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Report prepared for: Wynngate Limited

For the Site of: Land at and to the Rear of 12 Claygate Lane, Esher, KT10 0AQ

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Cherryfield Ecology has prepared this report for the named clients use only.
Ecological reports are limited in shelf life, Natural England usually expect reports for licences to be from the most recent or current season. Therefore, should the project not proceed within 12 months of this report an updated survey should be undertaken in order to check for changes that may have occurred on site. Information is believed to be accurate at the time of survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

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Contents

Ecological Appraisal (EA)

0.0 Non-Technical Summary

0.1 Background

This report follows national guidelines JNCC (2010) allowing for a day-time inspection and recommends for further surveys, if considered necessary. If a deviation from the guidelines has been made, this will be detailed in the Method Section.

The following report details the findings and recommendations for the site of Land at and to the Rear of 12 Claygate Lane, Esher, KT10 0AQ.

The client commissioned Cherryfield Ecology to undertake an EA as the proposals include for the erection of six new dwellings. Plans have been provided (Appendix I).

0.2 Results and Findings

- The site consists of a detached two storey dwelling (B1), a small storage building (B2), two sheds (B3 and B4), bramble scrub, amenity grassland/introduced shrub, scattered trees, tall ruderal, line of trees and hardstanding.
- No protected species or evidence of protected species were found on site at the time of the survey.
- B1 provides high potential for bats due to the presence of roosting features, such as clay hung tile, and the significant gaps found under the roofing tiles and lead flashing.
- The site provides high potential for breeding birds due to the bramble scrub, line of trees and scattered trees providing ample nesting sites.
- The site provides moderate potential for reptiles due to the site providing refuge, basking, and foraging areas.

- The site provides low potential for GCN due to the lack of waterbodies within the area and the low connectivity with more suitable habitats. However, the site does provide suitable refuge and foraging areas.
- The site provides negligible potential for badger due to the lack of connectivity with more suitable habitats and the lack of evidence of badger use e.g., latrines.
- The site provides negligible potential for other protected species due to the lack of suitable features and the lack of connectivity with more suitable habitats.

- **0.3 Impact Assessment and Recommendations**

Badger – No further surveys are necessary; however, if any badger setts are found throughout works, all works must stop, and advice sought.

Bats – **Presence/likely absence surveys** will be required (three surveys, at least two weeks apart), with two surveyors to cover the building **B1**; These surveys must be undertaken within the May to September window (with September considered sub-optimal). Two of these surveys will need to be undertaken during the optimal timeframe of mid-May to August.

Breeding Birds - No further surveys are recommended; however, the development should take place outside the nesting season (March to August). If this is not possible, it is recommended that a qualified ecologist is on site to ensure the building/vegetation is not occupied by breeding birds, prior to demolition/clearance. Should an occupied nest be found, a buffer zone would need to be created until the nest is no longer in use.

Great Crested Newt (GCN) – No further survey is necessary; however, a qualified ecologist will need to supervise the clearance of any grassland/scrub vegetation on site via a destructive search.

Reptiles – **Presence/ likely absence surveys** for reptiles are required to establish if any reptile species are using the site. These will be undertaken between the months of March and October. Bitumen tiles will be placed across the site in week one and will then be checked once a week over a seven-week period, in suitable weather (9^{o}C to 18^{o}C, no rain, little winds and sunny).

Habitats – All habitats are common and widespread, no impacts foreseen.

The findings outlined in this report are valid for one year, after which updated surveys will be required.

Enhancements and mitigation are recommended (please see Section 4.4 for further details).

1.0 Introduction

1.1 Aim

The aim of this report is to inform of ecological constraints that may affect the development proposals and recommend to the client if further surveys are required for protected species. An impact assessment is undertaken at this stage; however, if further surveys are required, additional and unexpected impacts may result.

1.2 Background Information

The client, Wynngate Limited, has commissioned Cherryfield Ecology to undertake an EA for the site of Land at and to the Rear of 12 Claygate Lane, Esher, KT10 0AQ. Planning permission is being sought to demolish the existing dwelling and to construct six new dwellings.

This survey has checked all habitats, buildings, trees (from ground level only) or structures due to be affected by the proposals on site; it includes checking for protected species, signs of protected species or habitat value e.g. crevices, badger setts, ponds etc. as well as mapping the habitats on site.

The inspection was conducted on the 26/10/2022.

