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Preliminary Ecological Assessment

Land at Liseve Lodge, Bognor Regis

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Report Summary

1. The Ecology Co-op has been commissioned by Mrs L. Parker to undertake a Preliminary Ecological Appraisal of the Land at Liseve Lodge. A site walkover survey visit was carried out on the 25th March 2020, to evaluate the site for notable habitats and their potential to support EU and UK protected/notable species. The purpose of this report is to record the findings of the survey and identify potential ecological constraints to the proposed removal of a static caravan and shed and the construction of a single dwelling.
2. This survey was undertaken by Owen Crawshaw BSc (Hons) ACIEEM.
3. The site comprises the driveway and gardens of a residential property. The dwelling located at the southern corner of the site is not included within the current study. Several outbuildings exist within the site and are referred to within the report as the: “shed”, “caravan” and “summerhouse”. A collection of semi-mature trees exists within an area of managed lawn at the northern edge of the site.
4. A community woodland (The Spinney) with associated pond exists to the immediate north-west of the site. In addition, The Brooks Local Nature Reserve exists to the immediate north-east of the site and comprises an area of rough grassland and scattered scrub with associated wet ditches.
5. Habitats within the site include a gravel hard-standing driveway, amenity grassland (lawns), ornamental flowerbeds, young/semi-mature trees and several buildings.
6. The shed and caravan are assessed as having ‘low’ bat roost potential due to shallow gaps created behind wooden fascia boards. It is recommended these areas are inspected by an ecologist prior to their removal.
7. Two ponds exist within 50m of the site, these waterbodies were assessed as having ‘average’ and ‘good’ suitability for great crested newts *Triturus cristatus* respectively. Suitable shelter for newts is created within the proposed construction zone and immediately adjacent to it in the form of railway sleepers lining flowerbeds, piled building materials, individual paving slabs and gaps under buildings.
8. Without further survey effort of the two ponds to confirm presence/likely absence of great crested newts (GCN), potential impacts of the proposed development on the species cannot be fully assessed. It is recommended that both ponds are subject to an environmental DNA (eDNA) sampling survey with further population size class survey of the ponds should GCN DNA be identified. The result of the survey will be used to inform an appropriate mitigation strategy and a European Protected Species (EPS) Mitigation Licence application to Natural England if required.



This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



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1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake an Ecological Appraisal of the Land at Liseve Lodge, Bognor Regis by Mrs L. Parker. This report presents the findings of a walkover survey undertaken by Owen Crawshaw BSc (Hons) ACIEEM, an associate member of the Chartered Institute for Ecology and Environmental Management (CIEEM) on 20th March 2020. It provides details on the potential for any protected species and/or habitats to be present at the site and an assessment of the potential ecological constraints and opportunities in relation to the proposed removal of a static caravan and shed and construction of a new dwelling. Recommendations for further surveys that are likely to be required to inform a planning application and Ecological Impact Assessment (EclA) of the proposal are provided where necessary, and measures to avoid, mitigate and/or compensate for adverse impacts and effects are outlined.

1.2 Background

The site is located at Liseve Lodge, 84 North Bersted Street, Bognor Regis, PO22 9AQ. The central grid reference for the site is SU 9278 0142.

The Land at Liseve Lodges covers an approximate area of 0.16ha. The site comprises the driveway and gardens of a residential property. The dwelling located at the southern corner of the site is not included within the current study. Several outbuildings exist within the site and are referred to within the report as the: “shed”, “caravan” and “summerhouse”. A collection of semi-mature trees exists within an area of managed lawn at the northern edge of the site. The south-eastern site boundary is marked by a raised earth embankment (managed as a flowerbed) which separates the site from an adjacent property. A community woodland (The Spinney) with associated pond exists to the immediate north-west of the site. North Bersted Street exists to the immediate south-west and north-east of the site. Figure 1 shows the boundary of the site.

The site exists within a suburban environment at the northern edge of Bognor Regis. The site lies adjacent to a community woodland and Brooks Local Nature Reserve to the north, an area of rough grassland with scattered scrub and floodplain grazing marsh. Residential development extends to the south of the site.

The proposed development/project includes the removal of the shed and caravan and construction of a new dwelling.

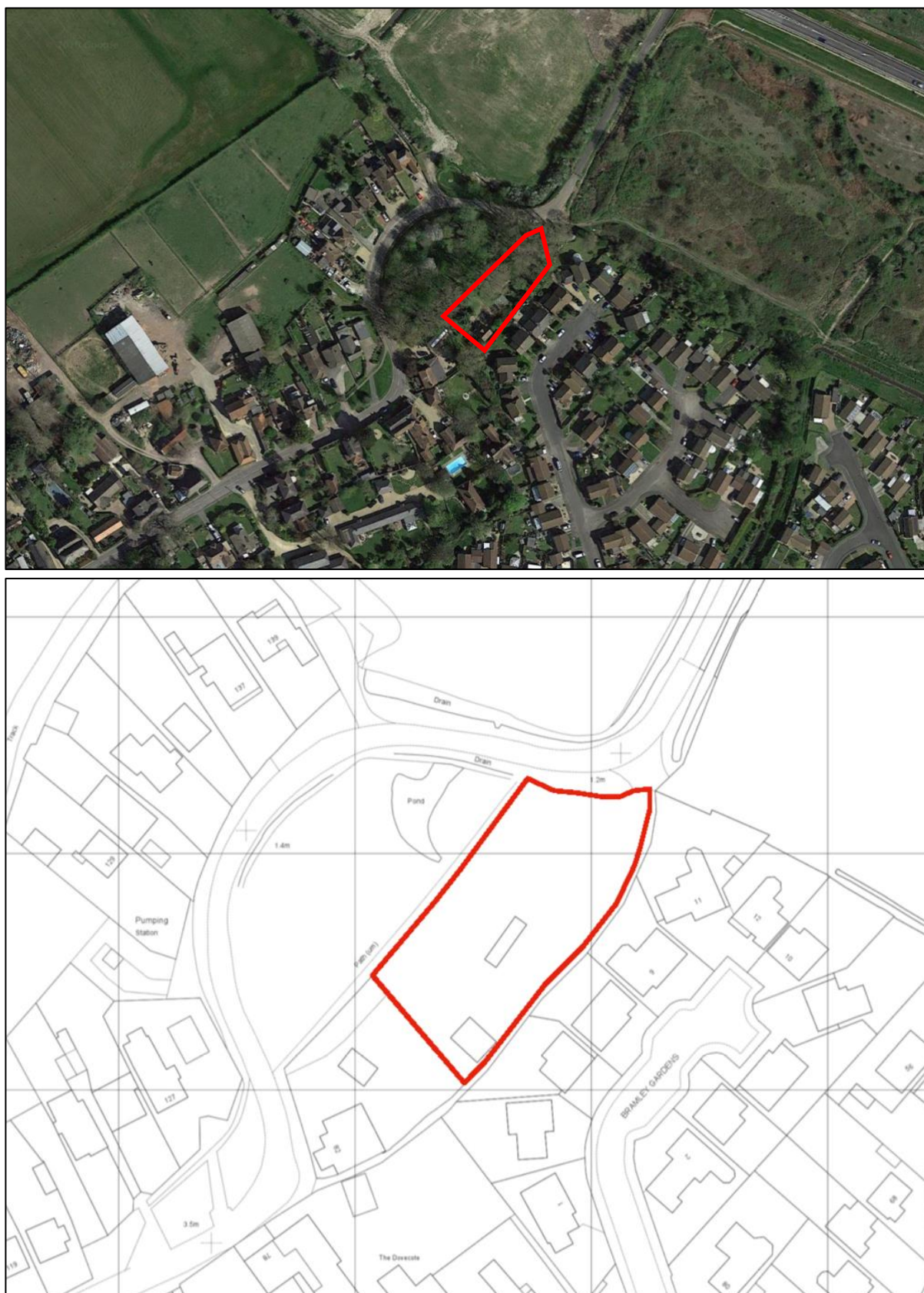


Figure 1. Top: An aerial image showing the location of the Land at Liseve Lodge, Bognor Regis. Image produced courtesy of Google maps (map data ©2019 Google). Bottom: A location plan of the site supplied by Corinthian Architectural Design on 03/03/20.



Figure 2. A proposed layout plan of the Land at Liseve Lodge supplied by Corinthian Architectural Design on 03/03/20.

1.3 Policy and Legislation

Legal protection applying to relevant bird, mammal, herpetofauna and invertebrate species and current nature conservation planning policy is outlined in Appendix 1 of this report.

Where possible this report has provided guidance on how the proposal can be designed to meet the requirements of both local planning policy and the National Planning Policy Framework (NPPF). Details of the NPPF can be found in Appendix 1 and relevant local planning policy by Arun District Council is provided in Appendix 4.



2 METHODOLOGY

The methodologies used for this survey are in accordance with the Guidelines for Preliminary Ecological Appraisal (CIEEM 2017)¹, but also considers the Guidelines for Ecological Report Writing, Second Edition (CIEEM 2017)² and the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2018)³.

2.1 Desk Study

A search for statutory and non-statutory designated sites, as well as existing records of protected species, species of conservation concern and invasive non-native species was requested from the Sussex Biological Records Centre (SxBRC) within a radius of 1km of the site.

