Llantrisant Health Park
Ely Meadow, Talbot Green

Reptile Survey

November 2024

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Llantrisant Health Park, Ely Meadow, Talbot Green Reptile Survey				
Revision	Date	Prepared by	Checked by	Approved by
1.0	18 November 2024	Charlotte Ingram Assistant Ecologist	Anita-May Connors Assistant Ecologist	Paul Hudson MCIEEM Principal Ecologist

Executive Summary

Site Location	The report presents the findings of a reptile survey of land at Llantrisant Health Park (former British Airways Avionics, Engineering site), Ely Meadow, Talbot Green, Llantrisant, CF72 8XL, within the boundary of Rhondda Cynon Taf Borough Council (Ordnance Survey Grid Reference centred at: ST 0362 8387).
Survey Methods	The survey consisted of two different techniques: the use of artificial cover objects (ACOs) which are also known as refugia and direct observation. The ACOs were placed throughout the site on the 30th May 2024, in areas considered to be suitable for reptiles. The ACOs were then left for 39 days prior to commencing the survey to allow reptiles to grow familiar with, and then utilise, them. The survey consisted of seven separate visits. During each visit the terrestrial habitat was checked for reptiles, as well as each ACO. The ACOSs were first checked from a distance for basking reptiles, before being checked below for sheltering individuals.
Survey Results	The maximum number of adult reptiles recorded across the site was two slow-worms and five common lizards, which falls into the 'low population' and 'good population' categories respectively. No other species of reptile were recorded.
Predicted Impacts of Development on Reptiles	Without mitigation, the development could potentially cause direct harm to slow-worms and common lizards, including the possibility of killing or injury. The development would also result in the loss of an area of reptile habitat. These impacts are considered to be significant at site level.
Proposed Mitigation	Mitigation to prevent harm to slow-worms during construction and clearance in advance of site clearance will be achieved by the installation of an exclusion fence, followed by destructive searching and the collection and removal of any reptiles encountered to the retained land during the clearance. Further mitigation will involve habitat enhancement to increase the carrying capacity of the retained habitat for reptiles. To prevent harm to slow-worms and common lizards during site investigation works destructive searching will be implemented along with species deterrence measures.
Required Actions	Detailed recommendations are given in Section 6.

1. Introduction

1.1. Brief

Acer Ecology Ltd were commissioned by Archus on behalf of Cwm Taf Morgannwg University Health Board to carry out a reptile survey of land at Llantrisant Health Park (former British Airways Avionics, Engineering site), Ely Meadow, Talbot Green, Llantrisant, CF72 8XL, within the boundary of Rhondda Cynon Taf Borough Council (Ordnance Survey Grid Reference centred at: ST 0362 8387)[1]. The location of the site is shown on Plan 1.

1.2. Site Description

The site proposed for development measures approximately 8.36ha, and mainly comprises three buildings in the centre of the site, all of which are almost identical with the same roof construction and layout. Car parks are located in the eastern area of the site, and woodland to the north, south and west of the buildings. Within 100m of the site to the west there is a large woodland area, and to the north are open fields. There is a hospital to the north of the site. The town of Talbot Green is located to the south-east of the site. The site has flat topography and sits approximately 60m above sea level.

The site's location is shown on Plan 1: Location Plan.

1.3. Proposed Works

At the time of writing, the exact development plans are yet to be determined. However, it is anticipated that the plans will involve the demolition of the existing buildings on site, followed by the construction of a new building in their place.

1.4. Legislation

There are four widespread species of British reptile - grass snake (*Natrix helvetica*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These species are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the intentional or reckless killing or injuring of individuals of any of the above species. Notes on the habitat preferences of the four common reptile species are contained within Appendix 1.

In addition, these species of reptiles are also listed in Part 1 Section 7 of the Environment (Wales) Act 2016 which is a list of the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in Wales.

[1] Latitude and Longitude: 51.545465 , -3.3912730 / what3words: committee.clasping.counts

To ensure compliance with Planning Policy Wales (2021) developments should ideally result in no net loss to the local conservation status of reptiles.

1.5. Survey Scope

The survey comprised a presence/likely absence reptile survey utilising a combination of artificial cover objects (ACOs) which are also known as refugia and direct observation whilst walking across the site.

1.6. Review of Historic Site Data

Acer Ecology undertook a Preliminary Ecological Appraisal (PEA) survey of the site on the 15th April 2024 which identified the site as being suitable to support reptiles.

