

PROJECT N° 70009634

BOGNOR REGIS CAMPUS

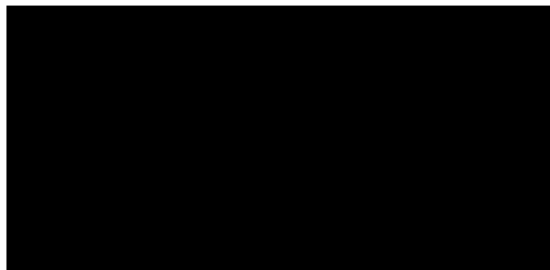
REPTILE MITIGATION STRATEGY

AUGUST 2015

BOGNOR REGIS CAMPUS
REPTILE MITIGATION STRATEGY
The University of Chichester

Project no: 70009634
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1

EXECUTIVE SUMMARY

- 1.1.1 An area of the Bognor Regis Campus of the University of Chichester is proposed for redevelopment to create an engineering and digital technology park, hereafter referred to as the 'Proposed Works'. Planning permission will be sought in October 2015; in advance of subsequent construction, planned for Spring 2016, the University will progress enabling works including the majority of site clearance.
- 1.1.2 Parts of the Proposed Works footprint provide suitable habitat for both reptiles and nesting birds; these areas will be cleared in advance of the Proposed Works as part of early enabling works. In advance of clearance, reptiles currently present in the Proposed Works area will be translocated to alternative suitable habitat on the wider Bognor Regis Campus.
- 1.1.3 The translocation will require targeted vegetation clearance to occur at the outset to permit access to dense scrub areas; this is also required to enable ground investigation surveys necessary to inform redevelopment designs. Vegetation clearance will be completed under an ecological watching brief to ensure that if present, active birds' nests may be protected until they are no longer active (i.e. the chicks have fledged or otherwise). In this way, the risk of negative effects upon both of these species groups will be minimised.
- 1.1.4 Small areas of habitat suitable for reptiles will be retained within the Proposed Works area located along the drainage channel and adjacent to retained boundary vegetation in the northern section of the Proposed Works area. These habitat areas are connected to the wider network of suitable reptile habitat on the wider Bognor Regis Campus including the larger field margins adjacent to the hedgerows surrounding the adjacent sports grounds. Field margins, in the northern part of the campus will be retained and expanded by approximately 6.2ha (50% of the area to be cleared; see Figure 2) through adjustments to the mowing regime to act as receptor habitat for small numbers of reptiles removed from the Proposed Works area during the translocation. The receptor site habitat will also be enhanced through the creation of permanent refugia or hibernacula using material created through the vegetation clearance works.
- 1.1.5 Reptile exclusion fencing will be installed along the edges of the receptor site adjacent to the translocation area to ensure that reptiles don't return to the works area once translocated out; this will be approximately 60m in total length. In addition, a suitable barrier will be installed to block the gap in the eastern wall leading into the horticultural garden. A high density of artificial refugia (100 per hectare) will be deployed in suitable reptile habitat located within the Proposed Works area immediately following the vegetation clearance. The translocation will commence from mid-August and be completed prior to the end of September during the season in which reptiles are active. The duration of the translocation will be dependent on the number and species of reptiles caught, such that mitigation is proportionate.
- 1.1.6 On completion of translocation, if there remains a risk of reptiles still being present within the Proposed Works area a destructive search will occur. This will include the removal of vegetation to approximately 200mm above ground level to allow a thorough search for any remaining animals, followed by clearance to ground level, or as close as is practical. Topsoil will then be stripped to confirm the absence of any remaining animals and make habitat unsuitable for reptiles to ensure animals do not return to the area.
- 1.1.7 An indicative timeline (Table 1) and figure (Figure 2) have been produced to demonstrate the recommended layout and timescale of mitigation measures required.

2

INTRODUCTION

2.1 OVERVIEW

- 2.1.1 An area of the Bognor Regis Campus of the University of Chichester is proposed for redevelopment to create an engineering and digital technology park, hereafter referred to as the 'Proposed Works'. Planning permission will be sought in October 2015; in advance of subsequent construction, planned for Spring 2016, the University will progress enabling works including the majority of site clearance. Partial clearance is required in advance of the planning submission to enable ground investigation surveys necessary to inform redevelopment designs.