A search of online mapping resources was undertaken to identify the location of any features of potential ecological interest including ponds within 500m (relevant to great crested newts *Triturus cristatus*), watercourses (relevant to riparian mammals and crayfish) and connectivity to woodland, scrub, and hedgerow networks (relevant to bats, dormice *Muscardinus avellanarius*) in the wider landscape around the site. The connectivity of the site to these features, buildings, and other semi-natural habitats such as grassland and heathland are also relevant to bats, great crested newts and reptiles.

The MAGIC website resource (www.magic.gov.uk) was used to identify European Protected Species (EPS) licences granted in relation to the survey site.

2.2 Field Survey

A site walkover survey was undertaken on 20th March 2020, during which the habitats contained within the site were described and evaluated. Since this site is relatively small scale and contains limited semi-natural habitat diversity, it was not considered necessary to undertake comprehensive Phase 1 Habitat Mapping of the site. All habitat types contained within the site, together with the dominant botanical species and indicators of important habitat types such as ancient woodland or unimproved grasslands, have simply been listed and described where identified.

Habitats and features at the site were evaluated for their potential to support legally protected species and/or species of conservation interest. In addition, observations of any important plant communities, bird assemblages or other potentially valuable ecological features were recorded.

1 CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

2 CIEEM (2017). *Guidelines for Ecological Report Writing, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

3 CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.



Details of the preliminary survey methods for each legally protected species are given below. Any site-specific limitations to the survey, e.g. access constraints or seasonal constraints are set out in section 3.12.

2.3 Badgers

Badgers *Meles meles* exploit a range of habitats, including gardens, coniferous woodland, deciduous woodland, mixed woodland and arable land. They live in an underground system of tunnels and nesting chambers, known as a sett, with territories ranging from 30ha to 150ha or more. Habitats within the site and surrounding areas were broadly assessed for their potential to support badgers. Any signs of badger activity, for example setts, footprints, latrines, well-worn paths and foraging marks, were recorded.

2.4 Bats

Bats can use a wide range of features for roosting purposes, including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy, and loose bark.

A detailed [building inspection/ground-based tree assessment] was carried out, looking for any evidence indicating the presence of bats using buildings or trees, such as rub marks, staining or droppings inside or outside any potential roost sites.

The potential for roosting bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with the Bat Conservation Trust Survey Guidelines (Collins, J.(ed.) (2016)⁴. Any evidence confirming the presence of bats that was found was clearly recorded including photos and samples (e.g. droppings) where appropriate.

The site was also assessed for its potential to support foraging and/or commuting bats and further surveys recommended where necessary.

2.5 Breeding Birds

Birds can use a wide range of natural and artificial habitats when breeding, including trees, hedgerows, fields, houses and garden sheds. The habitats contained within the site and adjacent areas were broadly assessed for their potential to support important bird species/assemblages, and breeding birds. Any birds identified during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern (Eaton *et al.* 2015)⁵ and those species afforded

⁴ Collins, J.(ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

⁵ Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, Leigh., Musgrove, A., Noble, D., Stroud, D., Gregory, R. (2015) *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man*. British Birds 108, pp 708-746.



special protection on Schedule 1 of the Wildlife and Countryside Act (1981). Further surveys are recommended as appropriate.

2.6 Dormice

Dormice are found in deciduous woodland and hedgerows, feeding on flowers, pollen, fruits, insects and nuts, favouring hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum* for food and as bedding. The site was broadly assessed for its potential to support dormouse. This included use of on-line mapping resources to assess the surrounding area for connectivity to large blocks of woodland, scrub and extensive hedgerow networks.

Further surveys are recommended as appropriate in accordance with best practice guidance (Bright et al 2006)⁶.

2.7 Great Crested Newt

Great crested newts breed in ponds during the spring and spend the rest of the year feeding on invertebrates in woodland, hedgerows, marshes and tussocky grassland. A desk study was undertaken to identify ponds and wet ditches within 500m of the site that might support breeding great crested newts. Where access permission was granted, or ponds could be viewed from public roads or footpaths, the ponds were assessed for their potential to support great crested newts using the Habitat Suitability Index (HSI) (Oldham et al 2000)⁷. The value of the site for terrestrially foraging great crested newts and any features that might be used by hibernating newts has also been assessed.

Further surveys are recommended as appropriate, in accordance with best practice guidance (English Nature 2001)⁸.

2.8 Reptiles

Habitats on the site were broadly assessed for their potential to support reptiles. Particular attention was paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub). The common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis* grass snake *Natrix helvetica* and adder *Vipera berus* are widespread species that can be found in any of these habitats, whereas smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* have much more restricted and isolated populations on lowland heathland and sand dunes.

6 Bright, P., Morris, P. and Mitchell-Jones, T. (2006). *The dormouse conservation handbook 2nd Ed.* English Nature, Peterborough.

7 Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000). Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). *Herpetological Journal* 10, 143-155.

8 English Nature (2001). *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.



2.9 Riparian Wildlife

Any watercourses identified during the desk study or field survey were assessed for their suitability to support otter *Lutra lutra*, water vole *Arvicola amphibius* and American mink *Neovison vison*. Suitable habitat includes grassy banks along slow-moving rivers, ditches, streams, lakes, ponds, canals, as well as marshland and upland. Signs to look out for include faeces, latrines, feeding stations, burrows, footprints and runs or pathways.

2.10 Other Notable Species

The site habitats were broadly assessed for their potential to support species of principal importance for nature conservation (Section 41 NERC Act 2006) and other notable species. This includes mammals such as harvest mouse *Micromys minutus*, hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, and many bird species. The site was broadly assessed for its potential to support important invertebrate assemblages with particular attention paid to features such as standing deadwood, wet flushes, bare earth banks and botanically rich areas.

3 BASELINE CONDITIONS

3.1 Designated Sites and Granted EPS Licences

A single statutory site exists within the 1km search area (Figure 3). The Brooks Local Nature Reserve (LNR) exists approximately 200m to the north-east of the site. The LNR is designated for its coastal and floodplain grazing marsh and deciduous woodland (priority habitats under S41 of NERC Act, 2006).

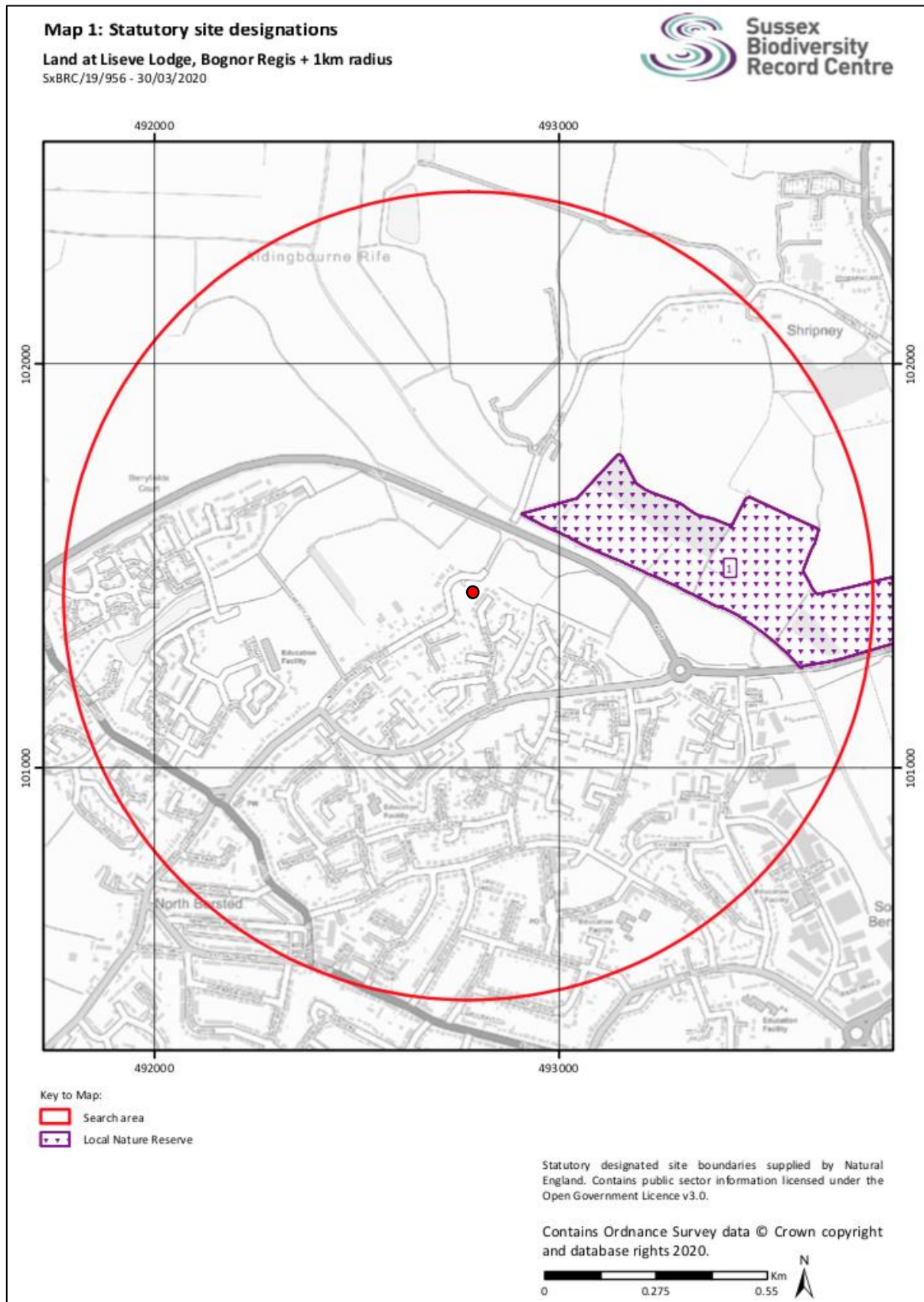


Figure 3. Designated sites within a radius of 1km of the Land at Liseve Lodge, Bognor Regis. Reproduced from SxBRC.

