URBAN EDGE ENVIRONMENTAL CONSULTING

NATURAL PROGRESSION

Land off of Turner's Hill Road, Turner's Hill, West Sussex: Crematorium Proposal

Reptile Survey

October 2020

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Reptile Survey

Client:	Hartmires Investments Ltd	
Report No.:	UE0364_TurnersHill_Reptiles_0_201016	
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CIEEM REGISTERED PRACTICE 2019-2020

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Abbreviations

ARS	Artificial Refuge Surveys
CHS	Conservation of Habitats and Species Regulations 2017
ECoW	Ecological Clerk of Works
LWS	Local Wildlife Site
NERC	Natural Environment and Rural Communities Act 2006
NPPF	National Planning Policy Framework
PEA	Preliminary Ecological Assessment
SxBRC	Sussex Biodiversity Record Centre
TN	Target Note
VES	Visual Encounter Surveys
WCA	Wildlife & Countryside Act 1981 (as amended)

0 Executive Summary

0.1 Introduction

0.1.1 A Reptile Survey was undertaken for the site of a proposed crematorium and natural burial development at Land off of Turner's Hill Road, Turner's Hill, West Sussex (Grid Reference: 533460, 135571).

0.1.2 The study was undertaken to establish the presence or likely absence of reptiles at the site, identify and evaluate potential impacts of the development on reptiles, and make recommendations accordingly. Seven surveys were undertaken between 22 July and 3 September 2020 with reference to current industry guidelines (e.g. Froglife, 1999). Surveys were comprised of walked transects along areas of suitable habitat combined with checks of artificial and pre-existing refuges.

0.2 Results

0.2.1 The desk study data search returned two records of two terrestrial reptile species from within the 1km desk-study search area. Two of the four widespread species have been recorded in the vicinity; slow worm *Anguis fragilis* and grass snake *Natrix natrix*.

0.2.2 The survey area is located within the known range of widespread reptiles, and is dominated by semi-improved neutral grassland. All of the survey area supports suitable habitats for reptiles, including coarse grassland with variable sward height/structure and tall ruderal which provide good quality refuge and foraging habitat, and hedgerow (defunct and intact) and scrub which provide shelter for hibernation or dispersing reptiles. The varied topography and undulating banks on the surveyed fields could also be used by basking reptiles. Site location (in relation to the species' range), insolation, aspect, topography, surface geology, prey abundance, refuge opportunity and hibernation/egg-laying potential are all favourable for reptiles.

0.2.3 The survey results indicate that Low populations of common lizard *Zootoca vivipara* (peak count of 2 adults) and grass snake (peak count of 1 adult) were present within the survey area during the 2020 survey season. Surveys were carried out in suitable weather conditions during the reptile active season and the density of refuges exceeded the recommended level (100 refuges were used across approximately 7.2ha of suitable habitat). The survey results are therefore considered to provide an accurate account of the reptile assemblage present on site.

0.3 Evaluation

0.3.1 Two adult common lizard were found to be present throughout the southern half of the northern field, but on the first survey visit only, further indicating that the survey area supports a Low population of common lizard. A single grass snake was found in the north of the northern

field on the final visit only, again suggesting that a Low population is present, and possibly makes transient use of the site. No other species of reptile or signs of their presence were recorded during the survey; it is likely that adder is absent from the site but it would not be surprising to field slow worms along the field margins and hedgerows. Indeed slow worm has been recorded within 1km of the site as confirmed during the desk study. Overall, the survey area achieves a site score of 2 and does not meet the criteria for a Key Reptile Site (Froglife, 1999).

0.3.2 No reptiles were recorded in the southern field but, given the suitability of its habitats and presence of an adjacent population, it is considered highly probable that reptiles are present throughout other suitable habitats within and adjacent to the survey area whether or not they were included in the targeted transects.

0.3.3 It is concluded that construction activities are likely to result in the following impacts to reptiles:

- Temporary and short-term risk of killing and injury to individual reptiles resulting from ground clearance, creation of access tracks and materials storage compounds, vehicle movements, groundworks and construction of buildings and hard-standing, which would constitute an offence under the Wildlife & Countryside Act 1981 (as amended); and
- Permanent loss of approximately c.2.1ha of suitable habitat (semi-improved grassland, scrub, plantation woodland and hardstanding in the southern field).

0.4 Recommendations

0.4.1 Recommendations are made for the avoidance and/or mitigation of impacts to reptiles, to prevent an offence under the relevant legislation from occurring and to reduce the risk of development proposals resulting in significant effects on the population and distribution of species recorded during the surveys; these are summarised in Table 0.1. Recommendations are also made for enhancing the post-construction habitats for reptiles in line with the requirements of local and national policy and guidance. The recommendations should be read alongside those contained in the PEA (UEEC, 2020) which continue to apply.

Table 0.1: Summary of recommendations

#	Summary of recommendations
Mitigation measures	
R1	Undertake a translocation of reptiles from the construction zone to a suitable receptor site prior to site preparation and commencement of works, to avoid the risk of killing/injury to reptiles.
Enhancements for reptiles	
R2	Landscaping plans should retain corridors of less intensively managed vegetation to maintain ecological connectivity through the site for reptiles, particularly along the eastern boundary adjacent to off-site woodland.
R3	Create additional hibernation and breeding habitats by installing hibernacula and compost heaps at the site, particularly along the eastern boundary adjacent to off-site woodland.

0.5 Conclusions

0.5.1 The proposed development will result in negative impacts to reptiles, however, long-term adverse effects on the conservation status of this species group are not predicted. Proportionate and effective mitigation methods are recommended to reduce and offset the predicted impacts.

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1 Introduction

1.1 Purpose of this Report

1.1.1 A Preliminary Ecological Appraisal (PEA) was undertaken in March 2020 for the site of a proposed crematorium and natural burial development at Land off of Turner's Hill Road, Turner's Hill, West Sussex (Grid Reference: 533460, 135571). It was recommended that further surveys should be carried out for reptiles due to the presence of favourable habitats.

1.2 Objectives and Approach of the Study

1.2.1 The study was commissioned to fulfil the following objectives:

- To determine the presence or likely absence of reptiles, and record their distribution within the survey area;
- To establish the baseline assemblage and relative abundance of reptile species;
- To identify and evaluate the potential impacts of development on reptiles; and
- To outline the measures required for avoiding and mitigating negative impacts to reptiles, and make recommendations for ecological enhancement for reptiles.

1.2.2 To meet these objectives the survey approach involved:

- A desk study involving a review of protected species records from the local area (1km radius from the centre of the proposed development site);
- A review of information from the Preliminary Ecological Appraisal[1] regarding the habitats present within the site boundary and wider area;
- Field surveys using standard techniques to record the presence, distribution and relative abundance of target species within the survey area, with reference to current industry guidelines.