1.7. Reporting

The aims of the report are to:

- Outline the methodology used during the survey;
- Determine the presence or likely absence of reptiles at the site;
- Determine the population size class of reptiles if confirmed to be present;
- Provide an interpretation of the findings, in relation to the potential impacts of the development;
- Specify the legal and policy constraints relevant to reptile populations and individual reptiles which may affect the development; and
- Provide an indication of mitigation, compensation and enhancement measures that may be required.

2. Methods

2.1. Field Study

Surveys were undertaken in accordance with the guidance outlined in the Herpetofauna Workers' Manual (Gent and Gibson 2003), Advice Sheet 10 – Reptile Survey[2] (Froglife, 1999), the Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring (Hill et al., 2005), Reptiles: surveys and mitigation for development projects (Natural England and DEFRA 2015), the Reptile Mitigation Guidelines (Natural England 2011) and Survey Protocols for the British Herpetofauna (Sewell et al., 2013). This involved seven return visits in suitable weather conditions on non-consecutive days during September. An additional two checks were conducted prior to these seven checks, one in July and another in August.

The surveys were undertaken by Charlotte Ingram[3] and Evan Smith[4], both are experienced reptile surveyors.

Froglife's Advice Sheet 10: Reptile Survey (1999) recommends that around 10 ACOs per hectare are used during reptile surveys[5]. The site is 8.36ha in size and 44 ACOs were placed across the site, which equates to 5.26 artificial cover objects per hectare. This considerably exceeds the density of artificial cover objects recommended by Froglife. The ACOs (comprising sections of bituminised roofing felt, and corrugated bitumen-based roofing felt), measuring approximately 1m x 0.5m (0.5m^2) on the site on the 30th of May 2024, in areas considered to have habitat suitable for supporting reptiles (i.e. sunny location, against cover and in likely reptile micro-habitat) and in areas deemed least likely to be tampered or interfered with by people.

The location of the ACOs is shown on Plan 2. The ACOs were then left undisturbed on the site for 39 days prior to commencement of the survey, to allow the reptiles on the site sufficient time to find and start utilising them. Each ACO was then first checked for basking individuals from a distance before being slowly approached and searched for sheltering reptiles. Terrestrial habitat between artificial cover objects 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 (see Plan 2).

The timing of the seven non-consecutive survey visits was undertaken in accordance with the guidelines (Natural England, 2011)[6]; in early autumn, between 09:00 and 11:00 and 16:00 and 18:00 and in the

[2] The Froglife Guidance is primarily aimed conservation volunteers and not professional survey work.
[3] Charlotte is employed with Acer Ecology as an assistant ecologist and is experienced in undertaking reptile surveys. She graduated with a degree in International Wildlife Biology from the University of South Wales. She is in her second season of ecological consultancy work.
[4] Evan Smith is a Conservation Biology and Ecology graduate from the University of Exeter and is considered a competent reptile surveyor. He has undertaken extensive training with Acer Ecology in reptile ecology and handling.
[5] This guidance is primarily aimed at monitoring schemes rather than presence/likely absence surveys.
[6] Natural England's guidance was used as no equivalent guidance has been produced by NRW.

absence of very hot weather, and when the air temperature is between 9ºC and 18ºC[7], which is considered the optimal time to survey for reptiles (Froglife, 1999). Heavy rain and wind are deemed unsuitable conditions for reptile surveys (Froglife, 1999). As reptile activity is heavily dependent on weather conditions the following parameters were recorded during each survey visit: air temperature[8], wind levels, rain levels, and the cloud cover. As recommended in the guidance (Froglife, 1999) surveys were not undertaken on consecutive days.

Species and life stage and were also recorded, where animals were present, as well as environmental data. Non-target species, such as amphibians and small mammals, utilising the artificial cover objects was also recorded during the surveys.

Estimation of Population Size

Determining the size of a population of reptiles can be difficult without substantial survey effort. Froglife's guidance (1999) recommends that around 20 visits[9] may be required to assess population size. However, a method of obtaining a broad assessment of population size can be useful for informing impact assessments and mitigation planning.

The reptile population size on site was classified into three classes, based on the maximum number of adult reptiles seen on any one survey visit, as shown in the table below (Froglife 1999 and Natural England (TN102[10])).