The survey can only ever provide a 'snapshot' of the site at the time of the survey and circumstances may change following this report. Health and Safety restrictions or obstructions may limit the ability to find evidence.

Biological records have been requested to give the report context and allow a study of the surrounds. The information is often sensitive and therefore a synopsis is provided.

The survey can be conducted year-round with the optimal period between mid-March and mid-October (south)/1st April and 30th September (north). However, it can be limited due to bad weather and in the winter, when some species are not as active, thus evidence and species are often not found. During these periods, habitat value (likely presence) becomes more important to the assessment of the site.

Summary of legislation and National Planning Policy that protects wildlife in England:

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
- Wildlife and Countryside Act 1981 as amended.
- Countrywide and Rights of Way Act 2000.
- Natural Environment and Rural Communities Act 2006.
- National Planning Policy Framework ("NPPF").
- Circular 06/05.

This legislation makes it illegal to:

- Intentionally or deliberately kill, injure or capture a protected species.
- Deliberately disturb a protected species, whether at rest or not.
- Damage, destroy or obstruct access to a resting place.
- Possess or transport a protected species or any part of that species, unless acquired legally.
- Sell, barter or exchange a protected species, or any part of a species.

1.3 Species Specific Information

All UK protected species have the same protection and the detail under Bats also applies to GCN, Dormouse, Otters and the two UK protected reptiles.

1.3.1 Breeding Birds

All nesting birds are protected under the Wildlife and Countryside Act (as amended) 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. Furthermore, a number of birds enjoy further protection under that Act and are listed on Schedule 1 of the Act. These further protected birds are also protected from disturbance and it may be necessary to operate a "no-go" buffer zone around such nests – typically out to 5m.

1.3.2 Bats

All 18 species of bat common in the UK (17 known to be breeding) are fully protected under the Wildlife and Countryside Act (as amended) 1981 through inclusion in Schedule V of the Act. All bat species in the UK are also included in Schedule II of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transpose Annex II of the Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("Habitats Directive") which defines United Kingdom protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport bats, unless acquired legally.
- Sell, barter or exchange bats.

1.3.3 Reptiles

There are six species of reptiles in Great Britain (Edgar *et al*. 2010) and four of these are commonly found; the Grass Snake *Natrix natrix* and/or the Barred Grass Snake *Natrix helvetica),* Adder *Vipera berus*, Common Lizard *Zootoca vivipara* and Slow Worm *Anguis fragilis*.

All native British species of reptiles are legally protected through their inclusion in Schedule V of the Wildlife and Countryside Act 1981. As such, all species are protected from deliberate killing or injury. Therefore, where development is permitted, and there will be a significant change in land use, a reasonable effort must be undertaken to avoid committing an offence. The same act makes the trading of native reptile species a criminal offence without appropriate licensing.

Two species of reptile; the Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis* are further protected under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which defines UK protected species of animals ("rare reptiles").

1.3.4 Badgers

Badger *Meles meles* and its habitat are protected under The Protection of Badgers Act 1992, Schedule V of the Wildlife and Countryside Act 1981, and Appendix III of the Bern Convention 1979.

This legislation makes it an offence to:

- Kill, injure, take or possess a badger.
- Interfere with, damage or destroy a badger sett including e.g. obstruct access to a badger sett.
- Cruelly treat or harm a badger.
- Disturb a badger in a sett.

1.3.5 Great Crested Newts

Great Crested Newts (GCN) *Triturus cristatus* are listed in both The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and in Schedule V of the Wildlife and Countryside Act 1981.

GCN are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

1.3.6 Otter

The Eurasian Otter *Lutra lutra* is the only Otter species native to the UK. The Eurasian Otter is fully protected under Schedule V of the Wildlife and Countryside Act (as amended) 1981 and in Schedule II of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transpose Annex II of the Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora

("Habitats Directive") which defines United Kingdom protected species of animals. This legislation makes it illegal to:

- capture, kill, disturb or injure otters (on purpose or by not taking enough care).
- damage or destroy a breeding or resting place (deliberately or by not taking enough care).
- obstruct access to their resting or sheltering places (deliberately or by not taking enough care).
- possess, sell, control or transport live or dead otters, or parts of otters.