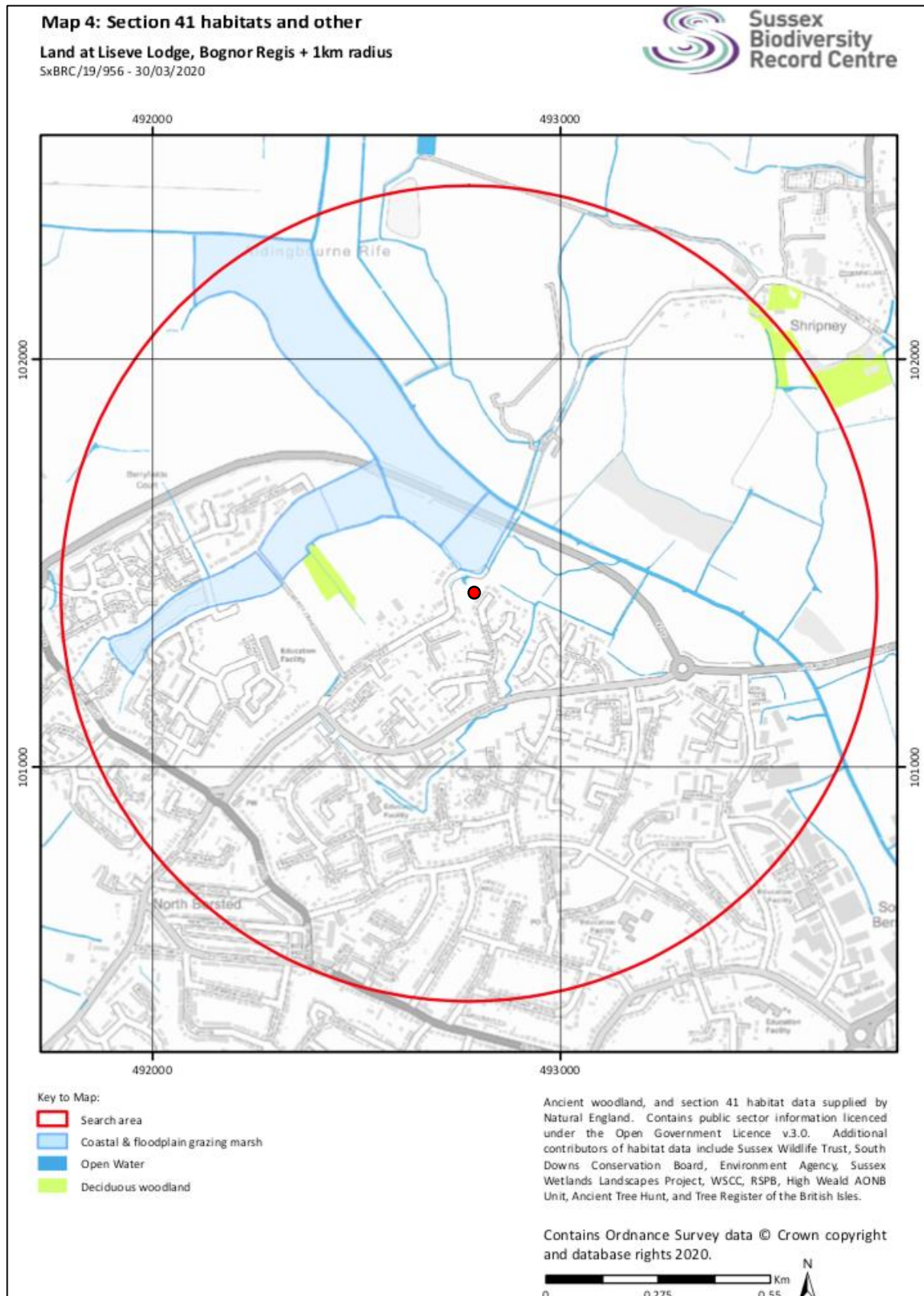


Figure 4. Priority habitats within 1km of the Land at Liseve Lodge (indicated by the red dot). Coastal and Floodplain Grazing Marsh is shown in blue and Deciduous Woodland is shown in green. Reproduced from SxBRC.



There is a single granted EPS licence for mitigation projects within 1km of the site boundary (Figure 5). The EPS licence to the site concerns destruction of a common pipistrelle *Pipistrellus pipistrellus* resting place between 28/11/14 and 01/11/20 (Licence Ref: 2014-4435-EPS-MIT)

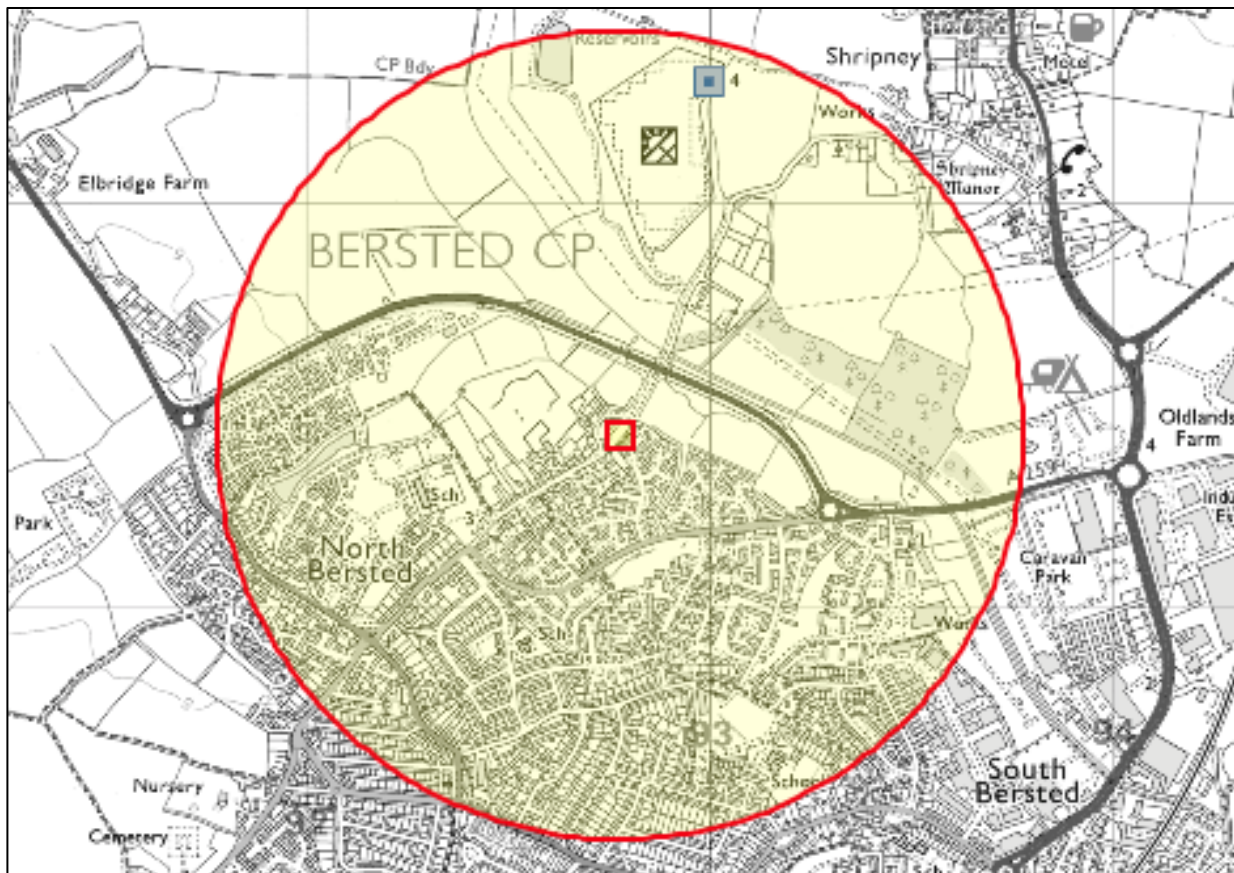


Figure 5. Granted EPS licences within 1km of the application site. Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

3.2 Habitats

The majority of the site is comprised of a driveway of gravel hard-standing. Two areas of amenity grassland lawn exists at the north-eastern end and southern corner of the site. The grassland is described as “disturbed” with patches of bare ground. Species of herbaceous plant present amongst the grass include: ground ivy *Glechoma hederacea*, herb robert *Geranium robertianum* and creeping buttercup *Ranunculus repens*. Daffodils *Narcissus* sp. also exist within the lawn.