Table 1: Reptile Population Size Classes

	Natural England Guidance (TN102)			**Froglife Guidance (1999)**		
Reptile Species	**Small population**	**Medium population**	**Large population**	**Low population**	**Good population**	**Exceptional population**
Adder	<5	5-10	>10	<5	5-10	>10
Grass snake	<5	5-10	>10	<5	5-10	>10
Common lizard	<5	5-20	>20	<5	5-20	>20
Slow-worm	<10	10-40	>40	<5	5-20	>20

[7] Natural England's Reptile Mitigation Guidelines recommend that the temperature is between 10-20ºC.
[8] Minimum and maximum temperature in the shade was measured during the survey using an ETI digital thermometer.
[9] It should be noted that the requirement to undertake 20 surveys on the HGBI guidance to provide a population class is aimed at conservation volunteers and not professional survey work.
[10] It should be noted that these guidelines have been withdrawn in October 2011.

2.2 Constraints

Sub-optimal Conditions Suring Surveys

The 2nd visit took place in weather with continuous light rain which may be considered a constraint. However, during this visit the greatest number of common lizards was recorded than during all other visits undertaken in optimal conditions. Therefore, this is not considered to pose a significant constraint.

All other survey visits were undertaken in suitable weather conditions (9 – 18°C and in the absence of high wind and heavy rain), during September at a time when reptiles are active.

Survey Timing

The surveys were undertaken in suitable weather conditions with the majority being undertaken during September. However, the initial two surveys were undertaken in July and August respectively. While July and August are months favoured by Natural England guidance, the following seven visits were undertaken in September and reptiles were found on site during July and August. Therefore, this is not considered to be a significant constraint.

3. Results

3.1.1. Survey Results

The survey results and weather conditions of each survey are summarised below:

Table 2: Survey Weather Conditions

Survey No.	Date	Time	Air Temperature (ºC)	Rain	Wind Speed (Beaufort)	Cloud Cover (Oktas)
1	08/07/24	11:39	16	None	3	4/8
2	22/08/24	13:00	17	Constant light rain	1	7/8
3	13/09/24	10:11	12	None	2	3/8
4	16/09/24	10:17	15	None	5	1/8
5	18/09/24	10:50	18	None	1	1/8
6	20/09/24	10:14	14	None	4	4/8
7	24/09/24	10:30	16	None	3	5/8
8	26/09/24	10:23	13	None	2	7/8
9	30/09/24	10:00	13	None	3	6/8

Table 3: Survey Results

Survey	Date	Records			Additional Notes
		Species	Adult	Juvenile	
1	08/07/24	Slow-worm	2	3	One pregnant female slow-worm.
		Common Lizard	1	0	
2	22/08/24	Common Lizard	5	1	
		Slow-worm	0	4	
3	13/09/24	-	-	-	Harvest mouse also found under a mat.
4	16/09/24	Common Lizard	1	3	Field vole and harvest mouse also found under mats.
		Slow-worm	1	1	Field vole and harvest mouse also found under mats.
5	18/09/24	Slow-worm	1	0	
6	20/09/24	Slow-worm	1	0	Field vole and harvest mouse also found under mats.
7	24/09/24	Common Lizard	2	3	
8	26/09/24	Common Lizard	1	8	Field vole and common shrew also found under mats.
9	30/09/24	-	-	-	

Plan 2 shows the areas of the site where reptiles were recorded. The common lizards and slow-worms were largely recorded in the northern half of the southern grassland area.

Additional fauna including field vole (*Microtus agrestis*) and harvest mouse (*Micromys minutus*) were also recorded during the surveys.

4. Evaluation

4.1. Population Class Assessment

The results of the surveys indicate that the site supports a small/low population of slow-worm and medium/good population of common lizard.

Table 4: Reptile Population Size Classes Recorded During Survey

Reptile Species	Peak Count[11] Adults	Peak Count Juveniles	Population Class (NE Guidance)	Population Class (Froglife Guidance)
Slow-worm	**2**	**4**	Small	Low
Common lizard	**5**	**8**	Medium	Good

4.2. Distribution of Reptiles Across Site

Slow-worms and common lizards were found in the southern section of the site in the grassland area. The refugia found to be utilised by reptiles were primarily located on the steep banks within the grassland area, the interfaces between dense scrub and grassland areas, and in areas of the grassland with varied sward height.