1.3 Survey Area

1.3.1 The survey area lies to the west of Turner's Hill, a village in the Mid Sussex district of West Sussex. The site comprises c.7.2ha of non-agricultural and part developed land currently comprising hard-standing, grassland, scrub, and hedgerows within the site of a natural burial ground.

[1] Urban Edge Environmental Consulting (2020): *Land off of Turner's Hill Road, Turner's Hill, West Sussex: Crematorium Proposal: Preliminary Ecological Appraisal Report.*

1.3.2 The survey area is bounded to the north, east, and west by pasture and agricultural land and to the south by Turner's Hill Road and agricultural fields. The ancient woodland of Butcher's Wood also bounds the east of the site. The extent of the survey area is outlined in red on Figure 1.1.

1.3.3 The wider landscape is characterised by a patchwork of arable land and woodland with a network of drainage ditches, and the settlement of Turner's Hill.

1.4 Proposed Construction Activities

1.4.1 Outline planning consent is being sought for a single 'chapel' crematorium with a single abated cremator and natural burial site with associated access, car parking, landscaping and drainage with all matters reserved apart from access. The proposed site plan is shown at Figure 1.2.

Turners Hill Road, Turners Hill, West Sussex

Survey area

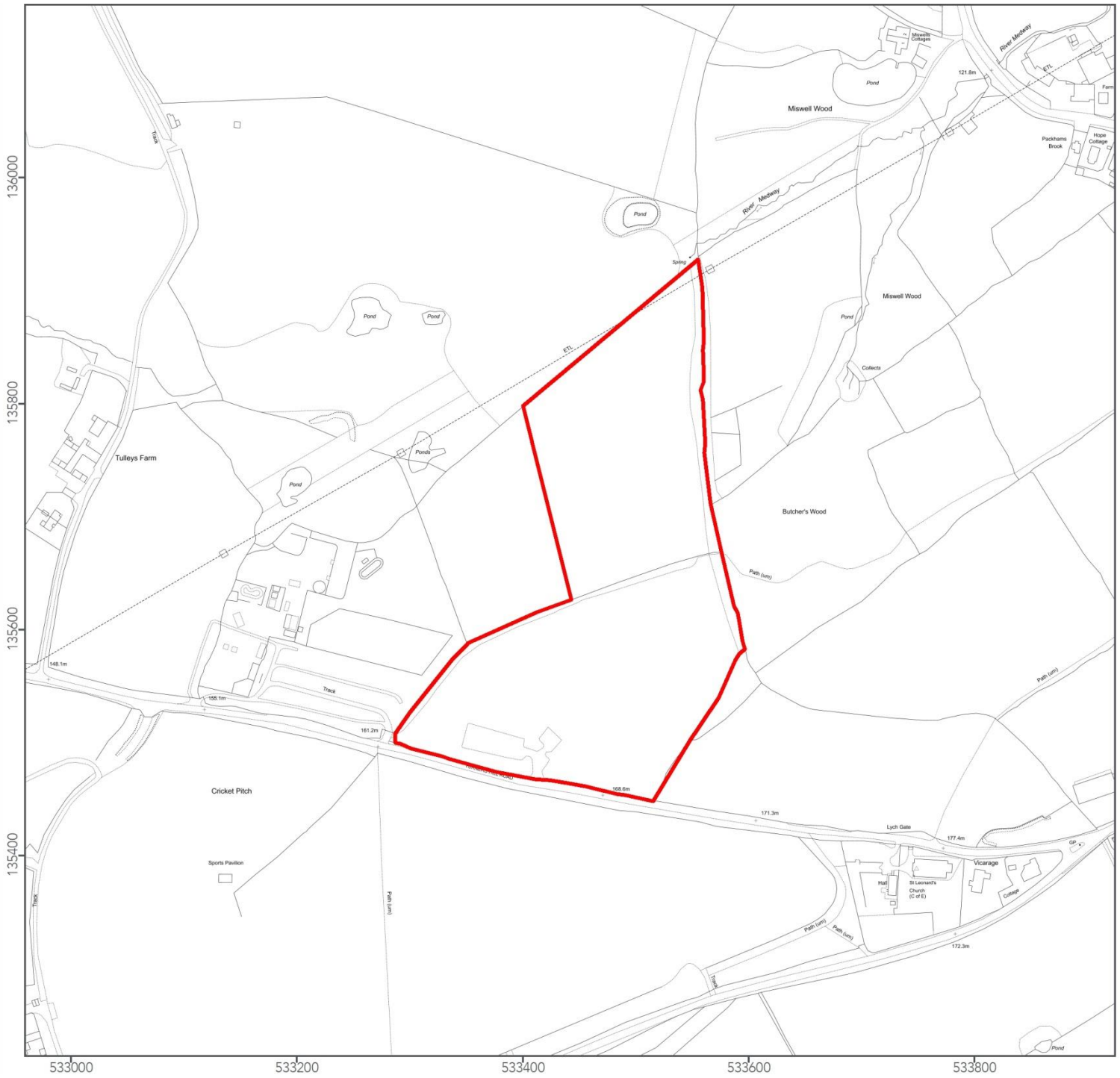

Figure 1.1: Survey area

0 100 200 Meters

N

Scale: 1:5,000 **Created by:** AD

Date: March 2020 **Reviewed by:** NP

Drawing number:
UE0364ECO-Site_200325

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Figure 1.2: Illustrative site layout

2 Reptile Distribution, Ecology and Status

2.1 Distribution

2.1.1 There are six native terrestrial species of reptile found in the UK which are often grouped into two categories; 'widespread' reptiles and rare reptiles.

2.1.2 The widespread species consist of two lizard species, viviparous lizard (*Zootoca vivipara*) and slow-worm (*Anguis fragilis*), and two snake species, adder (*Vipera berus*) and grass snake (*Natrix natrix*). Both lizards occur throughout England in a range of habitats, including gardens, grassland, heathland, woodland, coastal habitats and brownfield sites. Grass snakes are also occur throughout England and are typically associated with wetland habitats featuring lakes, streams and marshes, and are also present in heathland, woodland and drier habitats including gardens with a nearby pond, grassland and farmland. Adder distribution is patchier and they are scarce in some counties. They are most often found in open habitats with high levels of sunlight exposure including heathland, moorland and woodland glades.

2.1.3 There are two rare species of reptile, both restricted in their distribution due to their exclusive habitat preferences. Sand lizards (*Lacerta agilis*) are found on heathland and dunes, mainly in southern England (majority of populations are in Dorset, with small numbers elsewhere). Smooth snakes (*Coronella austriaca*) are found exclusively on a number of heathlands in southern England, from Surrey to Dorset.

2.1.4 There are some introduced reptile species but these consist of the occasional individual or small localised colonies. The most abundant species that has colonised a number of parts of southern England (although native in the Channel Islands) is the wall lizard (*Podarcis muralis*).