A collection of semi-mature trees exist within the north-eastern lawn, and adjacent flowerbeds. The trees consist of approximately 14 semi-mature alder *Alnus glutinosa* and 4 young sycamore *Acer pseudoplatanus*. Other scattered trees within the site include young horse chestnut *Aesculus hippocastenum*, elm *Ulmus* sp., small-leaved lime *Tilia x europaea*, crack willow *Salix fragilis*, and cypress *Cupressus* sp. and a semi-mature apple *Malus domestica*.

Managed flowerbeds border the site and are planted with ornamental species such as: rosemary *Salvia rosmarinus*, primrose *Primula vulgaris*, winter jasmine *Jasminum nudiflorum*, laurel *Laurus* spp., spindle *Euonymus* spp., Cotoneaster sp., currant *Ribes* sp., rose *Rosa* spp. and buddleia *Buddleja davidii*. The



flowerbeds are lined by wooden railway sleepers and contains areas of deadwood and brash piles.

Four built structures exist within the site, these include: a residential dwelling (not included within the current study), a wooden shed, a prefabricated static caravan with wooden cladding and a wooden summerhouse (Figure 6).

A community woodland (The Spinney) lies adjacent to the site. The woodland is described as “young” and contains specimens of cherry *Prunus* spp., ash *Fraxinus excelsior*, horse chestnut, willow *Salix* spp. and silver birch *Betula pendula*. Ground flora within the woodland is comprised of: ivy *Hedera helix*, stinging nettle *Urtica dioica*, lords and ladies *Arum maculatum*, yellow flag iris *Iris pseudacorus*.



Photograph 1. The driveway of gravel hard-standing which runs through the site. The study buildings (shed and caravan) are present in the right of the photograph.



Photograph 2. A collection of semi-mature trees set within amenity lawn and bordering flowerbeds at the northern end of the site.



Photograph 3. Flowerbed borders along the edges of the site.



Photograph 4. The young community woodland to the immediate west of the site.

3.3 *Badgers*

No signs of any badger activity were seen during the survey assessment, though there are habitats of value for this species within the site and surrounding landscape. It is likely that if any setts were situated within 30m of the site boundary, then some evidence of badger activity would have been observed.

3.4 *Bats*

The location of the study buildings and trees with bat roost potential are shown in Figure 6, descriptions of potential roost features and assessments are provided in Table 1.

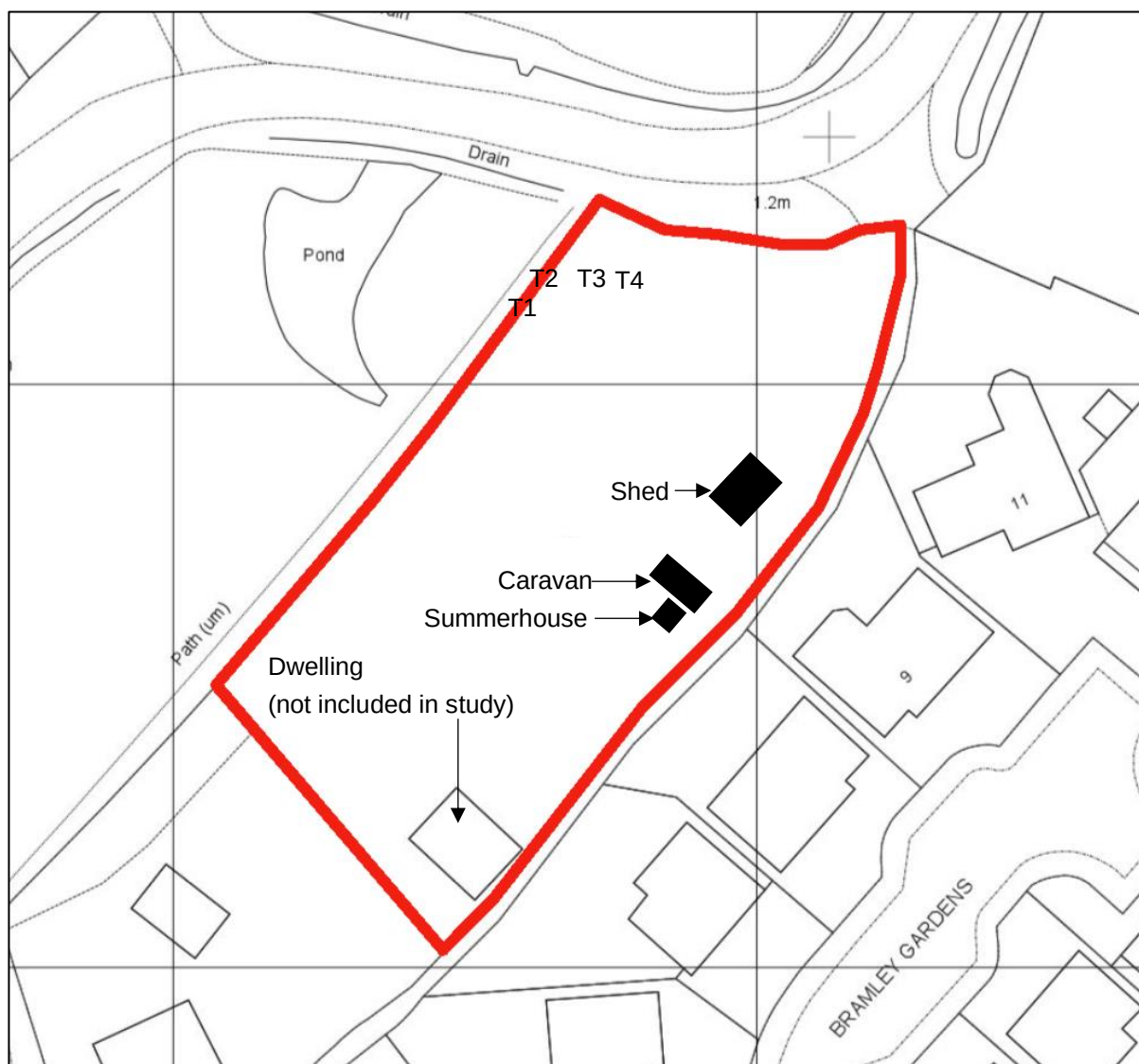


Figure 6. A plan showing the location of study building and trees with bat roost potential at the Land at Liseve Lodge, Bognor Regis.

Table 1. Potential roost features for bats at the Land at Liseve Lodge, Bognor Regis.

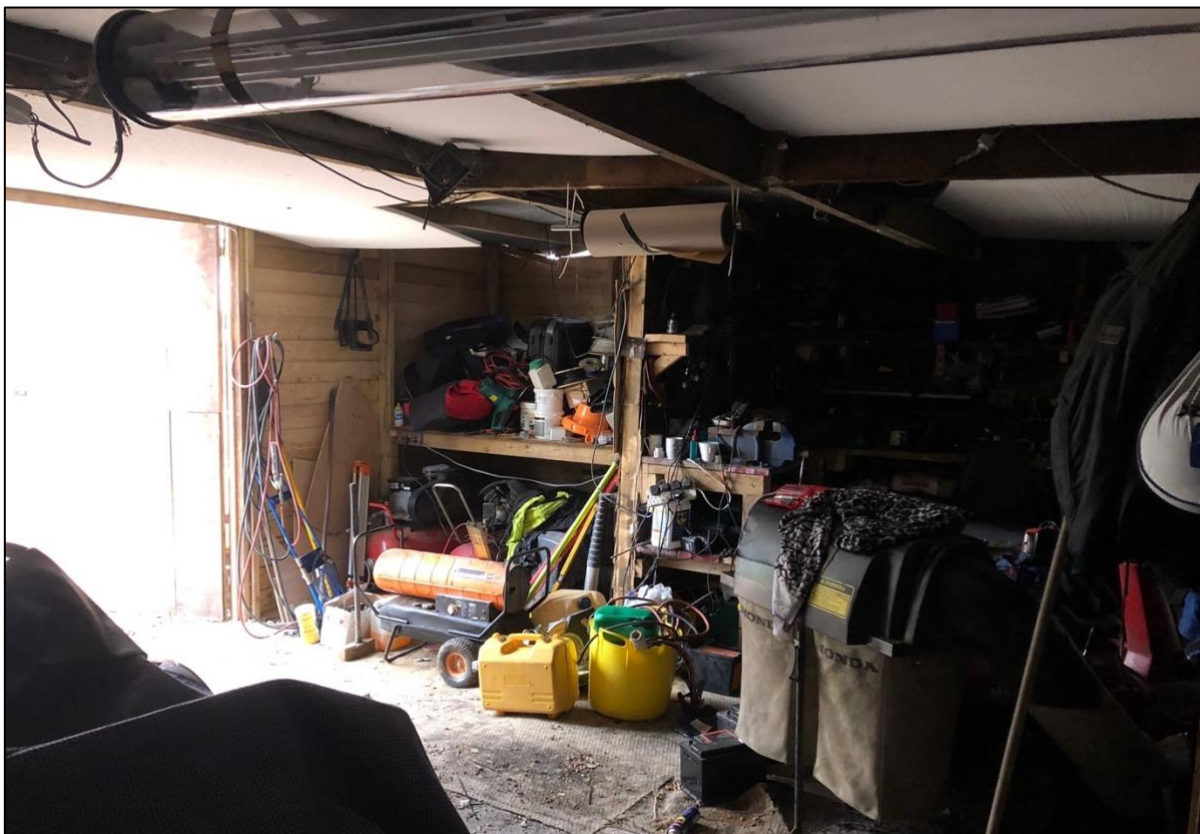
Building/Tree	Description of features	Assessment of roost potential ⁴
Shed	The walls of the shed are created from a tight-fitting single-skin layer of overlapping wooden boarding. The roof of the shed is flat with a sloping rear section and created by corrugated metal sheeting. There are no roof voids within the building and the internal space is open to the underside of the roof which is lined by insulation board. Several fascia boards are fitted vertically to the shed and create accessible gaps approximately 5cm in depth. These gaps are potentially suitable for opportunistic use by an individual bat but are not suitable for regular roosting or use by a roost of high conservation value.	Low