[11] Peak count is the maximum number of reptiles recorded on an individual survey.

5. Assessment of Potential Impacts on Reptiles

The potential impacts on reptiles are based on the development proposals at the time of writing. This impact assessment may need to be reviewed and amended as necessary in light of any alterations to the development proposals.

5.1. Potential Impacts of the Development on Reptiles

5.1.1. Potential Direct Impacts

The development has the potential to result in the following direct impacts:

- Death or injury of any individuals present at the point of site clearance;
- Habitat loss through land-take and the removal of reptile habitat;
- Population isolation may occur through habitat fragmentation; and
- Reduction in quality of reptile habitat around the proposed development footprint.

5.1.2. Potential Indirect Impacts

The development has the potential to result in the following indirect impacts:

- Increased on-site disturbance;
- Persecution and/or collection by humans;
- Predation by cats;
- Hydrological disruption; and
- Potential disturbance to neighbouring populations of reptiles with the increased human presence and noise and vibrations from the works.

5.1.3. Broad Level Impact of Proposed Development

The proposed works, in the absence of mitigation, will result in the loss of reptile suitable habitat and likely killing/injury of reptiles. Without mitigation and enhancement measures there would be a negative (medium) impact on the population, according to the NE TIN102 guidance shown overleaf.

Table 5: Broad Impact Level of Proposed Development (Without Mitigation) on Reptiles

Severity	Impacts
Negative: negligible	• Minor disturbance to individual reptiles • Minor loss or damage to broad habitat
Negative: low	• Killing of small proportion of population • Fragmentation minimally affecting dispersal • Moderate damage of broad habitat • Introduction of minimal decline factors
Negative: medium	• Killing of a moderate proportion of population • Fragmentation moderately affecting dispersal • Minor damage to key habitat feature • Moderate loss of broad habitat • Introduction of moderate decline factor
Negative: high	• Killing of high proportion of population • Fragmentation seriously affecting dispersal • Loss of key habitat feature • Major loss of broad habitat • Introduction of serious decline factor

5.2. Mitigating the Impacts

To avoid adverse impacts to the reptile population on site, habitat will be retained for reptiles in the southern section of the site, where the land is currently of relative value for reptiles, reflected by the records of common lizard and slow-worm in this area. The area retained for reptiles will be enhanced to ensure the long-term viability of the population prior to site clearance.

A full capture and translocation exercise, involving the erection of reptile-proof fences to exclude reptiles and allow for removal of reptiles from the area of works to a designated area within the southern section of site will be required.

Precautionary measures will be implemented at the point of any works in the southern vegetated area of the site, including ground investigation works, to prevent the killing/injury of reptiles. All works in this area will be supervised by a suitably qualified ecologist.

Full details are provided in Section 6.

6. Recommendations/Method Statement

Developments will need to result in no let loss to the local conservation status of reptiles.

The mitigation strategy to prevent harm to slow-worms and common lizards during site clearance and construction is detailed below:

6.1 Timing of Works

Habitats which could potentially support common reptiles will not be subject to ground disturbance during the reptile hibernation period, which runs approximately from October to February inclusive, so as to reduce the risk of encountering (and potentially injuring or killing) any hibernating individuals.

Ideally the collection and translocation of reptiles will begin in spring and be completed by the end of August. At this time reptiles are very active and more easily detected and caught. Completion by the end of August would also give the animals time to settle into their new habitat before the hibernation period begins.

6.2 Site Induction/Toolbox Talk

Clearance and construction personnel will be briefed by a suitably qualified ecologist about the confirmed presence of reptiles remaining on the site, the methodology for the works and the necessary course of action if any reptile is encountered i.e. stopping clearance works and capture of the animal and relocation by the ecologist to an area of retained habitat. Personnel will also be made aware of the identification features of adders, and the associated potential dangers even though this species was not recorded on site.

6.3 On-site Translocation

The works area will be securely enclosed with reptile-proof fencing, and ACOs will be placed within this area. Any reptiles present will be translocated to the dedicated reptile habitat that has been retained and enhanced within the site.

<u>Installation of Exclusion Fences and Active Collection of Reptiles</u>

The installation of the fencing will require careful supervision by a suitably qualified reptile handler to ensure that no reptiles are accidentally injured in the process.