2.2 ECOLOGICAL BACKGROUND

- 2.2.1 To inform proposals for the proposed works, a suite of ecological surveys were completed in early 2015. An extended Phase 1 survey completed by WSP on 30th January 2015 identified that the Site provides suitable habitat for reptiles, within the dense scrub patches, along all field margins and in the area between the Sports Pavilion and Bungalow (WSP|PB February 2015). Consequently WSP UK Ltd completed a reptile survey between April and May 2015, and established that a low population of both slow worm and common lizard is present on Site (WSP|PB July 2015). As all common reptile species are protected under UK legislation, appropriate mitigation measures need to be put into place to avoid any direct harm to reptiles as a result of the Proposed Works.

2.3 BRIEF AND OBJECTIVE

- 2.3.1 This ecological avoidance and mitigation strategy has been prepared to set out measures (previously recommended within the reptile survey reports (WSP|PB July 2015) that will be implemented during the Proposed Works to mitigate effects upon reptiles. Methods have been selected to also avoid direct effects upon active birds' nests which may be present in the same habitat area to ensure compliance with legislation afforded to all nesting birds.

3

AVOIDANCE AND MITIGATION MEASURES

3.1 OVERVIEW

- 3.1.1 Parts of the Proposed Works footprint provide suitable habitat for both reptiles and nesting birds; these areas will be cleared in advance of the Proposed Works as part of early enabling works. In advance of clearance, reptiles currently present in the Proposed Works area will be translocated to alternative suitable habitat on the wider Bognor Regis Campus. The translocation will require targeted vegetation clearance to occur at the outset to permit access to dense scrub areas; and vegetation clearance on completion as part of the destructive search to confirm the translocation has been successful. Vegetation clearance will be completed under an ecological watching brief to ensure that if present, active birds' nests may be protected until they are no longer active (i.e. the chicks have fledged or otherwise); and to enable any reptiles encountered to be moved out of danger. In this way, the risk of negative effects upon both of these species groups will be minimised.

3.2 TRANSLOCATION

RECEPTOR SITE PREPARATION

- 3.2.1 Small areas of habitat suitable for reptiles will be retained within the Proposed Works area located along the drainage channel and adjacent to retained boundary vegetation in the northern section of the Proposed Works area. These habitat areas are connected to the wider network of suitable reptile habitat on the wider Bognor Regis Campus including the larger field margins adjacent to the hedgerows surrounding the adjacent sports grounds. These margins, in the northern part of the campus will be retained and expanded through adjustments to the mowing regime to increase the area of habitat suitable for reptiles in this area (see Figure 2).
- 3.2.2 The expanded field margins around the playing field will act as receptor habitat for reptiles removed from the Proposed Works area during the translocation. The expanded margins will increase the area of suitable reptile habitat by approximately 6.2ha, 50% of the area of habitat to be removed; as a low density of reptiles has been recorded within the Proposed Works area reflecting the suboptimal quality of the habitat here (dense scrub) this is considered sufficient to receive a small number of translocated reptiles which is anticipated. The field margins of the sports ground will be widened by 3m along the eastern edge, and the northern and western edges will be expanded to create straighter margin edges as shown on Figure 2, which will be 30m from the northern edge at its widest point and 30m from the western edge at its widest point. If a large number of reptiles are found during the translocation, then the size of the receptor site may need to be revised to account for this.
- 3.2.3 As the receptor site is known to contain a low density reptile population, the area will both be expanded and enhanced to ensure additional individuals can be supported. Enhancements will include the creation of three permanent reptile refugia/hibernacula; the specification for these will be based on preliminary designs in Figures 4 and 5 in Appendix A. These will provide shelter for translocated reptiles and suitable habitat for hibernation, and will be constructed from logs and brash generated by initial vegetation clearance within the Proposed Works area. These refugia can later be augmented by material made available during the further vegetation clearance works. It is recommended that the refugia be created as early as possible, to give them time to settle prior to the start of translocation. Indicative refugia locations are displayed on Figure 2; selected to lie within suitable reptile habitat and a sufficient distance away from both the Proposed Works

area and entrance to the field from the sports pavilion and Hook Lane, where they are more likely to be disturbed.