	No evidence of bats was recorded.	
Caravan	A prefabricated metal static caravan fitted with a single layer of tight-fitting overlapping wooden weatherboarding. As with the shed, several fascia boards are fitted vertically to the shed and create accessible gaps approximately 5cm in depth. These gaps are potentially suitable for opportunistic use by an individual bat but are not suitable for regular roosting or use by a roost of high conservation value. No evidence of bats was recorded	Low
Summerhouse	A simple structure created from walls of wooden shiplap boarding and a pitched roof covered by bitumen roofing felt. No potential roost features or evidence of bats were observed in association with the summerhouse.	Negligible
T1	A semi-mature alder with flaking bark	Low
T2	A semi-mature alder with callus rolls, flaking bark and woodpecker holes	High
T3	A dead sycamore with woodpecker holes	High
T4	A semi-mature alder with woodpecker holes	High



Photograph 5. The north-western elevation of the shed.



Photograph 6. The interior of the shed.



Photograph 7. The static caravan which is clad in wooden weatherboarding.



Photograph 8. Gaps created by a fascia board fitting to the caravan.



Photograph 9. A photograph showing the three study buildings with the summerhouse in the foreground.



Photograph 10. Flaking bark associated with T1.



Photograph 11. Woodpecker holes within T4.

Habitats within the site are of limited value for foraging bats, however the proximity of the site to the adjacent community woodland is likely to result in significant levels of foraging and commuting by



several bat species.

The SxBRC provided 8 bat records in the search area comprising 4 identified species within the search area which are detailed in Table 2 below.

Table 2. Bat records returned within a 1km radius of the Land at Liseve, Lodge.

Species	No. of records
Common pipistrelle <i>Pipistrellus pipistrellus</i>	2
Soprano pipistrelle <i>P. pygmaeus</i>	1
Brown long-eared <i>Plecotus auritus</i>	1
Barbastelle <i>Barbastella barbastellus</i>	2
Unidentified bat species etc...	2

The closest of these records refers to a grounded common pipistrelle from a location approximately 100m south-east of the site in 1998.

3.5 Breeding Birds

Habitat within the site provide suitable nesting habitat for common and widespread species of garden bird. Woodpecker holes within semi-mature trees provide suitable nest sites for hole dwelling species of woodland bird such as great spotted woodpecker *Dendrocopus major* and nuthatch *Sitta europaea*.

No evidence of nesting birds was recorded in association with the study buildings.

The SxBRC provided numerous bird records for the search area concerning a total of 127 species. Most of these species are relatively common and widespread, but the list includes 21 species of principle importance for conservation (S41 NERC Act 2006), and 20 species listed on Schedule 1 of the Wildlife and Countryside Act. In addition, 27 species are red listed on the Birds of Conservation Concern

Many of the records relate to species occurring in wetland habitats i.e. waterfowl, wading birds and gulls. There are no habitats within the site of value to such species.

3.6 Dormice

The site contains no woodland, scrub or hedgerows suitable for dormice and the species is highly unlikely to be present.

The adjacent community woodland is considered to be largely unsuitable for dormice due to its young age, lack of an understory and isolated location with no connectivity to other dormouse habitat.

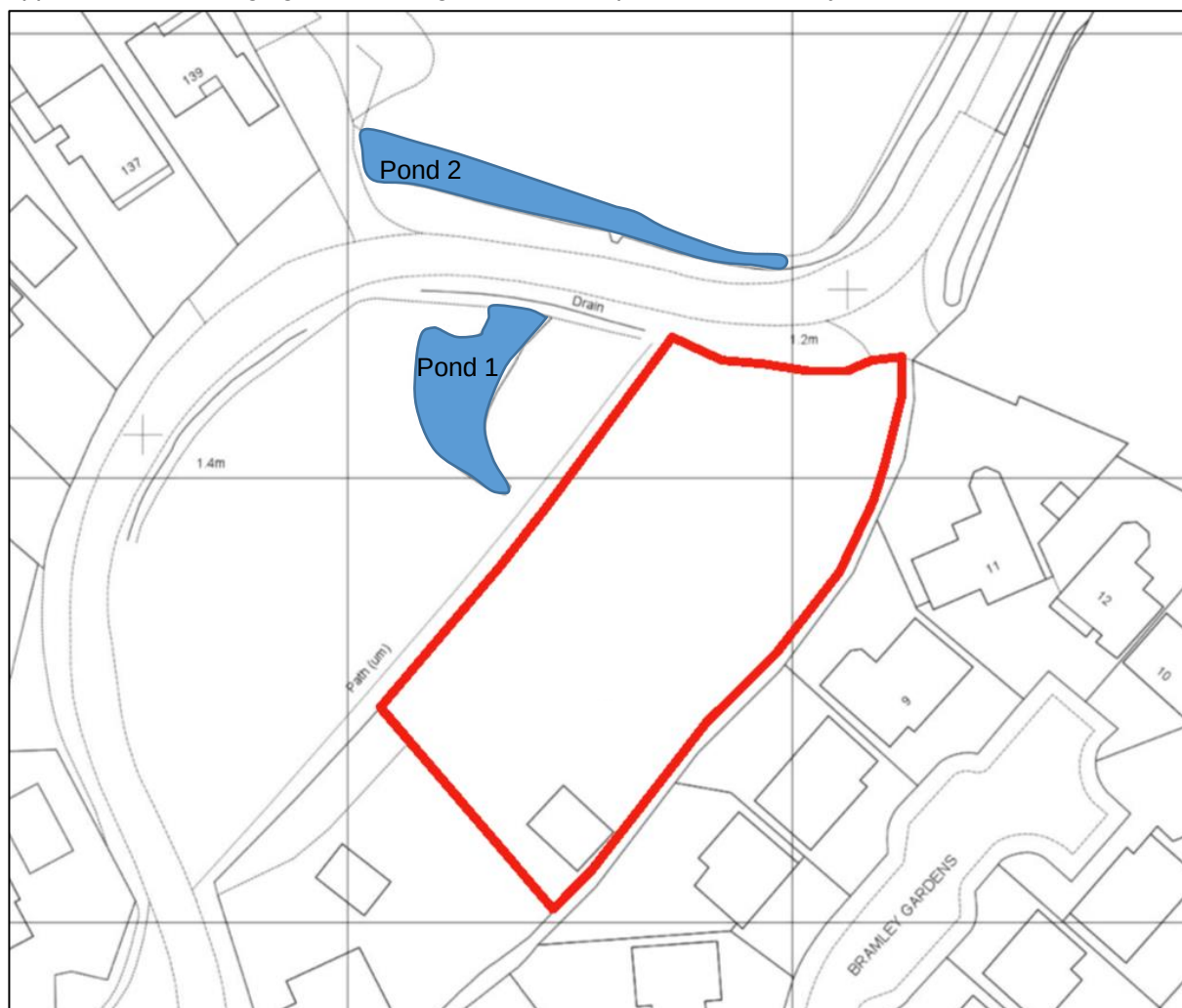
While no records of this species were provided by SxBRC, this species is known to be under-recorded and could occur in any suitable habitat.



3.7 Great Crested Newts and Other Amphibians

Two ponds exist within 50m of the Land at Liseve Lodge, with a further two ponds present beyond 250m from the site (Figure 7). Pond 1 exists within the community woodland to the immediate north-west of the site, whereas Pond 2 is created by a drainage ditch which runs adjacent North Bersted Street to the immediate north of the site. Details of all ponds within a 500m radius of the site are provided in Table 3, with full details of HSI calculations for Pond 1 and Pond 2 provided in Appendix 2.

Suitable habitat for sheltering/hibernating great crested newts are created by various features within the site including railway sleepers (flowerbed borders), piles of deadwood/brash, stored building materials around buildings, individual concrete paving slabs association with buildings and gaps beneath built structures (e.g. static caravan). The flowerbeds are also considered to provide some opportunities for foraging newts during the terrestrial phase of their lifecycle.