1.3.7 Water Vole

The Water Vole *Arvicola amphibius* are protected under Schedule V of the Wildlife and Countryside Act 1981 and is a priority conservation species. This legislation makes it illegal to:

- intentionally capture, kill or injure water voles.
- damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care).
- disturb them in a place of shelter or protection (on purpose or by not taking enough care).
- possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity).

1.4 Protected Sites and Priority Habitats

Some areas with distinctive plants, animals, habitats, geology or landforms are protected at the international, European, national and local level under statutory and non-statutory sites. Some habitats have been identified as needing priority conservation action; UK BAP Priority Habitats are a range of semi-natural habitat types that are identified as being the most threatened and requiring conservation action.

If a statutory site, non-statutory site or UK priority habitat is to be affected in proposed development, details will be outlined below:

There are no protected sites or priority habitats located within the site boundary.

2.0 Methods

The survey follows the national guidelines JNCC (2010), and the following equipment is available for the inspection:

- Torches (e.g. LED Lensar type).
- Ladders (Standard 4m telescopic surveying ladder).
- Endoscope where holes, cracks and crevices are accessible.
- Mirrors (extendable and movable mirror face).
- Binoculars (Pentax close focus).
- Thermometer/hygrometer.
- Camera.
- Sample bags for collecting dropping and feeding evidence.

Target notes are made when appropriate to highlight, for example, protected species or an 'other feature(s)' of ecological note.

If a deviation from the guidelines has been made the reason and justification will be explained below:

No deviation from the standard guidelines has been made for this survey.

2.1 Limitations

This survey provides a snapshot of the site at the time of the survey only. Species are highly mobile and can turn up from time to time unexpectedly. All care has been taken to ensure the results and recommendations are suitable to the context of the development and the information gathered on surveys.

Table 1: Habitat value (likelihood) of protected species presence assessed against Collins (2016), Edgar *et al* (2010) and Natural England (2007) etc.

Likelihood of species presence (Habitat Value)	Features that species can use, regardless of evidence being present.
Confirmed Presence	Species are found to be present during the survey. Evidence of species is found to be present during the survey.
Higher likelihood of presence	Buildings, trees or other structures with features of particular significance for use by protected species e.g. nesting habitat, roosting opportunities, and ponds. Habitat of high quality for foraging e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting species e.g. river and or stream valleys and hedgerows. Site is close to known locations of records for protected species.
Moderate and Lower likelihood of species presence	Several potential habitat opportunities in buildings, trees or other habitats. Habitat could be used for foraging e.g. trees, shrub, grassland or water. Site is connected with the wider landscape by linear features that could be used by commuting species e.g. lines of trees and scrub or linked back gardens. A small number of less significant habitat opportunities. Isolated habitat for foraging e.g. a lone tree or patch of scrub. An isolated site not connected by prominent linear landscape features.
Negligible likelihood of species presence	No features suitable for roosting, minor foraging or commuting.

3.0 Results

The following section details the results of the desk study, inspection and survey; it includes MAGIC information, biological records data and map/aerial photo information. The results detail the building, structure or tree (numbered for reference) description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study is centered on Grid Reference – TQ161658 and Postcode – KT10 0AQ.

Table 2: Weather Records

Temperature	16ºC
Cloud cover	100%
Precipitation	Light rain
Wind	1/12

3.2 MAGIC

The following statutory sites and Natural England Protected Species (NEPS) have been located within the 2km search area (Figure 1).

- There are two statutory sites located within the search area:
  - Stokes Field (LNR)
  - Bushy Park And Home Park (SSSI)
- There are six NEPS licences granted for bats within the search area:
  - Brown Long-Eared *Plecotus auritus,* Common Pipistrelle *Pipistrellus pipistrellus*, Noctule *Nyctalus noctula* and Soprano Pipistrelle *Pipistrellus pygmaeus*, approx. 500m from the site (Licence 2009-966).
  - Common Pipistrelle and Soprano Pipistrelle, approx. 600m from the site (Licence 2014-3628, 2017-30998)
  - Common Pipistrelle, approx. 600m from the site (Licence 2010-2520)
  - Serotine *Eptesicus serotinus*, approx.1400m from the site (Licence 2019-43974)

- Soprano Pipistrelle, approx. 1600m from the site (Licence 2015-9131)