2.2 Ecology

2.2.1 Reptiles may be found in a range of habitats, depending on the species, such as heaths, moors, rough grassland and woodland edges. They are also found in semi-urban habitats, including golf courses, brownfield sites, allotments, gardens, road embankments and railway corridors. Grass snakes and adders are transient in behaviour, often travelling several kilometres each year and making use of different habitats and habitat corridors (English Nature, 2004). Adders in particular have a seasonal migration.

2.2.2 Reptile activity varies according to the species and is highly seasonal and weather dependent. Generally they hibernate when the temperature becomes unfavourable, usually from October to March and are active outside of these times. However, during the active period their behaviour is affected by weather conditions and breeding activity. Typically they are active in warm, dry weather, but avoid prolonged exposure to the sun on very hot days. British reptiles normally take refuge during heavy rain and are mostly inactive at night.

2.2.3 Reptiles only feed during periods of activity and can survive for a considerable time without eating. The diet of British reptiles varies across species as each have specific prey preferences. Prey abundance can be an indicator of the extent a site can support a species or population. The lizards feed on a wide range of small insects and other invertebrates, including worms, slugs and snails. Prey preference often reflects the habitat and behavioural traits. For example, sand lizards will mostly prey on insects, whilst the more subterranean slow-worm will often feed on slugs.

2.2.4 The snakes tend to feed mainly on larger prey items (although juveniles and hatchlings will consume smaller animals), including rodents, amphibians, birds and other reptiles. However, each species' diet varies depending on the time of year and habitat that they frequent. Grass snakes are often associated with water and will also eat fish, whilst smooth snakes prefer dry heaths and predominantly eat other reptiles, including other snakes.

2.3 Status, Legislation and Policy

2.3.1 Many reptile populations are declining, partly due to habitat loss, fragmentation and changes in land use. The 'widespread' species have a greater geographical extent than the rare species but are only locally common, and there is evidence to suggest species across the UK are in decline in many areas.

2.3.2 All six native reptiles are protected in Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (WCA), as extended by the Countryside and Rights of Way Act 2000 (CRoW); see Table 2.1. However, the widespread species (grass snake, common lizard, slow-worm and adder) are only partially protected under Schedule 5 of the WCA. The legislation makes it an offence to intentionally kill or injure any of these species, and/or sell, or attempt to sell, any part of the species, alive or dead.

2.3.3 The sand lizard and smooth snake receive greater protection under the Conservation of Habitats and Species Regulations 2017, and are European Protected Species, which gives full protection to the species and its habitat. It is an offence to:

- Intentionally kill, injure or capture/take a sand lizard or smooth snake;
- Intentionally or recklessly damage, destroy, or obstruct access to any place used by a sand lizard or smooth snake for shelter or protection;
- Intentionally or recklessly disturb a sand lizard or smooth snake while it occupies such a structure or place; and
- Sell, offer or expose for sale, or possess, or transport for the purpose of sale, any live or dead sand lizard or smooth snake, any part of, or anything derived from it.

2.3.4 Local Planning Authorities are obliged to take a wider view of biological conservation when undertaking their functions. Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 states that public authorities must have regard to the conservation of biodiversity. Section 41of the Act requires the Secretary of State to maintain a list of Habitats and Species of Principal Importance in England; the list includes all native species of reptile.

2.3.5 Furthermore, Government policy (National Planning Policy Framework – Section 15: Conserving and enhancing the natural environment) is clear that planning decisions should be "minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures".

Table 2.1: Summary of legal protection for herpetofauna

	Species Protection				Habitat Protection
Species	***Killing***	***Injury***	***Disturbance***	***Handling***	***Damage, obstruct or disturb***
Adder	●	●			
Grass snake	●	●			
Common lizard	●	●			
Slow-worm	●	●			
Sand lizard	●	●	●	●	●
Smooth snake	●	●	●	●	●

2.4 Guidance and Best Practice

2.4.1 There is no definitive guidance on presence / likely absence surveys for reptiles, but the following documents are commonly used for reference:

- Froglife (1999): *Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation;*
- Gent and Gibson (eds.) (2003): *Herpetofauna Worker's Manual*;
- Hill *et al* (2005): *Handbook of Biodiversity Methods Survey, Evaluation and Monitoring*;
- Natural England (2015): *Reptiles: surveys and mitigation for development projects*.

2.4.2 The survey presently being reported on was designed with reference to these documents.

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3 Survey Methodology

3.1 Desk Study

3.1.1 A desk-based study was undertaken to examine published information and biological records from within the search area (site centroid plus 1km). The desk study established the presence of designated sites of nature conservation interest, or records of protected/notable habitats/species within the site and its surrounding area. This information was collected from the following sources:

- The 'MAGIC' (Multi-agency Geographic Information for the Countryside) website: www.magic.gov.uk; and
- Sussex Biological Records Centre (SxBRC).

3.1.2 The desk study was carried out as part of the Preliminary Ecological Appraisal (UEEC, 2020).

3.2 Habitat and Site Suitability Assessment

3.2.1 The site was assessed for reptile habitat suitability, the presence of ecological features favourable to reptiles and connectivity to surrounding areas that may be used by reptiles. This was based on a review of the Preliminary Ecological Appraisal (UEEC, 2020) of the site undertaken on 28 March 2020 by an experienced field ecologist.

3.2.2 Although each reptile species has differing habitat and site requirements, general suitability can be gauged from characteristics favoured across species as well as those specific to individual species. Suitability assessment observes a number of characteristics including: site location (in relation to species range), vegetation structure, insolation, aspect, topography, surface geology, connectivity, prey abundance, refuge opportunity, hibernation potential, levels of disturbance and egg-laying potential (Natural England, draft 2011). This relatively broad approach enables overall suitability to be ascertained.

3.2.3 Reptile 'hotspots' and areas of suitable habitat were marked on a map and used to focus field survey effort (Gent and Gibson, 2003). Reptile hotspots are particularly favoured micro habitats, such as ponds, compost heaps, embankments, old stone walls, log and rubble piles, woodland clearings and hedgerows (Froglife, 1999).

3.2.4 Identified areas of suitable habitats were subsequently targeted for the selection of survey transects and positioning of artificial refuges. Appendix I illustrates the position of transects (and therefore refuges).

3.3 Field Surveys

3.3.1 A presence/absence survey for reptiles was carried out, based on standard industry guidelines (Hill *et al.*, 2005; Froglife, 1999; Gent and Gibson (eds.), 2003) and Natural England's standing advice for reptiles.

3.3.2 The objective of the survey was to establish the presence or likely absence of reptiles within the survey area. Field surveys combined two main methods: Visual Encounter Surveys (VES) and Artificial Refuge Surveys (ARS). A combination of the two approaches is the most effective method when surveying for all reptile species (Reading, 1996).