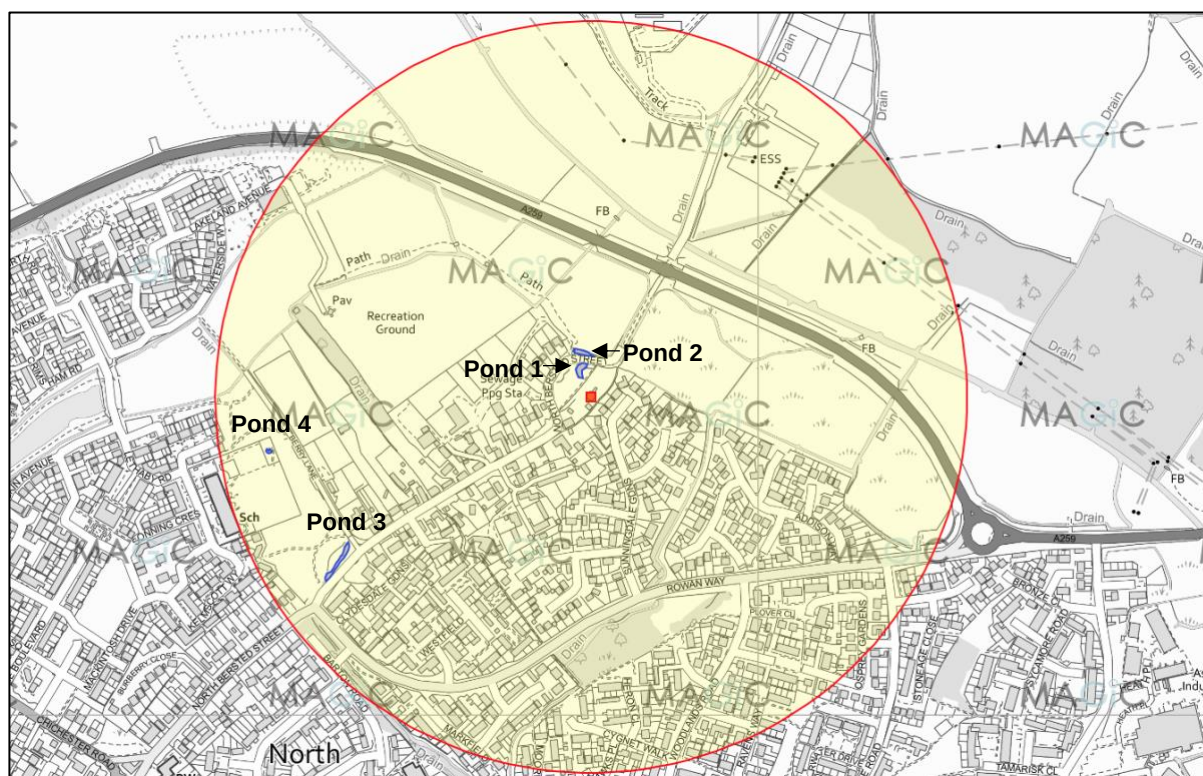


Figure 7. Top: The proximity of the Land at Liseve Lodge to Pond 1 and Pond 2. Bottom: Ponds within 500m of the site. Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

Table 3. Descriptions of ponds within 500m of the Land at Liseve Lodge.

Pond	NGR	Description	H.S.I value	Interpretation	Survey recommendations
1	SU 9276 0145	Pond 1 exists within a community woodland to the immediate north-west of the site. The pond measures approximately 150m². Aquatic vegetation is limited to yellow flag iris and blanketweed with a layer of leaf litter visible at the bottom of the pond. No fish or wildfowl were observed; however, it is possible that the pond supports these.	0.6	'average' suitability	eDNA and population survey (if required)
2	SU 9275 0148	Pond 2 is created by a drainage ditch which runs adjacent to a road to the immediate north of the site and pools at its north-western end. The combined size of the pooled area and connected ditch to the north of the site measures approximately 250m².	0.75	'Good' suitability	eDNA and population survey (if required)



		This pooled area is covered by common reed <i>Phragmites australis</i>. Aquatic vegetation recorded along the south-eastern end (ditch) include hemlock water dropwort <i>Oenanthe crocata</i> and fool's watercress <i>Apium nodifolrum</i>. No fish or wildfowl were observed; however, it is possible that the pond supports these.			
3	SU 9244 0120	A SUDs pond located adjacent to a road approximately 360m to the south-west of the site.	N/A	Not assessed	N/A
4	SU 9235 0135	A small pond set within playing fields of a school located approximately 410m to the west of the site.	N/A	Could not be accessed	N/A



Photograph 12. Pond 1 located within a community woodland to the immediate north-west of the site



Photograph 13. Pond 2



Photograph 14. The wet ditch which forms part of Pond 2.



Photograph 15. Railway sleepers located behind the caravan. These have been used to reinforce the site's raised bank at the south-eastern boundary and create suitable sheltering/hibernating opportunities for amphibians including the great crested newt.



Photograph 16. Gaps beneath the caravan which create suitable sheltering/hibernating opportunities for amphibians including the great crested newt.



Photograph 17. Stored building materials located adjacent to the shed which create suitable sheltering/hibernating opportunities for amphibians including the great crested newt.

The SxBRC provided 4 amphibian records in the search area. This included 1 record for great crested newt *Triturus cristatus*, and 3 records of common frog *Rana temporaria*. The great crested newt record dates from 2004 and refers to a location approximately 750m to the south-east of the site.

3.8 Reptiles

The flowerbeds along the site boundaries provide suitable yet suboptimal habitat for slow-worm. Furthermore, given the proximity of the site to ponds and woodland the flowerbeds may provide suitable habitat for grass snakes which regularly hunt for amphibian prey in waterbodies. Whilst habitats within the site are suitable for both slow-worm and grass snake, and there is connectivity with other suitable habitat, the extent of the habitat within the site is unlikely to support a self-sustaining population of reptiles.

The SxBRC provided a single record of a slow worm from a location approximately 800m south of the site in 2012.

3.9 Riparian Wildlife

Pond 2 located to the north of the site is potentially suitable for water vole given the vegetated banks along its ditch section. The pond and ditch is connected to extensive drains and wet ditches within Brooks LNR (approximately 200m to the north-east of the site) which supports a known population of water vole.



The waterbody is not considered suitable for white-clawed crayfish *Austropotamobius pallipes* which inhabit clear flowing shallow streams. The pond and associated ditch are also unlikely to be of value to otter as they are unlikely to support suitable prey.

The SxBRC returned 10 records of water vole from within the search area. The majority of these records refer to Brooks LNR approximately 200m to the north-east of the site. The most recent of these record dates from 2017 with water vole recorded elsewhere within the search area (>200m from the site) in 2018.

3.10 Invasive Non-native Species

Cotoneaster was recorded within the site's flowerbeds, several species of cotoneaster are listed on Schedule 9 of Wildlife and Countryside Act, 1981 (WCA). Buddleia, also recorded during the survey, is a non-native species, but it is not listed on Schedule 9 of the WCA.

The SxBRC provided 45 records of 18 invasive non-native species of plant, invertebrate, bird and mammal in the search area. The closest of these is a record of *Azolla filiculoides* (an aquatic fern) approximately 550m to the north-east of the site in 2005.

3.11 Other Notable Species

Flowerbeds and associated brash piles are potentially suitable for foraging and sheltering hedgehogs. Habitats within the site are unsuitable for other protected/notable species of wildlife.

3.12 Survey Limitations

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support some species, even where no direct evidence (such as droppings) has been found.

4 IMPACT APPRAISAL

4.1 Designated Sites

The site is outside the zone of influence from all designated sites and, based on this and the small scale of the development, there are no identified mechanisms of impact on designated sites as a result of the proposed development.



4.2 Habitats

The proposed development will result in the loss of the shed and static caravan in addition to a small area of hard-standing. These habitats are considered to be of negligible ecological value and their loss will have no foreseeable impacts on the overall ecological value of the site or surrounding landscape.

4.3 Badgers

No signs of badger activity were identified during the assessment and no badger setts are situated on or near of the proposed construction zone. No further mitigation for badgers is advised, however if any signs of digging by large animals is identified on or near to the site prior to construction, then an ecologist should be contacted for advice.

4.4 Bats

In accordance with the Bat Conservation Trust guidelines, the overall potential for the shed and caravan to support roosting bats is assessed as 'low'. However, given the shallow nature of the features identified and their unsuitability for regular roosting or to support a roost of high conservation value no subsequent dusk emergence/dawn re-entry surveys are recommended.

Prior to the removal of the shed and caravan a pre-commencement check by a suitably qualified and licensed ecologist, using an endoscope to inspect gaps behind fascia boards, will be undertaken to confirm the absence of bats. In the unlikely event that roosting bats are found, works will be delayed until an EPS licence from Natural England has been secured.

All of the trees within the site will be retained and protected so there are no foreseeable impacts on tree roosting bats.

As the site may be used by foraging and commuting bats, it is important that the potential for disturbance from artificial lights is considered. The proposed development should include an 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 3).

It is recommended that at least one new bat roosting feature is incorporated within the developed site to provide an enhancement for roosting bats. It is recommended that a 1FR Schwegler Bat Tube (or similar design) is integrated in the southern elevation of the new dwelling. Alternatively, a 2F Schwegler Bat Box could be mounted on one of the semi-mature trees at the northern end of the site. Bat boxes should be installed as high as possible on the new building/tree.

4.5 Breeding Birds

No trees or shrubs will be removed. The proposed works will have no foreseeable impacts on nesting birds.



Opportunities for enhancement of the site for nesting birds include the mounting of nest boxes (such as the 1B Schwegler Nest Box) on trees and the incorporation of integrated nesting features (such as the 1SP Schwegler Sparrow Terrace and/ or the Woodstone Build-in Swift Nest Box B) into the new building.