In the areas where the reptile fencing is to be installed (see Plan 3) vegetation to be cleared will be strimmed or brush cut to a height of 15cm and raked away so as to reduce its attractiveness for amphibians and other wildlife. It will then be subject to a second cut, with the vegetation being cut to near ground

level (approximately 5cm). The vegetation of the site will then be maintained in this short condition for a minimum of 48 hours before reptile-proof fencing is installed. A suitably qualified ecologist will supervise the second cut.

Reptile-proof fencing will be erected around the area where ground investigations are to take place. If the reptile-proof fences are to be fabricated on site, these will be in accordance with Appendix 3, which is based on the advice provided by Natural England (2001) and DMRB (2005). Alternatively, purpose-made prefabricated moulded plastic fence units may be used, such as those of the 'Herpetosure' system, supplied and installed by a specialist contractor. The fencing will be at least 40 to 50 cm high above ground and held in place by timber tanalised stakes.

The fencing will be required to extend below ground level for a depth of about 25cm to prevent reptiles from moving into the area underneath the fence. It will probably be installed using either a mini-digger or a small tractor-and-harrow, but there will otherwise be only the minimum vehicle movement on the site necessary to achieve the task, and this will be confined to the minimum necessary number of defined routes. The fencing membrane will be installed without noticeable folds or creases. All joins in the membrane will be 'curl-joined' (or equivalent) and well secured to a post with pads and nails. This jointing method will continue underground as well as above.

The plastic will be scored 50mm from the top to allow for the creation of an overhang to further prevent the passage of reptiles. The use of battens will be avoided as these could assist reptiles to climb the fence.

A recommended layout for reptile fences is shown on Plan 3. As the area to be trapped out is relatively small, there is no need for the sub-division into compartments.

The fencing layout will not contain gaps which reptiles can pass through, and the fences will be backfilled on both sides at the time of installation to ensure that there are no cavities along the line of the fence that offer refuge sites for reptiles.

6.4 Management of Reptile Habitat

The existing rank and tussocky nature of the semi-improved grassland habitat should be maintained, along with the high variation in vegetation structure between the grassland edges and scrub. Additional enhancement measures include the creation of artificial banks or 'hibernacula', which will be created and located within the areas of semi-improved grassland and scattered scrub (Plan 3). Further details of the hibernacula are provided in Section 6.5 and Appendix 2.

6.5 Ecological Enhancement of Reptile Habitat

Enhancement measures will be implemented within the area of habitat retained for reptiles prior to any site clearance works.

Hibernaculum Creation

Four artificial banks or 'hibernacula' will be created within the area of retained habitat, marked on Plan 3: Reptile Mitigation Plan.

Each hibernaculum will ideally measure 4m in length, 0.5m in width and 0.4m in height, and will be comprised of bricks, stone, rubble and/ or timber. Ideally, the southern side of the banks will be finished with topsoil. Arisings from the subsequent vegetation clearance works can be added to the southern bank of the feature. The northern sides will be left with the rubble exposed to allow reptiles to enter cavities within the bank.

The hibernacula will provide optimal features for the reptiles in the designated area during the species deterrence measures. They will be retained in-situ following completion of the construction works. Any new occupiers will be made aware of their function and will ensure that it is kept in perpetuity.

Appendix 3 provides a visual representation of the artificial hibernacula.