3.3.3 VES comprise walked transects along suitable reptile habitats to record any animals foraging or basking in open sunshine. Transect surveys were conducted by looking 3-4 m ahead, focusing on potential basking spots such as rubble piles or banks in sunlight and refuge surfaces. Complex mosaics of suitable micro-habitats, where present, were surveyed from a distance of c.10m using close-focusing binoculars (Hawke Sport Optics 10x42). Natural and pre-existing refuges were searched (on top of and if possible beneath). If presence was suspected the spot was revisited to confirm any reptile presence.

3.3.4 ARS comprise the laying of artificial refuges across the survey area, focused on areas of suitable habitat, which are subsequently checked for use by reptiles. As ectotherms, reptiles use refuges to thermo-regulate and are therefore attracted to artificial refuges especially in the early and later parts of the day. Artificial refuges are approximately 0.5m^2 in size and made from a range of materials (e.g. flat and corrugated roofing felts, corrugated tins), and provide shelter and thermal advantages to reptiles.

3.3.5 In total, 100 artificial refuges were used within the survey area, distributed across approximately 7.2ha of habitat which was potentially suitable for reptiles and could be affected by the development works. Guidelines recommend that at least 10 refuges are used per hectare of land surveyed (refuge density during this survey = c.14/ha). To give reptiles time to locate and habituate to new refuges in their environment they were placed on 7 July 2020, thirteen days prior to the start of the main survey period. Refuge locations were adjusted during the survey period if locations became overgrown, or replaced if refuges were removed or destroyed by site management/mowing. Both VES and ARS targeted areas of identified suitable reptile habitat and potential reptile 'hotspots'.

3.3.6 Seven survey visits were conducted during July to September 2020. Survey protocol was in line with Froglife Advice Sheet 10 (Froglife, 1999) and the Herpetofauna Workers Manual (Gent and Gibson, 2003). Although detection is highly variable depending on species, time of year and weather conditions, generally optimal survey conditions consist of; an air temperature between 9 and 18°C, conducted from 0900 – 1200 and/or 1500 – 1800 (although these optimal timings depend on air temperature at the time), and in the absence of rain and strong wind.

3.3.7 The location of reptiles (including sloughed skins or eggs) was recorded using GPS coordinates, together with species counts, sex (when distinguishable) and maturity data. Weather conditions were noted during each survey (air temperature, ground conditions, wind speed, precipitation and cloud cover) and are reported in Table 3.1.

3.3.8 A risk assessment was carried out for the field work. Handling of animals is generally not required for this type of survey, although individuals are identified where possible, which can require handling. The risks of encountering venomous species (i.e. adder) were low, and so the risk assessment focused primarily on working practices.

Table 3.1: Reptile survey dates and weather conditions

Date (2020)	Weather conditions
22 July	17°C–18°C, 30% cloud cover, light wind (Beaufort 1), no precipitation, dry ground conditions
24 July	18°C–18°C, 75% cloud cover, light wind (Beaufort 1), no precipitation, dry ground conditions
3 August	18°C–19°C, 10% cloud cover, light wind (Beaufort 1), no precipitation, dry ground conditions
21 August	19°C–18°C, 50% cloud cover, moderate wind (Beaufort 3), no precipitation, dry ground conditions
25 August	19°C–19°C, 75% cloud cover, moderate wind (Beaufort 3), no precipitation, damp ground conditions
1 Sept	19°C–18°C, 0% cloud cover, light wind (Beaufort 1), no precipitation, dry ground conditions
3 Sept	17°C–17°C, 100% cloud cover, no wind (Beaufort 0), no precipitation, dry ground conditions

Evaluation criteria

3.3.9 Criteria for establishing a population size class assessment based on a refuge density of 10/ha are given in Froglife (1999), as shown in Table 3.2, but it should be noted that this is intended to be used in conjunction with a higher number of survey visits than normally undertaken for a presence/absence survey. Site scores can be compared to the Key Reptile Site selection criteria (Froglife, 1999) to establish the overall importance of a site for reptiles.

Table 3.2: Population size class assessment and Key Reptile Site criteria (Froglife, 1999)

Species	Low Population Score =1	Good Population Score =2	Exceptional Population Score =3
Adder	<5	5 - 10	>10
Grass snake	<5	5 - 10	>10
Common lizard	<5	5 - 20	>20
Slow-worm	<5	5 - 20	>20
To qualify as a Key Reptile Site, the survey site must meet at least one of the following criteria:			
1. Supports three or more reptile species 2. Supports two snake species 3. Supports an exceptional population of one species (see above) 4. Supports an assemblage of species with a combined score of at least 4 (see above) 5. Does not satisfy 1 - 4 but is of particular regional importance due to local rarity			

Limitations

3.3.10 When conducting the second survey (24th July), the surveyor noted that the edge of the southern field had been mown to ground level. Upon the third survey (3rd August), the surveyor observed that the remaining survey area in the southern field had also been mown to ground level, apart from a shrubby bank in the north of the field and along the tree lines. The mowing of the semi-improved grassland reduced the survey area size, reduced the suitability of habitat for reptiles, and destroyed refuges. It was estimated that 30 refuges were destroyed in the southern field. Ten more refuges were placed in the southern field on the remaining suitable survey area. Notwithstanding this, refuge density within areas of favourable habitat exceeded that recommended by current guidelines.


Semi-improved grassland area mown to ground level


Destroyed refuge

3.3.11 Peak detectability periods for slow worm are weather dependant but generally considered to occur between April and June or late August to late September. The current survey was undertaken during July and it is hence possible that the number of reptiles present was under recorded. Nevertheless, all of the survey visits were undertaken during suitable weather conditions and this potential limitation is not therefore considered to be a significant impediment to the objectives of a presence/absence survey.

3.3.12 See Appendix III for general Legal and Technical Limitations which apply to this document.

3.4 Personnel

3.4.1 The personnel deployed on the survey are listed in Table 3.3.

Table 3.3: Survey personnel and qualifications

Personnel	Qualifications
Nick Pincombe BA(Hons) MSc CEnv MIEMA MCIEEM	Director with fifteen years' experience leading survey and impact assessment teams for a wide range of ecology and environmental planning projects. Natural England Class Licences to survey for bats (WML-CL18) and great crested newt (WML-CL08).
Anna Douglas BSc(Hons)	Ecologist with four years' professional consultancy experience. Licences to survey for bats (WML-CL17) and great crested newt (WML-

Personnel	Qualifications
MSc GradCIEEM	CL09).
Jeff Turton BSc(Hons) GradCIEEM	Ecologist with four years' professional consultancy experience. Licence to survey for great crested newt (WML-CL09).
Alex Weeks BSc(Hons) MRes	Assistant with two seasons' bat survey experience.

4 Results

4.1 Desk Study

4.1.1 SxBRC returned two records of two terrestrial reptile species from within the 1km desk-study search area. Two of the four widespread species have been recorded in the vicinity; slow worm and grass snake.