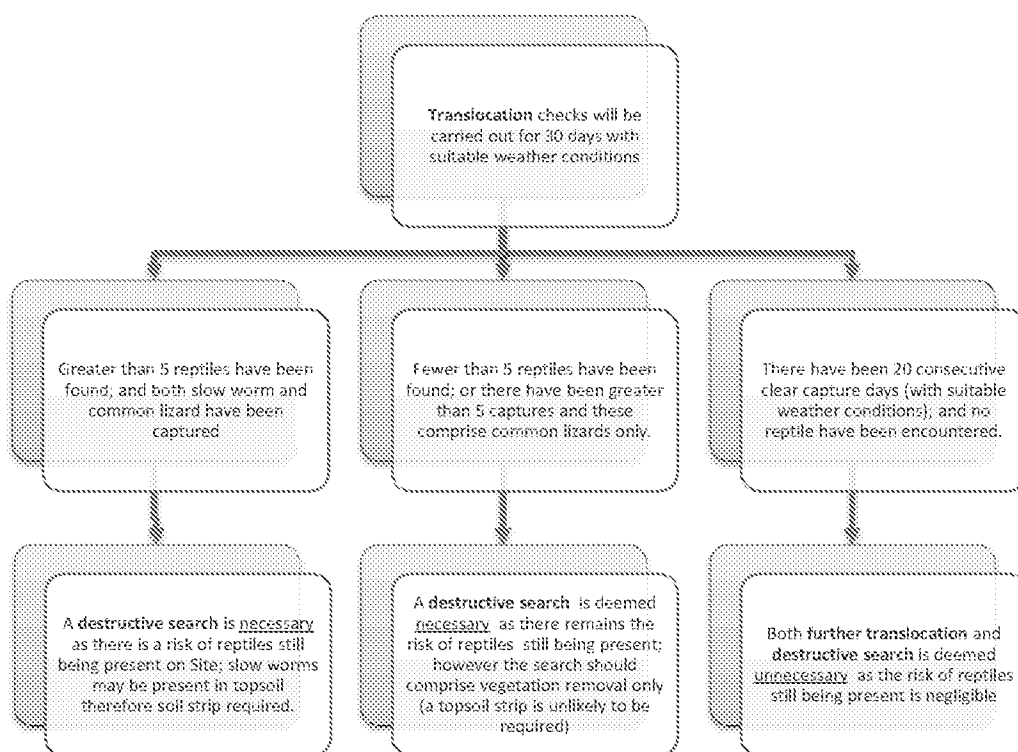
DONOR SITE PREPARATION (VEGETATION CLEARANCE/FENCING)