Boxes should be mounted/installed at least 3m above ground and on a northern/eastern facing aspect. Boxes for swift should be installed below the eaves of the new building. It is recommended that two new bird nesting features would be an appropriate level of enhancement within the site.

4.6 Great Crested Newts

If great crested newts are present within either Pond 1 or Pond 2, there is the potential for sheltering/hibernating newts to be present within the construction zone and adjacent areas within the site. Any removal of buildings, flowerbeds, building materials or paving slabs could result in the destruction of habitat, disturbance and killing/injury of sheltering newts. Without further survey work to confirm the presence/likely absence of great crested newts, impacts on the species cannot be fully assessed.

It is recommended that a single great crested newt presence/absence survey visit of Pond 1 and Pond 2 is undertaken followed by an environmental DNA (eDNA) test where great crested newts are not identified during the presence/absence survey.

An eDNA assessment is made by taking at least 20 water samples from a pond between mid-April and the end of June and sending the samples to a laboratory for assessment for the presence of great crested newt DNA. Where the eDNA assessment is positive for great created newt eDNA or the single presence/absence survey identifies this species a full population assessment will be required.

A population survey follows best practice guidelines as described within Natural England's 'Great Crested Newt Mitigation Guidelines'. In accordance with these guidelines, six surveys are carried out on evenings when the ambient temperature is not less than 5°C between mid- March and mid-June, with three surveys to be timed between mid-April and mid-May. This timing ensures that surveys are carried out when newts are most likely to be breeding, thus maximising the potential to establish a population.

If presence of great created newts is confirmed either pond through further survey work, a European Protected Species (EPS) mitigation licence would be necessary to allow the development to proceed legally. Mitigation and compensation measures would be required under such a licence, for example careful timing of activities, trapping out of the site and translocation of great crested newts to a receptor site which would be enhanced to support them.

4.7 Reptiles

In the absence of careful works practices, any removal of railway sleepers or other piled deadwood/brash could result in the killing/injury of reptiles.



It is recommended that if any such features are to be removed, subject to restrictions relating to great crested newts and their habitats, their removal should be overseen by an ecologist who will conduct a fingertip search of the area and rescue any reptiles found.

No further surveys with regards to reptiles are recommended.

4.8 *Riparian Wildlife*

Given the distance (>30m) between the proposed construction zone and the drainage ditch (Pond 2) the proposed works are unlikely to have any foreseeable impacts on water voles should the species be present within the waterbody.

4.9 *Invasive Non-native Species*

The presence of *Cotoneaster* sp., within the ornamental flowerbeds of the site poses a potential risk to surrounding habitats through its spread. It is recommended that cotoneaster is removed from the site and disposed of appropriately. Although a non-native species buddleia does provide benefits to native wildlife and serves as an important nectar source for butterflies. Removal of buddleia is not required.

4.10 *Other Notable Species*

Without due care and timing of works any removal of brash piles from within the site could result in the disturbance and killing/injury of sheltering hedgehogs. Any brash piles requiring removal under the proposed scheme should be dismantled carefully by hand during the spring summer and moved to an area of the site to remain unaffected by works.

5 **CONCLUSIONS**

The proposed development will not result in any foreseeable impacts on designated sites or Priority Habitats. The buildings to be removed have been assessed as having 'low' bat roost potential due to the presence of several features in which bats could potentially shelter; although these are considered sub-optimal for bats. Recommendations are made with regards to a pre-commencement endoscope check by a suitably qualified and licensed ecologist prior to the careful removal of these features.

Two ponds have been identified within 50m of the site and have been assessed as having 'average' and 'good' suitability for supporting populations of great crested newt. Furthermore, a number of features have been identified within, and immediately adjacent to, the site's proposed construction zone which could be used by sheltering/hibernating great crested newts should they be present and breeding within either of the aforementioned ponds.

Recommendations are made with regard to further survey of the ponds to confirm the presence/likely absence of great crested newts and inform and appropriate mitigation strategy in order to avoid/mitigate/compensate for impacts on the species.



Enhancement opportunities identified in Section 4 of this document will result in new opportunities for nesting birds and roosting bats, and a likely enhancement for biodiversity at the site should they all be implemented in full.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op, info@ecologyco-op.co.uk, www.ecologyco-op.co.uk, Office: 01798 861800.



APPENDIX 1 – Wildlife Legislation and National Planning Policy

Introduction

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to wildlife in general and certain species. It includes current national planning policy relevant to nature conservation.

The ‘Birds Directive’, ‘Habitats Directive’ and ‘Natura 2000 Sites’.

The Council Directive 79/409/EEC on the Conservation of Wild Birds (“the Birds Directive”) sets a framework for the protection of wild birds. Under the directive, several provisions are made including the designation and protection of ‘Special Protection Areas’ (SPAs) – areas which support important bird populations, and the legal protection of rare or vulnerable species.

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the “Habitats Directive”) directs member states of the EU to take measures to maintain favourable conservation status of important habitats and species. This requires the designation of a series of sites which contain important populations of species listed on Annex II of the directive (for example Bechstein’s bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus* and white-clawed crayfish *Austropotamobius pallipes*). Together with ‘Special Areas of Conservation’ (SPAs), designated under the Birds Directive, SACs form a network across Europe of protected areas known as the ‘Natura 2000 sites’.

Annex IV lists species in need of more strict protection, these are known as “European Protected Species (EPS)”. All bat species, common dormice *Musccardinus avellana*, otter *Lutra lutra* and great crested newts *Triturus cristatus* are examples of EPS that are regularly encountered during development projects.

The ‘Habitats Regulations’

The Conservation of Habitats and Species Regulations 2017 (the “Habitats Regulations”) is the principle means of transposing the Habitats Directive and the Birds Directive, and updates the Conservation (Natural Habitats, &c.) Regulations 1994 (“the 1994 regulations”) in England and Wales.

‘Natura 2000’ sites receive the highest level of protection under this regulation which requires that any activity within the zone of influence of these sites would be subject to a Habitats Regulations Assessment (HRA) by the competent authority (e.g. planning authority), leading to an Appropriate Assessment (AA) in cases where ‘likely significant effects on the integrity of the site are identified.

For European Protected Species, Regulation 41 makes it a criminal offence to;

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb wild animals of such species;
- Deliberately take or destroy their eggs (where relevant);
- Damage or destroy a *breeding or resting place* of such an animal;
- Possess, control, sell or exchange any live or dead animal or plant, of such species;
- Deliberately pick, collect, cut, uproot or destroy a wild plant of such species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for



specific reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the 'three derogation tests') are met:

- A licence can be granted for the purposes of “preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment” (Regulation 53 (2) (e).
- A licence can be granted if “there are no satisfactory alternatives” to the proposed action.
- A licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Wildlife and Countryside Act (1981) as amended.

This remains one of the most important pieces of wildlife legislation in the UK. There are various schedules to the Act protecting birds (Schedule 1), other animals including insects (Schedule 5), plants (Schedule 8), and control of invasive non-native species (Schedule 9).

Under the Wildlife and Countryside Act (WCA) 1981, all wild birds (with the exception of those listed on Schedule 2), their eggs and nests are protected by law and it is an offence to:

- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Disturb any bird listed on Schedule 1, while it is nest building, or at a nest with eggs or young, or disturb the dependant young of any such bird.

Schedule 5 lists all non-avian animals receiving protection to a varied degree. At its strongest, the Act makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturb animals while occupying such places. Examples of species with *full protection* include all EPS, common reptile species, water vole *Arvicola amphibius*, white-clawed crayfish *Austropotamobius pallipes* and Roman snail *Helix pomatia*. Other species are protected from sale, barter or exchange only, such as white letter hairstreak *Satyrion w-album*.

The Act makes it an offence to intentionally pick, uproot or destroy any plant or seed, and sell or possess any plant listed on Schedule 8. It is also an offence to intentionally uproot any wild plant not listed on Schedule 8 unless authorised [by the land owner]. Species on Schedules 5 and 8 are reviewed every 5 years when species can be added or removed.

Measures for the prevention of spreading non-native species which may be detrimental to native wildlife is included in the Act, which prohibits the release of animals or planting of plants into the wild of species listed on Schedule 9 (for example Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandifera*, New Zealand Pygmyweed *Crassula helmsii*).

The Wildlife and Countryside Act 1981 (as amended) also prohibits certain inhumane methods of traps and devices for the capture or killing of wild animals and certain additional methods such as fixed trap, poisoning with gas or smoke, or spot-lighting with vehicles for killing species listed on Schedule 6 of the Act (this includes all bat species, badger, otter, polecat, dormice, hedgehog and red squirrel).

Natural Environment and Rural Communities (NERC) Act (2006)

The NERC Act (2006) created the statutory nature conservation body Natural England, and places a



statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of *habitats and species of principal importance for the conservation of biodiversity* in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers. Section 41 of the NERC Act lists the habitats and species of principle importance. This includes a wide range of species from mosses, vascular plants, invertebrates through to mammals and birds. It originates from the priority species listed under the UK Biodiversity Action Plan (UK BAP) with some omissions and additions.

Protection of Badgers Act (1992)

The Badger *Meles meles* is afforded specific legal protection in Britain under the Protection of Badgers Act (1992), and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) (see above).