4.2 Habitat and Site Suitability

4.2.1 The survey area is located within the known range of widespread reptiles, and is dominated by semi-improved neutral grassland. All of the survey area supports suitable habitats for reptiles, including coarse grassland with variable sward height/structure and tall ruderal which provide good quality refuge and foraging habitat, and hedgerow (defunct and intact) and scrub which provide shelter for hibernation or dispersing reptiles. The varied topography and undulating banks on the surveyed fields could also be used by basking reptiles.

4.2.2 The grassland has a sward height of between 10 and 20cm and a tussocky nature. Grasses present included cock's foot *Dactylis glomerata*, rough meadow grass *Poa trivialis* and creeping bent *Agrostis stolonifera*. Flora was dominated by creeping buttercup *Ranunculus repens* and white clover *Trifolium repens*, with broad leaved plantain *Plantago major*, ribwort plantain *Plantago lanceolata*, meadow buttercup *Ranunculus acris*, cow parsley *Anthriscus sylvestris*, tufted vetch *Viccia cracca*, bitter vetch *Lathyrus linifolius*, dandelion *Taraxacum officinale* and thistle *Cirsium vulgare* also present. The eastern, low-lying sections of these fields were wet and contained frequent areas of soft rush *Juncus effusus*. Tall ruderal was recorded within the grassland fields measuring up to 800mm in height and included mainly broadleaved dock *Rumex obtusifolius*. The structure and sward height of this field suggest that it has the potential to support a population of reptiles.


Semi-improved grassland within survey area looking north-west


Semi-improved grassland within survey area looking north

4.2.3 Four hedgerows were recorded bounding the survey area; all are species-rich, priority hedgerows. Hedgerow H1 was semi-managed, 1-2m in height, 1m in depth and 235m in length and contained hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, oak Quercus robur, beech *Fagus sylvatica*, rose *Rosa spp* and sycamore *Acer pseudoplatanus*, with ground flora is dominated by bracken *Pteridium aquilinum*, with frequent cleavers, broad-leaved dock and nettle. Selfheal *Prunella vulgaris*, cowslip *Primula veris*, creeping buttercup and ground ivy *Glechoma hederacea* were also occasionally present.

4.2.4 Hedgerow H2 was 10m in height, 2m in depth and 230m in length and contained hazel *Coryllus avellana*, hawthorn, holly, oak and bramble with ground flora including cleavers, ivy, nettle and occasional lords and ladies. This hedgerow has a connection with broad-leaved, ancient woodland at Butchers Wood.

4.2.5 Hedgerow H3 was 6m in height, 1.5m in depth and 80m in length and contained hazel, hawthorn, holly, oak and ash, with similar ground flora to H2. This hedgerow has a connection with broad-leaved, ancient woodland at The Gill.

4.2.6 Hedgerow H4 was 10m in height, 1.5m in depth and 65m in length and contained hazel, hawthorn holly, oak and ash, with similar ground flora to H2. This hedgerow has a connection with broad-leaved, ancient woodland at Butchers Wood.

4.2.7 Hedgerows H2 and H3 were associated with a bank and ditch. The ditches are likely to be dry throughout the year (the survey was undertaken following a period of heavy rainfall and no inundation was recorded). Flora included rough grasses such as cock's foot and couch, and ruderals such as nettle and cleavers.

4.2.8 There is one field boundary which is likely to have been a hedgerow that is now defunct, located at the northern survey area boundary. The old hedge line is marked by a bank and hazel, hawthorn and bramble scrub. Ground flora in these areas is dominated by bracken and rough grasses such as couch *Arrhenatherum elatius* or cock's foot.

4.2.9 The hedgerows within the survey area boundaries provide potential habitat for hibernating or dispersing reptiles.


Hedgerow H1


Hedgerow H2


Hedgerow H3


Hedgerow H4

4.2.10 Dense bramble scrub and bracken patches were recorded alongside many of the hedgerows, including hedge H1 and H2, and the northern field boundary which is likely to have been a hedgerow that is now defunct. This habitat was also present in the upper field along the eastern boundary where is joins Butcher's wood.


Scrub and bracken in south of site


Scrub and bracken in south of site

4.2.11 A brash pile was recorded within the south-east of the upper field measuring 12mx3mx800mm (TN2).


Brash pile north of hedge H2

4.2.12 An area of ancient woodland was located adjacent to the eastern boundary of the site (Butcher's Wood). Butcher's Wood appears to have been coppiced in the past, however this management regime seems to have ceased. Species recorded include silver birch *Betula pendula*, ash, oak, hazel and field maple. The ground flora close to the site was sparse dominated by ivy and bramble and containing abundant leaf litter. Occasional hart's tongue fern *Asplenium scolopendrium* and bracken were present at the woodland edge. Woodlands of this sort provide potential habitat for hibernating reptiles.


Butchers Wood, bordering the east of the site


Butchers Wood, bordering the east of the site

4.3 Field Surveys

4.3.1 The Visual Encounter Surveys and Artificial Refuge Surveys (including natural/pre-existing refuges) recorded 2 adult common lizard and an adult grass snake over the course of the survey period. Lizards were recorded in the middle of the northern field, and towards south eastern corner of the northern field, respectively. The grass snake was recorded at the northern edge of the northern field.

4.3.2 No other reptile species or signs of their presence (e.g. skin sloughs, eggs/egg-cases) were observed during the survey. A summary of the survey results is displayed in Table 4.1 overleaf, accompanied by the weather conditions at the time of each visit. Peak adult counts for each species are highlighted in bold.

Table 4.1: Summary of reptile survey results and environmental variables

Survey	1	2	3	4	5	6	7
Date	22 July	24 July	3 Aug	21 Aug	25 Aug	1 Sept	3 Sept
Start	09:30	09.00	17:30	16:00	16:00	16:00	16:00
End	11.00	10:30	19.00	17.30	17.30	17.30	17.30
Start air temp °C	17	18	18	19	19	19	17
Start air temp °C	18	18	19	18	19	18	17
Cloud cover %	30	75	10	50	75	0	100
Wind speed	B1	B1	B1	B3	B3	B1	B0
Precipit-ation	None	None	None	None	None	None	None
Ground conditions	Dry	Dry	Dry	Dry	Damp	Dry	Dry
Common lizard	1M, 1U	0	0	0	0	0	0
Slow worm	0	0	0	0	0	0	0
Grass snake	0	0	0	0	0	0	1U
Adder	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0

M/F/J/U: Denotes male, female, juvenile or unsexed

5 Evaluation

5.1 Introduction

5.1.1 This section evaluates the survey area in terms of the protected species present or potentially present on site or its immediate vicinity, in the context of relevant legislation and planning policy. See Appendix II for a review of the legislation and planning context.

5.2 Presence or Absence of Reptiles

5.2.1 The survey results indicate that Low populations of common lizard (peak count of 2 adults) and grass snake (peak count of 1 adult) were present within the survey area during the 2020 survey season.