- 3.2.4 To facilitate access to the Site to carry out the translocation, pathways will be cut through vegetation. To minimise the risk of injuring or killing reptiles, this will be carried out following an inspection of the area by a suitably qualified ecologist. Vegetation will be cut using a brush cutter, first to a 200mm height, then to 50mm following a second inspection.
- 3.2.5 As ground investigation works are to occur during August or September, access routes will be sufficiently wide to facilitate the surveying of three borehole locations; paths will be approximately 2m wide with sufficient room to turn at necessary points. Access to the Site will be gained through the recreation field via the gate to Brooks Lane, south of the Sports Pavilion. A bridge will then be built across the stream to gain access to the area of scrub south of the stream. Suitable access points to the Site have been suggested in Figure 2, although the final route will be decided in consultation with the University Estates team. By clearing vegetation to ground level it is likely that any reptiles present will be displaced from the access routes in advance of the ground investigations. No vegetation clearance will be required on the area of amenity grassland, as this is sufficiently unsuitable for reptiles. On a precautionary basis, in case reptiles remain in the ground investigation areas an ecologist will provide an ecological watching brief during works, which will be completed alongside translocation visits.
- 3.2.6 The ecologist will provide a tool box talk to the vegetation clearance contractors in advance of the clearance work; this will include a brief introduction to the widespread reptile species present on Site, working methods to be employed, and confirmation of equipment types to be used.
- 3.2.7 In the unlikely event that an active bird's nest is found in advance of, or during clearance works, the nest will be left in situ. A buffer area will then be marked out; no works will occur in this area (the radius of the buffer area will be determined by the ecologist, either on site or through discussion with the contractor) until the nest is no longer active (i.e. the young have fledged or the nest becomes otherwise inactive).
- 3.2.8 Reptile exclusion fencing will be installed along the edge of the receptor site adjacent to the works area in advance of the translocation exercise to prevent reptiles in adjacent, retained habitat re-accessing the Proposed Works area; the fencing will be based on the preliminary design shown in Figure 5 in Appendix A. The proposed extent of the fencing is shown on Figure 2, and will measure approximately 60m in total length. The lengths of fencing will extend 10m up the edges of the receptor site away from the translocation area, to deter reptile movement. This fencing will then be removed once the Proposed Works area is devoid of suitable reptile habitat or, once construction is complete. The fencing will be installed following a visual inspection by a suitably qualified ecologist, vegetation will be cut using a brush cutter, first to a 200mm height, then to 50mm following a second inspection. Any reptiles found will be moved to the receptor area. Fencing will then be installed under the supervision of an ecologist. Removal of this fence will be carried out by hand under the supervision of an ecologist and any reptiles found will again be removed to a place of safety.
- 3.2.9 In addition, it has been noted that there is a gap in the eastern wall leading into the horticultural garden, which includes a compost heap and suitable habitat for reptiles. Therefore, to prevent movement of reptiles from the garden into the Proposed Works area, a suitable barrier will be installed to block the gap. This could comprise sheet metal, plastic or similar; the most appropriate solution will be chosen by the University Estates team.

REPTILE TRANSLOCATION

- 3.2.10 A high density of artificial refugia (100 per hectare) will be deployed in suitable reptile habitat located within the Proposed Works area immediately following the vegetation clearance (permitting access to these parts of the Site). Following a two week period to allow the refugia to settle, which has been shown to improve capture efficiency, the artificial refugia will be checked on a daily basis during suitable weather conditions for the presence of reptiles. Checks will be carried out by a surveyor trained to capture any reptiles present; where reptiles are encountered they will be captured by hand and transported to the receptor habitat in a cloth bag, before being released near to the refugia created in the receptor habitat..
- 3.2.11 The translocation will commence from mid-August and is programmed to be completed prior to the end of September during the season in which reptiles are active.
- 3.2.12 Good practice recommends that trapping occur over 30 days. Given the very low number of reptiles recorded in this part of the Site, we recommend that if capture rates are low, decisions on further mitigation measures should be made as shown in Chart 1 below. Note that 'clear capture days' are days where no reptiles were found, and must be both consecutive and have had suitable weather conditions for survey.

Chart 1 Decision tree to determine whether further translocation or destructive searching will occur based on the results of the translocation



3.3 DESTRUCTIVE SEARCH

- 3.3.1 On completion of translocation, if there is a risk of reptiles still being present on Site (see Chart 1) a destructive search of the proposed works area will occur. This will include the removal of vegetation to approximately 200mm above ground level to allow a thorough search for any remaining animals, followed by clearance to ground level, or as close as is practical. Topsoil will

then be stripped as appropriate to confirm the absence of any remaining animals and make habitat unsuitable for reptiles to ensure animals do not return to the area.