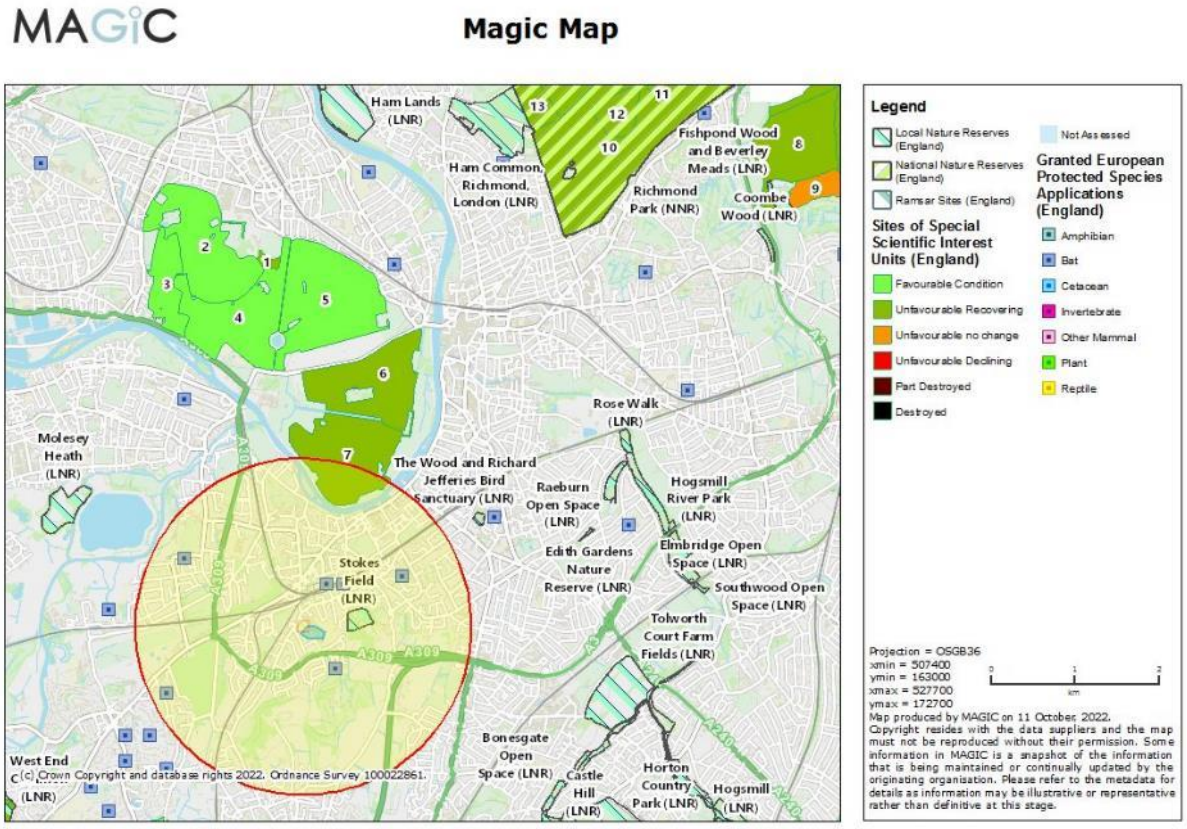

Figure 1: Magic Map Search

3.3 Biological Records Data

A standard 1km data search of existing records for protected species and nature reserves has been commissioned, below details the results and site context.

Biological records were obtained from Surrey groups (2022).

Table 3: Biological Records

Species	Number of Records	Closest Record (accuracy)	Most Recent Record (year)
Amphibians			
Common Toad *Bufo bufo*	4	>1km	n/a
Great Crest Newt *Triturus cristatus*	1	>1km	n/a
Common frog *Rana temporaria*	1	>1km	n/a
Smooth newt *Lissotriton vulgaris*	1	>1km	n/a
Palmate newt *Lissotriton helveticus*	1	>1km	n/a
Bats			
Barbastelle *Barbastella barbastellus*	0		
Brown Long-Eared *Plecotus auritus*	20	605m (10m)	2022
Common Pipistrelle *Pipistrellus pipistrellus*	66	932m (100m)	2022
Daubenton's *Myotis daubentonii*	8	>1km	2015
Leisler's *Nyctalus leislerii*	2	>1km	2020
Nathusius' Pipistrelle *Pipistrellus nathusii*	8	929m (100m)	2022
Natterer's *Myotis nattererii*	0		
Noctule *Nyctalus noctula*	41	594m (100m)	2022
Serotine *Eptesicus serotinus*	8	917m (100m)	2017
Soprano Pipistrelle *Pipistrellus pygmaeus*	74	602m (100m)	2022
Unidentified Bat *Chiroptera sp.*	0		
Unidentified Long-Eared *Plecotus sp.*	0		
Unidentified Myotis *Myotis sp.*	12	965m (100m)	2021
Unidentified Pipistrelle *Pipistrellus sp.*	14	596m (100m)	2018
Unidentified Vesper *Vespertilionidae*	5	>1km	2019
Whiskered *Myotis mystacinus*	0		
Mammals (exc. Bats)			
Badger *Meles meles*	0		
Hazel Dormouse *Muscardinus avellanarius*	0		