5.2.2 Surveys were carried out in suitable weather conditions during the reptile active season and the density of refuges exceeded the recommended level (100 refuges were used across approximately 7.2ha of suitable habitat). The survey results are therefore considered to provide an accurate account of the reptile assemblage present on site. However, the aim of this survey was to establish presence or likely absence and a greater level of survey effort would be required in order to obtain a reliable population estimate.

5.3 Site Evaluation

5.3.1 Overall, habitats within the PEA survey area (area = c.7.2ha) provide a range of features which could support populations of common lizard and grass snake throughout their lifecycle. The site provides good quality foraging and shelter habitat consisting of rough grassland, tall ruderal and scrub with boundary hedgerows and woodland. The site is linked to further areas of suitable habitat which continue off-site to the north, east and west. Site location (in relation to the species' range), insolation, aspect, topography, surface geology, prey abundance, refuge opportunity and hibernation/egg-laying potential are all favourable for reptiles.

5.3.2 Two adult common lizard were found to be present throughout the southern half of the northern field, but on the first survey visit only, further indicating that the survey area supports a Low population of common lizard. A single grass snake was found in the north of the northern field on the final visit only, again suggesting that a Low population is present, and possibly makes transient use of the site. No other species of reptile or signs of their presence were recorded during the survey; it is likely that adder is absent from the site but it would not be surprising to field slow worms along the field margins and hedgerows. Indeed slow worm has been recorded within 1km of the site as confirmed during the desk study. Overall, the survey area achieves a site score of 2 and does not meet the criteria for a Key Reptile Site (Froglife, 1999; see Table 3.2).

5.4 Impact Assessment

5.4.1 The common lizards were found to be present throughout the southern half of the northern field, and the grass snake was found in the north of the northern field, as shown at Appendix I. These locations are likely to provide thermal advantages to reptiles in the early and later parts of the day which is when the surveys were carried out. No reptiles were recorded in the southern field but, given the suitability of its habitats and presence of an adjacent population, it is considered highly probable that reptiles are present throughout other suitable habitats within and adjacent to the survey area whether or not they were included in the targeted transects.

5.4.2 The proposed development would result in losses of up to c.2.1ha of semi-improved grassland, scrub, plantation woodland and hardstanding in the southern field. The remainder of the survey area would be subject to landscape management operations during long-term operation of the natural burial ground, gradually changing from an open meadow character to more of wood pasture form. It is concluded that construction activities within c.2.1ha development footprint are likely to result in the following impacts to reptiles:

- Temporary and short-term risk of killing and injury to individual reptiles resulting from ground clearance, creation of access tracks and materials storage compounds, vehicle movements, groundworks and construction of buildings and hard-standing, which would constitute an offence under the Wildlife & Countryside Act 1981 (as amended); and
- Permanent loss of approximately c.2.1ha of suitable habitat (semi-improved grassland, scrub, plantation woodland and hardstanding in the southern field).

5.5 Mitigation Measures

5.5.1 The following (Table 5.1) specific measures are recommended prior to and during construction to ensure that an offence under the relevant legislation is avoided.

Table 5.1: Recommended mitigation measures

#	Recommended mitigation measures
R1	Undertake a translocation of reptiles from the construction zone to a suitable receptor site prior to site preparation and commencement of works, to avoid the risk of killing/injury to reptiles.

5.5.2 The population of common lizard and grass snake recorded in the survey area is likely to be present throughout the site, and is at risk of killing or injury during construction. It is recommended that a translocation of reptiles from the construction zone (in the southern field) to a receptor site (in the northern field) is carried out prior to site preparation and commencement of works, to avoid the risk of killing/injury. The translocation will be implemented in accordance with a Method Statement which has been agreed with the Local Planning Authority and is likely to include the following:

- ***Appointment of Ecological Clerk of Works***: An Ecological Clerk of Works (ECoW) will be appointed to oversee operations which could negatively affect reptiles and other ecological features of value.

- ***Selection and enhancement of a receptor site***: Dependant on the suitability of the agreed receptor site, habitat management may be required prior to the commencement of the translocation to enhance the receptor site's capacity to support a population of reptiles. This may include creation of hibernacula and scrub management. It is suggested that the receptor site should be located within survey area's northern field.
- ***Erection of reptile exclusion fencing:*** Prior to the start of the translocation, the construction zone will be fenced-off from surrounding habitats using reptile exclusion fencing. This will be left in-situ following the completion of the translocation, to ensure that reptiles do not re-colonise the site during construction.
- ***Capture and translocation***: Capture of reptiles within the construction zone will be undertaken by hand, facilitated by the laying of artificial refuges to help concentrate capture effort. A capture period of at least 30 days is likely to be required.
- ***Habitat manipulation***: Once the translocation is underway, if captures begin to diminish it is often helpful to undertake habitat manipulation to reduce the amount of suitable vegetation cover, and render any remaining reptiles easier to catch. This will include strimming the grassland and brush-cutting brambles and scrub into progressively smaller patches within the construction zone.
- ***Destructive search:*** Following completion of the translocation, sites of potential refuge/hibernation within the construction zone (e.g. log/rubble piles or compost heaps) will be deconstructed using hand tools. Remaining areas of vegetation will be progressively reduced in height. Finally, the top soil will be carefully and systematically excavated and removed from site. Clearance will be carried out slowly and methodically under the direction of the ECoW
- ***Toolbox talks***: All site operatives will receive a briefing from the ECoW to explain the legal protection for reptiles, the methods to be followed, tips on identifying reptiles, and the procedure to be followed should a reptile be found at any stage during the works.
- ***Timing of the works***: The destructive search and site clearance works will be programmed to take place during the active season for reptiles, broadly late March to early October.
- ***Nesting birds***: As a result of the precautionary timing outlined above, it is possible that the work will be carried out during the nesting bird season which runs from early March to late August. If vegetation clearance or building demolition is required during the nesting season, a survey for active bird nests will be carried out by the ECoW immediately prior to the works. If an active nest is found, the nest must be cordoned off and works adjacent to this nest must be delayed until such time that the chicks have fledged.
- ***Procedure if reptiles are encountered***: If reptiles are found within the construction zone during the works, site operatives will be advised to cease activity in its vicinity while advice from the ECoW is sought. The ECoW will then assess the most appropriate course of action which may include removing the individual(s) from the site and moving it to an area of suitable habitat outside of the construction zone.

5.6 Ecological Enhancement Measures for Reptiles

5.6.1 In addition to the above mitigation requirements, it is recommended that landscape designs for the proposed development incorporate some or all of the following biodiversity enhancements (Table 5.2) to improve the value of the site for use by species recorded during the surveys. These should be read in conjunction with recommendations for ecological enhancement made in the PEA (UEEC, 2020) which continue to apply.