- 3.3.2 Vegetation clearance will be completed using hand tools (including mechanised hand tools such as brush cutters or chainsaws). Clearance must move towards retained habitat on or adjacent to the Site (where not all habitat is due to be removed and connecting habitat is available).
- 3.3.3 Any active reptiles found will be captured by the suitably qualified ecologist and placed into a soft cloth bag before being moved to the receptor site. To reduce the chances of predation, any captured animals will be placed under suitable natural or artificial refugia.
- 3.3.4 Once the vegetation has been reduced to ground level (or as close as is practicable) land within the Proposed Works area will be soil-stripped under an ecological watching brief if there remains a risk that reptiles may be present (i.e. slow worms). This will entail use of a 360 degree tracked excavator (7 tonne or similar) using a small toothed bucket to carefully scrape back the remaining vegetation and 150mm of topsoil. The topsoil and any debris will be spread on to the ground to allow the ecologist to search for any remaining reptiles, in the unlikely event that animals are present.
- 3.3.5 It is important to note, that no heavy plant or machinery should drive on the soil or compact areas where there are likely to be reptiles before it has been fully searched. Machinery can operate once the area has been cleared of vegetation under ecological watching brief, soil turned over, thoroughly searched for reptiles and then compacted into the ground or removed from Site.
- 3.3.6 The ecologist will give a tool box talk to the vegetation clearance contractors in advance of the destructive search; this should include a brief introduction to the widespread reptile species present on Site, working methods to be employed, and permitted equipment types.

4

SUMMARY PROGRAMME FOR IMPLEMENTATION

4.1.1

To summarise the reptile mitigation programme for the Proposed Works, Table 1 below provides an indicative timeline for mitigation tasks, which should ideally be completed before the end of September 2015.

Table 1: Provisional Timeframe for Ecological Mitigation / Clearance Works

Stage	Week	Week commencing	Task
Site Preparation	1	27 th Jul	⇒ Cut pathways through vegetation to facilitate access (using brush cutter) to 200mm, then to 50mm following a following visual inspection by an ecologist. ⇒ Deploy artificial refugia at a density of 100 per hectare; ⇒ Install exclusion fencing along the edge of the receptor site adjacent to the works area to prevent movement of reptiles; ⇒ Install three permanent reptile refugia/ hibernacula in receptor habitat.
	2	3 rd Aug	⇒ Allow refugia to settle prior to start of translocation to improve capture efficiency.
	3	10 th Aug	
Translocation	4	17 th Aug	⇒ Commence translocation of reptiles, to include daily checks of refugia and movement of captured reptiles to receptor habitat; ⇒ Use decision tree (Chart 1) to decide whether to continue translocation or progress to destructive search.
	5	24 th Aug	
	6	31 st Aug	
	7	7 th Sept	
Destructive Search	8	14 th Sept	⇒ On completion of translocation, if there is a risk that reptiles are still present on Site (see Chart 1), a destructive search of the proposed works area will be completed, to include: ※ The removal of vegetation to 200mm to allow a thorough search for any remaining animals prior to clearance to ground level, ※ Stripping the topsoil to confirm the absence of any remaining animals; and ※ Compacting or removing the topsoil from Site to make it unsuitable for reptiles.
	9	23 rd Sept	

5 REFERENCES

5.1 PROJECT REFERENCES

- 5.1.1 WSP|PB (February 2015) Extended Phase 1 Report, Bognor Regis, The University of Chichester.
- 5.1.2 WSP|PB (July 2015) Reptile Report, Bognor Regis, The University of Chichester.

5.2 TECHNICAL REFERENCES

- 5.2.1 Gent, A and Gibson, S. (1998) Herpetofauna Workers Manual, Joint Nature Conservation Committee, Peterborough.
- 5.2.2 Froglife (1999) Reptile Survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.
- 5.2.3 Her Majesty's Stationary Office (HMSO) (1981). Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000)
- 5.2.4 HMSO (2006) Natural Environment and Rural Communities Act.
- 5.2.5 JNCC (Gent, T. & Gibson, S. Eds) (2003) Herpetofauna Workers Manual. JNCC, Peterborough.
- 5.2.6 UK Biodiversity Action Plan priority Species List. Available at: <http://jncc.defra.gov.uk/page-5717>. Accessed 27/05/15.
- 5.2.7 Department for Communities and Local Government (2012), National Planning Policy Framework. Department for Communities and Local Government, London.
- 5.2.8 Edgar, P., Foster, J. & Baker, J. (2010) Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