West European Hedgehog *Erinaceus europaeus*	0		
Otter *Lutra lutra*	0		
Water Vole *Arvicola amphibius*	0		
Reptiles			
Adder *Vipera berus*	0		
Common Lizard *Zootoca vivipara*	0		
Grass Snake *Natrix helvetica*	1	>1km	n/a
Slow-Worm *Anguis fragilis*	0		
Other			
Birds, Invertebrates, Plants etc.	0		

3.4 Site Location and Surrounds

The site is located in Esher, Surrey and is surrounded by high density housing in the immediate locale. Table 4 details the commuting, feeding and habitat features in a 1km radius of the site.

Table 4: Habitat features suitable for use by protected species.

Feature	Description
Water course	There are no significant water courses within the search area.
Water bodies	A waterbody is located approximately 1km to the northwest.
Woodland	Ditton Common is located approximately 840m to the west. Woodland forming Stokes Field is located approximately 663m to the east. Additional copses are found throughout the search area.
Linear e.g. hedgerows	Garden hedgerows dominate the search area.
Pasture/arable/grassland	Stokes Field is located approximately 490m to the east. Amenity grassland dominates the search area.
Other	Long Ditton Cemetery is located approximately 816m to the east.

3.5 Habitat, Building, Tree or Other Structure

This section details the structures/habitat reference and descriptions (see Figure 17 for Site Plan).

3.5.1 Habitats

Habitats found on site are mapped using the Phase 1 Habitat (JNCC, 2010) and UK Hab (UK Hab, 2020). When the UK Hab has a subset type, this has been used to match as best as possible to the Phase 1 Habitat.

Table 5: Habitat features found on site, this includes for the Phase 1 Habitat type and the nearest UK Hab type. UK Hab may be broken down to subsets when required and if the habitat meets the criteria.

Habitat Features		
Phase 1 Habitat Type	**UKHab Habitat Type**	**Description**
Buildings	Buildings	B1 is a detached, two storey rendered and brick built dwelling. The roof is hipped and has a central cross gable end on the front of the building, and two gable ends to the rear. Additionally. There are two mono pitched roofs on either side of B1. The roofing tiles are made from a clay composite. There are three chimney stacks with lead flashing. The soffit boxes are made of wood and the window frames are PVC. The front of the building has clay hung tile to the upper half either side of the cross gable. The loft void has a central ridge beam with sarking timbers and is partially boarded. Rock wool insulation is used throughout the loft void. B2 is a small storage building attached to the neighbouring wall. B3 and B4 are wooden sheds found on the land to the rear of 12 Claygate Avenue.

Figure 2: rear of B1

Figure 3: front of B1

Figure 4: garage

Figure 5: example of the loft void

		 Figure 6: B3 and B4
Hardstanding	Developed Land; Sealed Surface	A gravel driveway is present.
Amenity Grassland /vegetated garden	Vegetated Garden	The land at 12 Claygate Lane is mainly amenity grassland, with red fescue *Festuca rubra*, ryegrass *Lolium sp*. and hawksbeard *Crepis sp*. being the dominate species. A flower bed is present within the front garden. elephant's ears *Bergenia sp*. ornamental hazel *Corylus sp* and variegated holly *Ilex* sp.

		 Figure 7: example of amenity grassland
Scattered Trees	Urban Tree	Several scattered trees are found throughout the site. these consist of beech *Fagus sylvatica*, apple *Malus sp.* magnolia *magnolia sp.*, pear *Pyrus sp.*, cedar *Cedrus sp.*  Figure 8: example of scattered trees
Tall Ruderal	Other Neutral Grassland	There are small patches of tall ruderal. Nettle *Urtica dioica*, cocks foot *Dactylus glomerata* and green alkanet *Pentaglottis sempervirens* dominate the tall ruderal patches.