Table 5.2: Recommendations for enhancement measures for reptiles

#	Recommended enhancements for reptiles
R2	Landscaping plans should retain corridors of less intensively managed vegetation to maintain ecological connectivity through the site for reptiles, particularly along the eastern boundary adjacent to off-site woodland.
R3	Create additional hibernation and breeding habitats by installing hibernacula and compost heaps at the site, particularly along the eastern boundary adjacent to off-site woodland.

Habitat connectivity

5.6.2 It is recommended that the landscaping scheme for the development provides buffers of less intensively managed vegetation (e.g. rough grassland or wildflower meadow planting, including the use of tussock-forming grass species such as cock's foot *Dactylis glomerata*, Yorkshire fog *Holcus lanatus*, tufted hair-grass *Deschampsia cespitosa* and false oat-grass *Arrhenatherum elatius*) within soft landscaped areas within the development, and at the edges of the site adjacent to boundary hedgerows and off-site woodland to the east. This will help to maintain ecological connectivity through the site for reptiles, amphibians and other wildlife.

Hibernation and breeding habitats

5.6.3 Creation of one or more hibernacula and compost heaps within areas of retained rough grassland or marginal vegetation, at the edges of the site close to boundary hedgerows and off-site woodland to the east. These would provide additional hibernation, shelter and egg-laying resources for reptiles, amphibians and a range of other wildlife. Hibernacula can be created by partially burying logs and stones in sheltered areas away from flood risk, and covering over with earth or turf. Breeding habitats can be created by collecting grass clippings and other prunings arising from landscape management of the site, and composting them in a secluded corner of the site.

6 Summary and Conclusions

6.1 Introduction

6.1.1 A Reptile Survey was undertaken for the site of a proposed crematorium and natural burial development at Land off of Turner's Hill Road, Turner's Hill, West Sussex.

6.1.2 The study was undertaken to establish the presence or likely absence of reptiles at the site, identify and evaluate potential impacts of the development on reptiles, and make recommendations accordingly. Seven surveys were undertaken between 22 July and 3 September 2020 with reference to current industry guidelines (e.g. Froglife, 1999). Surveys were comprised of walked transects along areas of suitable habitat combined with checks of artificial and pre-existing refuges.

6.2 Results

6.2.1 The desk study data search returned two records of two terrestrial reptile species from within the 1km desk-study search area. Two of the four widespread species have been recorded in the vicinity; slow worm and grass snake.

6.2.2 The survey area is located within the known range of widespread reptiles, and is dominated by semi-improved neutral grassland. All of the survey area supports suitable habitats for reptiles, including coarse grassland with variable sward height/structure and tall ruderal which provide good quality refuge and foraging habitat, and hedgerow (defunct and intact) and scrub which provide shelter for hibernation or dispersing reptiles. The varied topography and undulating banks on the surveyed fields could also be used by basking reptiles. Site location (in relation to the species' range), insolation, aspect, topography, surface geology, prey abundance, refuge opportunity and hibernation/egg-laying potential are all favourable for reptiles.

6.2.3 The survey results indicate that Low populations of common lizard (peak count of 2 adults) and grass snake (peak count of 1 adult) were present within the survey area during the 2020 survey season. Surveys were carried out in suitable weather conditions during the reptile active season and the density of refuges exceeded the recommended level (100 refuges were used across approximately 7.2ha of suitable habitat). The survey results are therefore considered to provide an accurate account of the reptile assemblage present on site.

6.3 Evaluation

6.3.1 Two adult common lizard were found to be present throughout the southern half of the northern field, but on the first survey visit only, further indicating that the survey area supports a Low population of common lizard. A single grass snake was found in the north of the northern field on the final visit only, again suggesting that a Low population is present, and possibly

makes transient use of the site. No other species of reptile or signs of their presence were recorded during the survey; it is likely that adder is absent from the site but it would not be surprising to field slow worms along the field margins and hedgerows. Indeed slow worm has been recorded within 1km of the site as confirmed during the desk study. Overall, the survey area achieves a site score of 2 and does not meet the criteria for a Key Reptile Site (Froglife, 1999).

6.3.2 No reptiles were recorded in the southern field but, given the suitability of its habitats and presence of an adjacent population, it is considered highly probable that reptiles are present throughout other suitable habitats within and adjacent to the survey area whether or not they were included in the targeted transects.

6.3.3 It is concluded that construction activities are likely to result in the following impacts to reptiles:

- Temporary and short-term risk of killing and injury to individual reptiles resulting from ground clearance, creation of access tracks and materials storage compounds, vehicle movements, groundworks and construction of buildings and hard-standing, which would constitute an offence under the Wildlife & Countryside Act 1981 (as amended); and
- Permanent loss of approximately c.2.1ha of suitable habitat (semi-improved grassland, scrub, plantation woodland and hardstanding in the southern field).

6.4 Recommendations

6.4.1 Recommendations are made for the avoidance and/or mitigation of impacts to reptiles, to prevent an offence under the relevant legislation from occurring and to reduce the risk of development proposals resulting in significant effects on the population and distribution of species recorded during the surveys; these are summarised in Table 6.1. Recommendations are also made for enhancing the post-construction habitats for reptiles in line with the requirements of local and national policy and guidance. The recommendations should be read alongside those contained in the PEA (UEEC, 2020) which continue to apply.

Table 6.1: Summary of recommendations

#	Summary of recommendations
Mitigation measures	
R1	Undertake a translocation of reptiles from the construction zone to a suitable receptor site prior to site preparation and commencement of works, to avoid the risk of killing/injury to reptiles.
Enhancements for reptiles	
R2	Landscaping plans should retain corridors of less intensively managed vegetation to maintain ecological connectivity through the site for reptiles, particularly along the eastern boundary adjacent to off-site woodland.
R3	Create additional hibernation and breeding habitats by installing hibernacula and compost heaps at the site, particularly along the eastern boundary adjacent to off-site woodland.

6.5 Conclusions

6.5.1 The proposed development will result in negative impacts to reptiles, however, long-term adverse effects on the conservation status of this species group are not predicted. Proportionate and effective mitigation methods are recommended to reduce and offset the predicted impacts.

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Appendix I: Reptile Survey Transects and Survey Results

Please see following page.

Turners Hill Road, Turners Hill, West Sussex

- Survey area
- Hard standing
- Planted trees (young)
- Dense scrub
- Scattered saplings
- SI — Semi-improved grassland
- Native spp.rich hedge with trees
- Target note
- Common lizard
- Grass snake
- Reptile transect

0 50 100 Meters

N

Scale: 1:2,650 **Created by:** AD
Date: Oct 2020 **Reviewed by:** NP
Drawing number:
UE0364ECO-Reptiles201001

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Appendix II: Legislation and Planning Context

Legislation

General

The main legislative instruments for ecological protection in England and Wales are the Wildlife and Countryside Act 1981 (WCA; as amended), Countryside and Rights of Way Act 2000 (CRoW; as amended), Natural Environment and Rural Communities Act 2006 (NERC) and the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations; as amended).

