes it an offence to intentionally kill or injure an animal or for it to be sold or traded in any way.

It is therefore a criminal offence to undertake major works on site that may result in the death or injury of a native reptile species where these species are known to be present.

In addition to the above, the two rare species of British reptile, the smooth snake and the sand lizard are listed in Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and under Annexe IV of the *Conservation of Natural Habitats and of Wild Fauna and Flora Directive 1992* ('the Habitats Directive') as a European protected species.

Furthermore, the *Countryside and Rights of Way Act 2000* (Schedule 12, paragraph 5) has amended Section 9(4) of the 1981 Act to include the term 'reckless'. Consequently, it is an offence to intentionally kill, injure or take a smooth snake/sand lizard as well as intentionally or recklessly damage, destruct or obstruct the access to the place of shelter or disturb the animal while it is occupying it. These species are therefore fully protected under Section 9 of the 1981 Act and under Regulation 39 of the *Conservation (Natural Habitats etc) Regulations 1994* that transposes the Habitats Directive into UK law.