7. References and Bibliography

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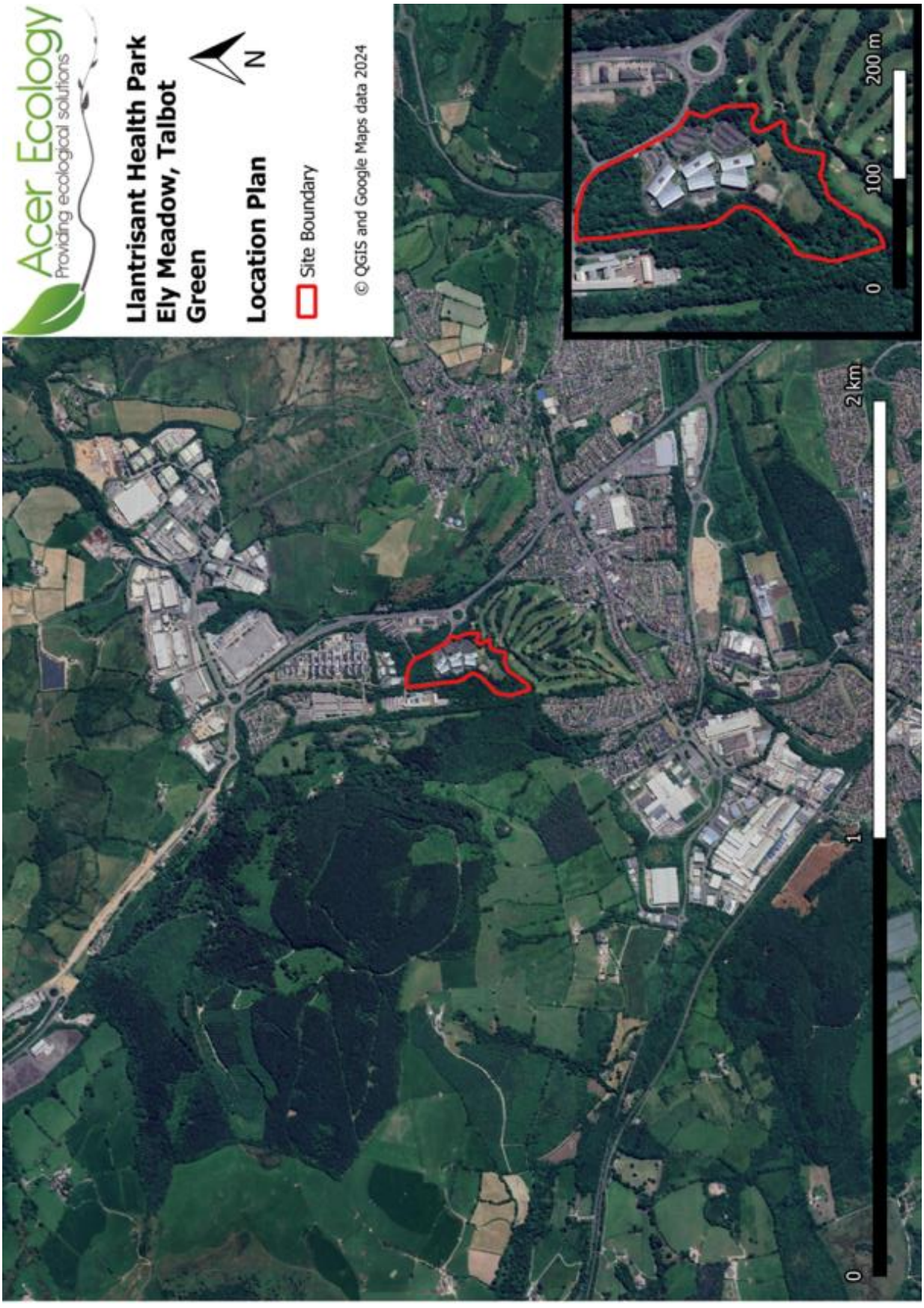
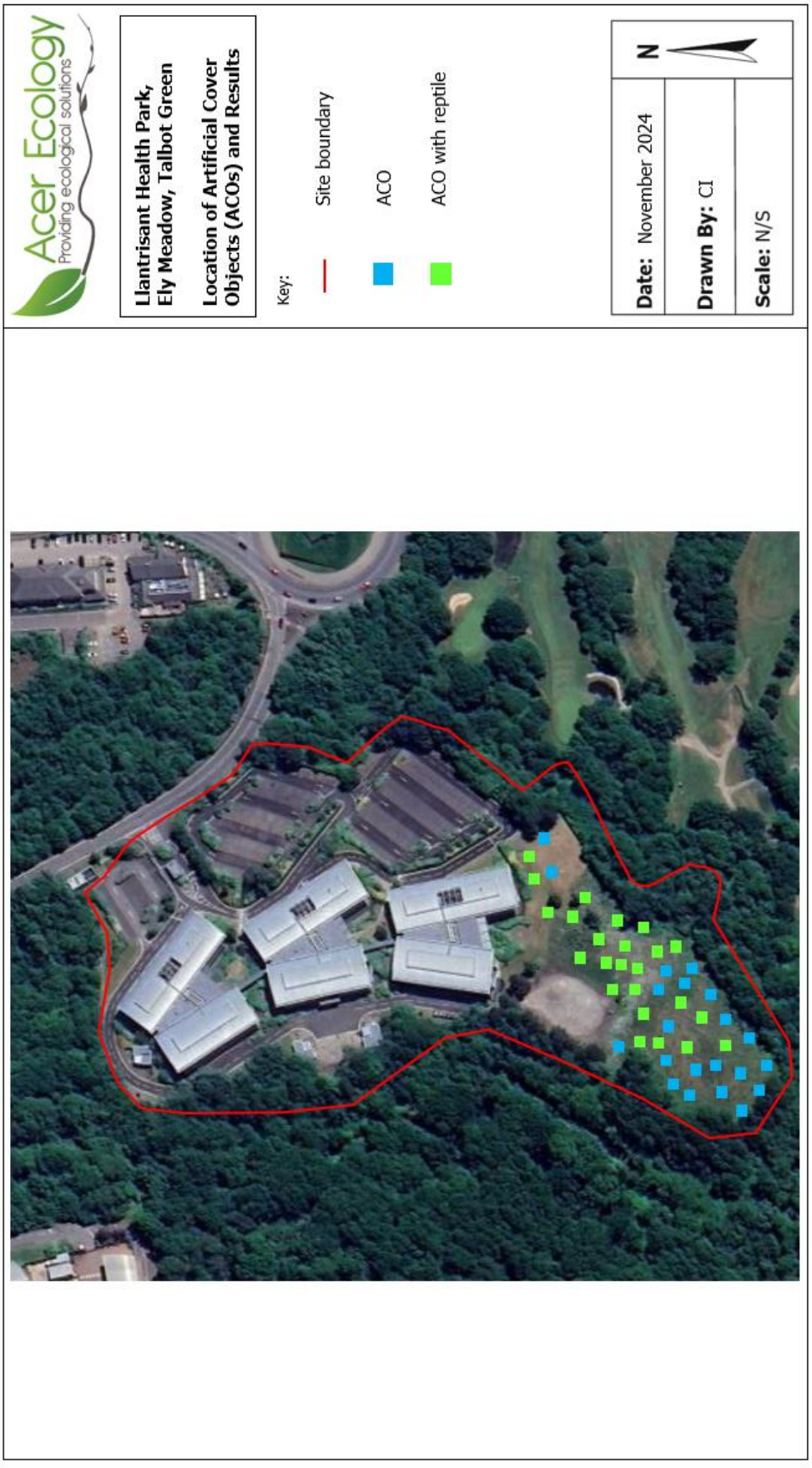
Plan 1: Location Plan