6

FIGURES

- 6.1 FIGURE 1: SITE LOCATION PLAN
- 6.2 FIGURE 2: REPTILE MITIGATION STRATEGY





Appendix A

REPTILE MITIGATION PRELIMINARY DESIGNS

Figure 3: Preliminary Design for Reptile Hibernaculum on Free-draining Ground

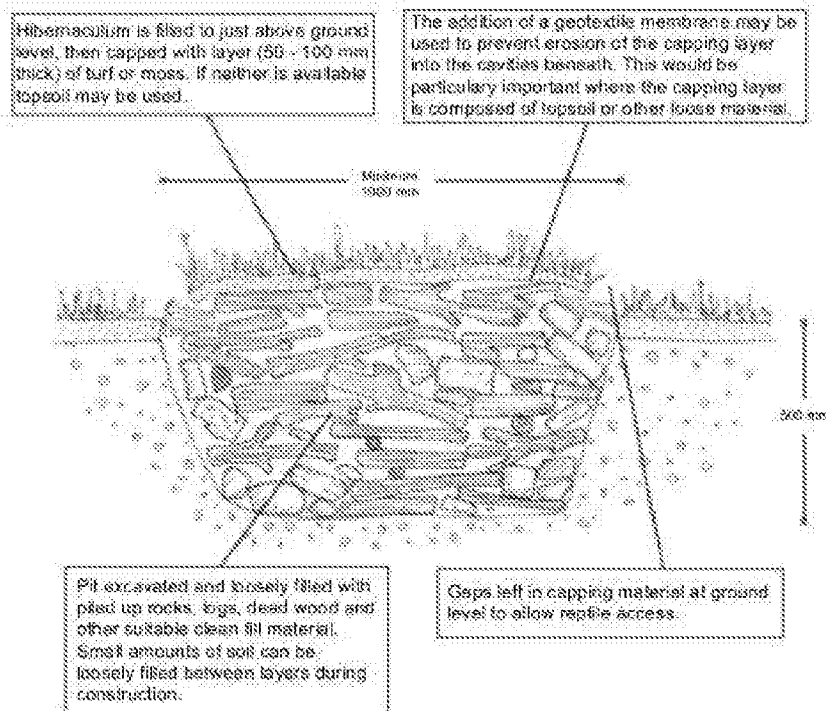


Figure 4: Preliminary Design for Reptile Hibernacula on Impermeable Ground

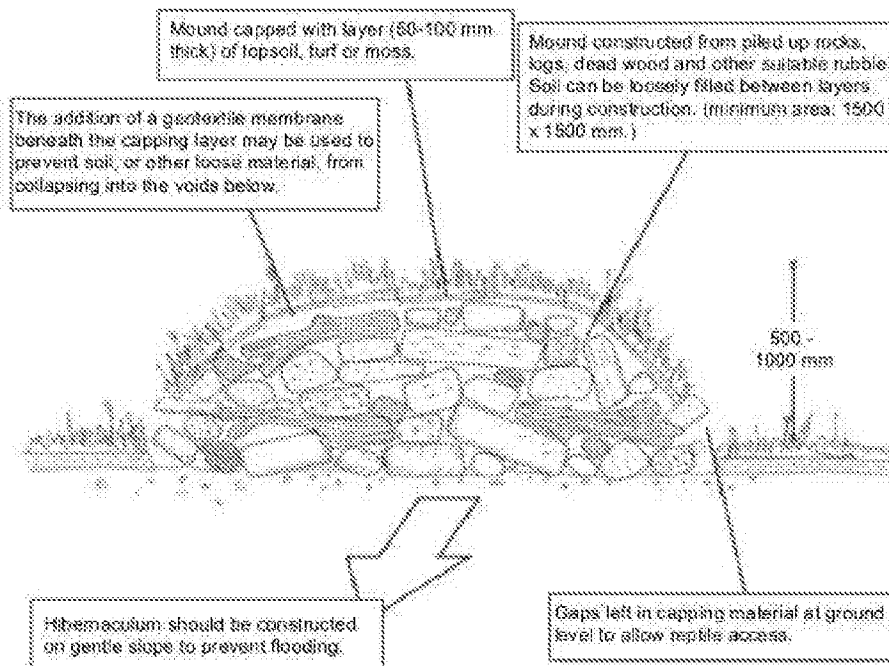


Figure 5: Preliminary Design for Temporary Reptile Fence