Under this legislation, it is a criminal offence to:

- intentionally kill, injure, take, possess, or cruelly ill-treat, a Badger, or to attempt to do so;
- interfere with a sett, by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

A licence may be obtained from Natural England to permit certain prohibited actions for a number of defined reasons including interference of a sett for the purpose of development, provided that a certain number of conditions are met. Note that licenses are not normally granted for works affecting badgers between the end of November and the start of July.

National Planning Policy Framework

The National Planning Policy Framework (NPPF 2019)⁹ sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

Paragraph 174b, which states that council policies should “*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.*” The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, 2005)¹⁰. In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- Minimising impacts on existing biodiversity and habitats,
- Providing net gains in biodiversity and habitats, wherever possible,

⁹ HM Government (2019). National Planning Policy Framework. Department for Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728643/Revised_NPPF_2018.pdf.

¹⁰ HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf.



- establishing coherent ecological networks that are more resilient to current and future pressures.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (UK BAP), first published in 1994, was the UK's response to the commitments of the Rio Convention on Biological Diversity (1992) until 2010, when the UK BAP was replaced by the UK Post-2010 Biodiversity Framework. This framework covers the period 2011 to 2020 and forms the UK government's response to the new strategic plan of the United Nations Convention on Biodiversity (CBD) published in 2010. This promotes a focus on individual countries delivering target for protection for biodiversity through their own strategies.

The most recent biodiversity strategy for England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra (2011), and a progress update was provided in July 2013 (Defra 2013).

'Biodiversity 2020' builds on the Natural Environment White Paper for England – 'The Natural Choice', published on 7 June 2011, and sets out the strategic direction for biodiversity policy for the next decade. Biodiversity 2020 deliberately avoids setting specific targets and actions for local areas and species because the Government believes that local people and organisations are best placed to decide how to implement the strategy in the most appropriate way for their local area or situation.

Birds of Conservation Concern (BoCC)

In 1996, the UK's leading non-governmental bird conservation organisations listed the conservation status of all bird species in the UK against a series of criteria relating to their population size, trends and relative importance to global conservation. The lists, known as the 'Red', 'Amber' and 'Green' lists (in order of decreasing concern) are used to inform key conservation policy and decisions. The lists are reviewed every 5 years and are a useful reference for determining the current importance of a particular site for birds. The most recent review was undertaken in 2015 (Eaton et al, 2015), which provides an up to date assessment of the conservation status of birds in the UK.

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APPENDIX 2 – Great Crested Cewt ‘Habitat Suitability Index’ Values

Table 1. HSI calculation for ponds assessed during the survey.

	Pond 1		Pond 2	
NGR	SU 9276 0145		SU 9275 0148	
SI attribute	SI value	Notes	SI value	Notes
Location	1	SE England	1.	SE England
Pond area	0.3	150m ²	0.5	250m ²
Pond drying	0.5	Sometimes	0.5	Sometimes
Water quality	0.67	Moderate	0.67	Moderate
Shade cover	0.4	90%	0.4	50%
Waterfowl	0.67	Minor	0.67	Minor
Fish presence	0.7	Possible	0.7	Possible
No. ponds	0.9	9	0.9	9
Terrestrial habitat	1	Good	1	Good
Macrophytes	0.4	10%	0.8	50%
H.S.I. value	0.6	‘Average’ suitability	0.75	‘Good’ suitability



APPENDIX 3 – Reducing Impacts of Artificial Light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts on other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness. Guidelines issued by the Bat Conservation Trust¹¹ should be considered while designing the lighting scheme. A simple process which should be followed where the impact on bats is being considered as part of a proposed lighting scheme. It contains techniques which can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting on key habitats and features altogether

there is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation. However, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results;

- Dark buffers, illuminance limits and zonation
- Sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill
- Consider the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consider the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cat eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times.
- Screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding
- Glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features.
- Creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for

¹¹ Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



any such habitat being lost to the development.

- Dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

Demonstrate compliance with illuminance limits and buffers

- *Design and pre-planning phase*; It may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

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APPENDIX 4 – Arun District Council – Adoption Arun Local Plan 2011-2031 (July 2018)

Policy Number/Title	Policy Summary
Policy C SP1 Countryside	Outside the Built-Up Area Boundaries (as identified on the Policies Maps) land will be defined as countryside and will be recognised for its intrinsic character and beauty. Development will be permitted in the countryside where it is: a. for the operational needs of agriculture, horticulture, forestry, the extraction of minerals or the management of waste as part of a waste site allocation within the West Sussex Waste Local Plan; or b. for quiet, informal recreation; or c. for green infrastructure; or d. for the diversification of the rural economy; or e. for road and/or cycle schemes; or f. in accordance with other policies in the Plan which refer to a specific use or type of development. 7 Settlement Structure & Green Infrastructure The Council will take into account cumulative impact of development in the consideration of planning applications. To ensure better management of the rural-urban fringe in those areas where significant new development is proposed, early consideration will need to be given to landscape and biodiversity enhancement, woodland management, recreation provision and access routes.
ENV SP1 (Natural Environment)	Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects sites listed in Tables 17.1-17.7 that are recognised for the species and habitats contained within them.
ENV DM1 (Designated Sites of biodiversity or geological importance)	a. Proposed development likely to have an adverse effect on land with the designated features of any Site of Biodiversity or Geological Importance as listed in Tables 17.1 - 17.7 or any subsequently designated sites (either individually or in combination with other developments), will not normally be permitted. Consideration will be given to the exact designated features present on the site, their scarcity/rarity and recognition of the protection offered by their existing status. Development on wildlife sites with the highest value will only be permitted exceptionally where the following can be demonstrated: i. There is no alternative solution (which shall be adequately demonstrated by the developer). ii. There are reasons of public health or public safety or iii. There are benefits of primary importance to the environment or iv. There are imperative reasons of overriding public interest. Notwithstanding the above however, the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined. b. In determining any planning application affecting Sites of Biodiversity or Geological Importance the Council will ensure that the intrinsic natural features of particular interest are safeguarded or enhanced having regard to;



		i. The European, National or Local status and designation of the site; ii. The nature and quality of the site's features, including its rarity value; iii. The extent of any adverse impacts on the notified features of interest; iv. The need for compensatory measures in order to re-create remaining features of habitats on or off the site. c. Where appropriate the Council will ensure the effective management of designated sites through the imposition of planning conditions or Section 106 agreements as appropriate.
Policy ENV DM3 Biodiversity Opportunity Areas		Development shall: a. Retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones b. Be designed in order to minimise disturbance to habitats Development proposals that do not reasonably address opportunities for enhancing these through their design, layout and landscaping or access/management shall not be permitted. Where a development scheme would result in a habitat loss, mitigation measures will be proposed as part of the proposed scheme and such measures agreed with the Local Planning Authority prior to the determination of any planning application. Within Biodiversity Opportunity Areas (BOAs) identified on the Policies Maps or where likely to have an impact on species or habitats within the BOAs, any application for planning permission shall include a properly conducted survey of the presence must be proposed within the planning permission.
ENV (Protection of trees)	DM4	Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless development: a. Would result in the removal of one or more trees in the interests of good arboricultural practice. This shall be demonstrated by the developer following the advice of a suitably qualified person which shall be guided by BS 5837 (2012). Details of any advice received having regard to BS 5837 (2012) shall be submitted, in writing, as part of a planning application; or b. Would enhance the survival and growth prospects of other protected trees; c. The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland. Where planning permission is granted in any of the above instances, conditions shall be used to ensure that, for any trees which are removed as part of a development, at least an equivalent number of a similar species and age (where practical) are planted on the proposed development site. Sufficient space for replacement trees to mature without causing future nuisance or damage shall be provided. The planting of new trees shall form an integral part of the design of any development scheme. Proper provision must be made for the protection and management of trees or areas of woodland on-site when undertaking development. A management plan shall be provided as part of a planning application in accordance with BS 5837 (2012) in order to ensure that trees are adequately protected during development and appropriately maintained in the future. Conditions for the continued protection of trees on sites shall be included in any planning permission given. Where there are existing trees on or adjacent to a development site, developers shall be required to provide: d. Land and tree surveys e. A tree constraints plan f. An arboricultural impact assessment to include a tree protection plan and arboricultural method statement These will ensure that development is planned to take a comprehensive view of tree issues



	at an early stage in the design process and that development works do not have a negative impact on existing trees.
ENV DM5 (Development and biodiversity)	Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.
W SP1 (Water)	Arun District Council will encourage water efficiency measures in order to protect the District's water resources and enhance the quality of the water environment which supports a range of habitats and ecosystems. Development will be encouraged to make active use of surface water as a design feature and permitted where it identifies measures to improve and enhance waterbodies, coastal habitats or provides additional flood relief. The Council will also support development that: a. is appropriately located, taking account of flood risk and promotes the incorporation of appropriate mitigation measures into new development, particularly Sustainable Drainage Systems that reduces the creation and flow of surface water and improves water quality; 63 Water stressed areas - final classification (July 2013) b. reduces the risk to homes and places of work from flooding whilst increasing biodiversity; c. delivers a range of community benefits including enhancing the quality of life and providing greater resistance to the impact of climate change.

End.