Plan 2: Location of Reptile Artificial Cover Objects and Reptiles Found



Plan 3: Reptile Mitigation Plan

Appendix 1: Species Requirements of the Common Reptile Species

Notes on the habitat requirements of the four common reptile species is given below:

Slow-worms are widespread throughout England and Wales and occur in a variety of habitats including rough grassland, hedgerows, heathland, woodland edges, downs and moorland. They also occur in a wide variety of man-made habitats including railway and road embankments, gardens, churchyards, parks and allotments. Marshy and very arid habitats are usually avoided. Dense vegetation cover combined with sunny areas allowing thermoregulation is ideal. Habitats which allow the animals to burrow such as compost heaps or loose soils encourage their presence and they are often associated with piles of stones, rubble or pieces of tin or plastic (Beebee and Griffiths 2000). They are often found associated with anthills and these structures may also provide a convenient network of underground tunnels.

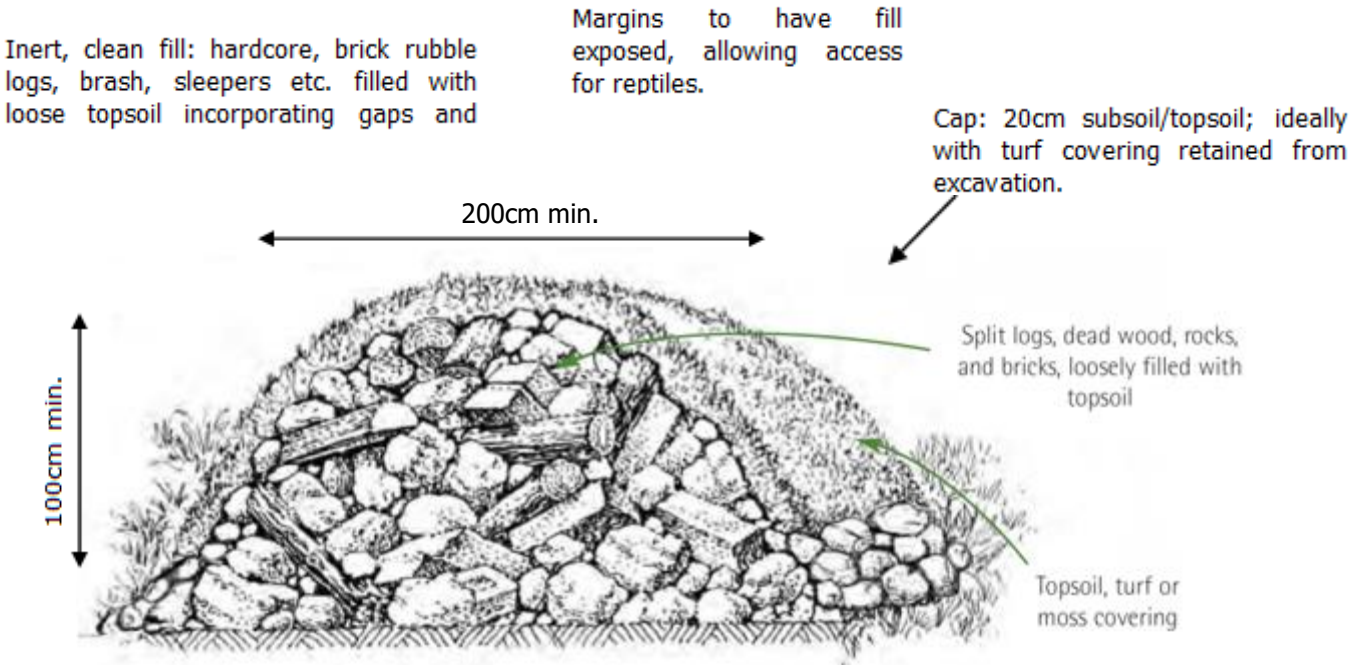
Common lizards occur in a wide range of habitats including roadside verges, uncultivated field edges, forest rides and glades, cliff edges and scree slopes, artificial embankments along railways and rivers, upland moors, heathlands and coastal sand dunes. Suitable habitat consists of undisturbed ground that is topographically diverse with fairly dense but short vegetation less than 0.5m high, open to the sun and with a few exposed areas that can be used for basking. The soil should be well drained and have adequate artificial cover objects for use in both summer and winter. South-facing slopes are preferred and humid sites often have the highest population densities.

Grass snakes are highly aquatic and are usually associated with ponds, lakes, marshes, streams or ditches. They feed almost entirely on amphibians. They also occur in open woodlands, hedgerows and rough grassland. Drier habitats including heaths and moorlands are sometimes used. They require terrestrial habitat with an abundance of hiding places and access to sunshine. Open patches close to thick cover are frequently used for basking.

Adders occur in a variety of habitats including heathlands, moors, chalk downlands, woodland rides, coastal dunes, rough commons, overgrown quarries, along field edges and railway embankments. The main requirement is undisturbed sunny glades or slopes, usually in the vicinity of some thick cover. South-facing slopes are preferred in upland areas.

Appendix 2: Artificial Hibernacula Creation

Above Ground Hibernaculum for Impermeable Soils



Notes:

- Ideally, the hibernacula should be constructed on a gentle slope to prevent flooding;
- Turfs should be removed from the footprint of the hibernacula before construction. These should be retained and relocated on the southern side of the completed hibernacula. A grading bucket rather than a toothed bucket will be required for this so that the topsoil remains as intact as possible;
- Once the topsoil has been removed (with a grading bucket) the first few centimetres of soil beneath will be checked for reptiles with a spade/fork under supervision of the ecologist;
- The topsoil turfs should be stored on tarpaulin or equivalent to prevent soil damaging surrounding vegetation;
- Materials which will decompose (e.g. plant matter) should not be placed under more enduring matter such as rocks, however, to avoid risk of collapse;
- Coia (biodegradable hessian) to be used between inert material and soil layer to ensure gaps retained;
- The hibernacula will have gently sloping (approximately 70º) edges;
- The hibernacula should be located in a sunny position;
- The hibernacula should run from east to west (i.e. with a long southern aspect);
- A suggested minimum size is 4m long by 2m wide by 1m high; and
- The area around the hibernacula should be managed as rough grassland.

Appendix 3: Specification for Reptile Proof Fences