WCA 1981 consolidated and amended pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitats Regulations, offering protection to a wider range of species than the latter. The Act also provided for the designation and protection of nationally important conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSI). Schedules of the act list protected species of flora and fauna, as well as invasive species, and detail the possible offences that apply to these species.

The CROW Act 200 amended and strengthened existing wildlife legislation detailed in the WCA. It placed a duty on government departments and the National Assembly for Wales to have regard for biodiversity, provided increased powers for the protection and maintenance of SSSI, and created a right of access to parts of the countryside. The Act contained lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The NERC Act 2006 consolidated and replaced aspects of earlier legislation. Section 40 of the Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity (otherwise known as priority habitats/species as listed in the now superseded UK Biodiversity Action Plan). These lists supersede Section 74 of the CRoW Act 2000. These species and habitats are a material consideration in the planning process.

The Habitats Regulations 2017 consolidate and update the Conservation of Habitats and Species Regulations 2010 and all its various amendments. The Regulations are the principal means by which Council Directive 92/43/EEC (The Habitats Directive) is transposed into English and Welsh law, and place a duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states.

The Habitats Regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of Council Directive 2009/147/EC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle;

that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Habitats Regulations also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively (European Protected Species (EPS)). Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade in these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations. Under the Habitats Regulations disturbance includes any activity which is likely to: impair the ability of a EPS to survive, breed, reproduce, or rear/nurture its young; impair the ability of a EPS to migrate or hibernate; or significantly affect the local distribution or abundance of the species.

Reptiles

The four common species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*) are partially protected under the WCA. They are protected, *inter alia*, against intentional killing and injuring. The handling and translocation of these reptiles does not require a licence.

Smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- Intentionally kill, injure or take a smooth snake or sand lizard.
- Possess or control a live or dead smooth snake or sand lizard, any part of, or anything derived from a smooth snake or sand lizard.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a smooth snake or sand lizard uses for shelter or protection.
- Intentionally or recklessly disturb a smooth snake or sand lizard while it is occupying a structure or place that it uses for shelter or protection.

Planning context

National Planning Policy Framework (Section 15: Conserving and enhancing the natural environment)

The National Planning Policy Framework (NPPF), published in February 2019, outlines the Government's commitment to the conservation of wildlife and natural features. It is concerned with:

- *Protecting and enhancing valued landscapes, sites of biodiversity or geological conservation value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current & future pressures;*
- *Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.*

Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

- *Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

The NPPF requires that local plans should "*distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value…; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scape across local authority boundaries*".

To protect and enhance biodiversity and geodiversity, the NPPF states that planning policies should:

- *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- *Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

When determining planning applications, local planning authorities should aim to protect and enhance biodiversity by applying the following principles:

- *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

The following wildlife sites should be given the same protection as habitats sites:

- *potential Special Protection Areas and possible Special Areas of Conservation;*
- *listed or proposed Ramsar sites; and*
- *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site. The policies within the NPPF (and additional guidance contained within Circular 06/2005) are a material planning consideration.

UK/Local Biodiversity Action Plan Designations and Birds of Conservation Concern and Red Data Book Listings

Note that BAP designations and status as RSPB Birds of Conservation Concern or Red Data Book species does not offer any further legal protection, but planning authorities are required to prevent these species from being adversely affected by development in accordance with National Planning Policy and the CROW and NERC Acts. The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, was a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contained a list of priority habitats and species of conservation concern in the UK, and outlined biodiversity initiatives designed to enhance their conservation status.

However, as a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK lists of priority habitats and species nonetheless remain an important reference source and were used to draw up statutory lists of priority habitats and species in England, Northern Ireland, Scotland and Wales. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP required that conservation of biodiversity be addressed at a County level through the production of Local BAPs. These are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. Where they exist, Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Local Planning Policy

The Mid Sussex District Plan 2014-2031 (adopted March 2018) contains the following policy on biodiversity.

DP38: Biodiversity

Biodiversity will be protected and enhanced by ensuring development:• Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments; and• Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances); and• Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience; and• Promotes the restoration, management and expansion of priority habitats in the District; and• Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement

Areas. Designated sites will be given protection and appropriate weight according to their importance and the contribution they make to wider ecological networks. Valued soils will be protected and enhanced, including the best and most versatile agricultural land, and development should not contribute to unacceptable levels of soil pollution. Geodiversity will be protected by ensuring development prevents harm to geological conservation interests, and where possible, enhances such interests. Geological conservation interests include Regionally Important Geological and Geomorphological Sites.

Appendix III: Legal and Technical Limitations

- This report has been prepared by Urban Edge Environmental Consulting Ltd (UEEC Ltd) with all reasonable skill, care and diligence within the terms of the contract made with the Client to undertake this work, and taking into account the information made available by the Client. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us.
- UEEC Ltd disclaims any responsibility to the Client and others in respect of any matters outside the scope of this contract. This report is confidential to the Client and is not to be disclosed to third parties. If disclosed to third parties, UEEC Ltd accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any third party relies upon the contents of this report at their own risk and the report is not to be relied upon by any party, other than the Client without the prior and express written agreement of UEEC Ltd.
- The advice provided in this report does not constitute legal advice. As such, the services of lawyers may also be considered to be warranted.
- Unless otherwise stated in this report, the assessments made assume that the sites and facilities that have been considered in this report will continue to be used for their current planned purpose without significant change.
- All work carried out in preparing this report has utilised and is based upon UEEC Ltd's current professional knowledge and understanding of current relevant UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and may cause any conclusions to become inappropriate or incorrect. UEEC Ltd does not accept responsibility for advising the Client or other interested parties of the facts or implications of any such changes;
- Where this report presents or relies upon the findings of ecological field surveys (including habitat, botanical or protected/notable species surveys), its conclusions should not be relied upon for longer than a maximum period of two years from the date of the original field surveys. Ecological change (e.g. colonisation of a site by a protected species) can occur rapidly and this limitation is not intended to imply that a likely absence of, for instance, a protected species will persist for any period of time;
- This report has been prepared using factual information contained in maps and documents prepared by others. No responsibility can be accepted by UEEC Ltd for the accuracy of such information;
- Every effort has been made to accurately represent the location of mapped features, however, the precise locations of features should not be relied upon;
- Populations of animals and plants are often transient in nature and a single survey visit can only provide a general indication of species present on site. Time of year when the survey was carried out, weather conditions and other variables will influence the results of an ecological survey (e.g. it is possible that some flowering plant species which flower at other times of the year were not observed). Every effort has been made to accurately note indicators of presence of protected, rare and notable species within and adjacent to the site but the possibility nonetheless exists for other species to be present which were not recorded or otherwise indicated by the survey;
- Any works undertaken as a consequence of the recommendations provided within this report should be subjected to the necessary health & safety checks and full risk assessments.

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