		 Figure 9: example of tall ruderal
Scrub	Bramble scrub	The majority of the site consists of bramble *Rubus fruticosus agg.* scrub. Holly *Ilex aquifolium*, turkey oak *Quercus cerris* and blackthorn *Prunus spinosa*.  Figure 10: example of bramble scrub
Hedgerow Features		
Phase 1 Habitat Type	**UKHab Type**	Description

Trees	Line of Trees	Along the boundary, a line of trees consisting of Holm Oak *Quercus ilex*, Leyland cypress *Cupressus* × *leylandii* and hazel *Corylus avellana* are present.  Figure 11: Example of line of trees
Introduced Shrub	Hedge Ornamental Non-Native	Ornamental hedgerows form the boundary of the rear garden. Rhododendron *Rhododendron sp.*, yew *Taxus baccata*, cotoneaster *Cotoneaster sp. Viburnum sp.*  Figure 12: example of introduced shrub

Table 6: Target Notes

Target Note	Description
1	Compost heap  Figure 13: compost heap
2	Pile of flower pots  Figure 14: flower pots

3	Fox scatt  Figure 15: fox scatt
4	Brash pile  Figure 16: brash pile

3.6 Species List

Table 7: Species found on site with relevant *DAFOR abundance. If the DAFOR is blank the species was not present on site.

Common Name	Scientific Name	*DAFOR Scale	Habitat Type
Apple	*Malus* sp.	R	Scattered trees
Ash	*Fraxinus excelsior*	R	Bramble scrub
Beech	*Fagus sylvatica*	R	Scattered trees
Blackthorn	*Prunus spinosa*	R	Bramble scrub
Bramble	*Rubus fruticosus agg*	D	Bramble scrub
Buddleia	*Buddleja davidii*	O	Bramble scrub
Cedar	*Cedrus sp.*	R	Scattered trees
Cherry	*Prunus* sp.	R	Bramble scrub
Cleavers	*Galium aparine*	R	Tall ruderal/bramble scrub
Cock's-foot	*Dactylis glomerata*	O	Tall ruderal
Common Toadflax	*Linaria vulgaris*	R	Tall ruderal
Cotoneaster	*Cotoneaster* sp.	R	Introduced shrub
Crab apple	*Malus sylvestris*	R	Scattered trees
Crane's-bill	*Geranium* sp.	O	Tall ruderal/bramble scrub
Creeping Cinquefoil	*Potentilla reptans*	R	Tall ruderal
Daisy	*Bellis perennis*	R	Amenity grassland
Dandelion	*Taraxacum officinale agg.*	R	Tall ruderal
Green Alkanet	*Pentaglottis sempervirens*	O	Tall ruderal
Ground-Ivy	*Glechoma hederacea Variegata'*	O	Bramble scrub
Hawksbeard	*Crepis sp.*	D	Amenity grassland
Hawthorn	*Crataegus monogyna*	R	Bramble scrub/line of trees
Hazel	*Corylus avellana*	O	Line of trees
Hedge Bindweed	*Calystegia sepium*	R	Bramble scrub
Herb-Robert	*Geranium robertianum*	R	Amenity grassland
Holly	*Ilex aquifolium*	A	Bramble scrub
Holm Oak	*Quercus ilex*	O	Line of trees
Leyland Cypress	*Cupressocyparis leylandii*	O	Line of trees
Magnolia	*Magnolia soulangiana*	R	Scattered trees
Male Fern	*Dryopteris filix-mas*	R	Bramble scrub

Nettle	*Urtica dioica*	O	Tall ruderal
Oak	*Quercus* sp.	R	Line of trees
Pear	*Pyrus sp.*	R	Scattered trees
Red Fescue	*Festuca rubra*	A	Amenity grassland
Ribwort Plantain	*Plantago lanceolata*	R	Tall ruderal
Ryegrass	*Lolium sp.*	D	Amenity grassland
Stinking Iris	*Iris foetidissima*	R	Tall ruderal
Turkey Oak	*Quercus cerris*	R	Bramble scrub
White Clover	*Trifolium repens*	O	Amenity grassland
White Dead-Nettle	*Lamium album*	R	Tall ruderal
Yew	*Taxus baccata*	R	Introduced shrub

*DAFOR – Dominant, Abundant, Frequent, Occasional and Rare

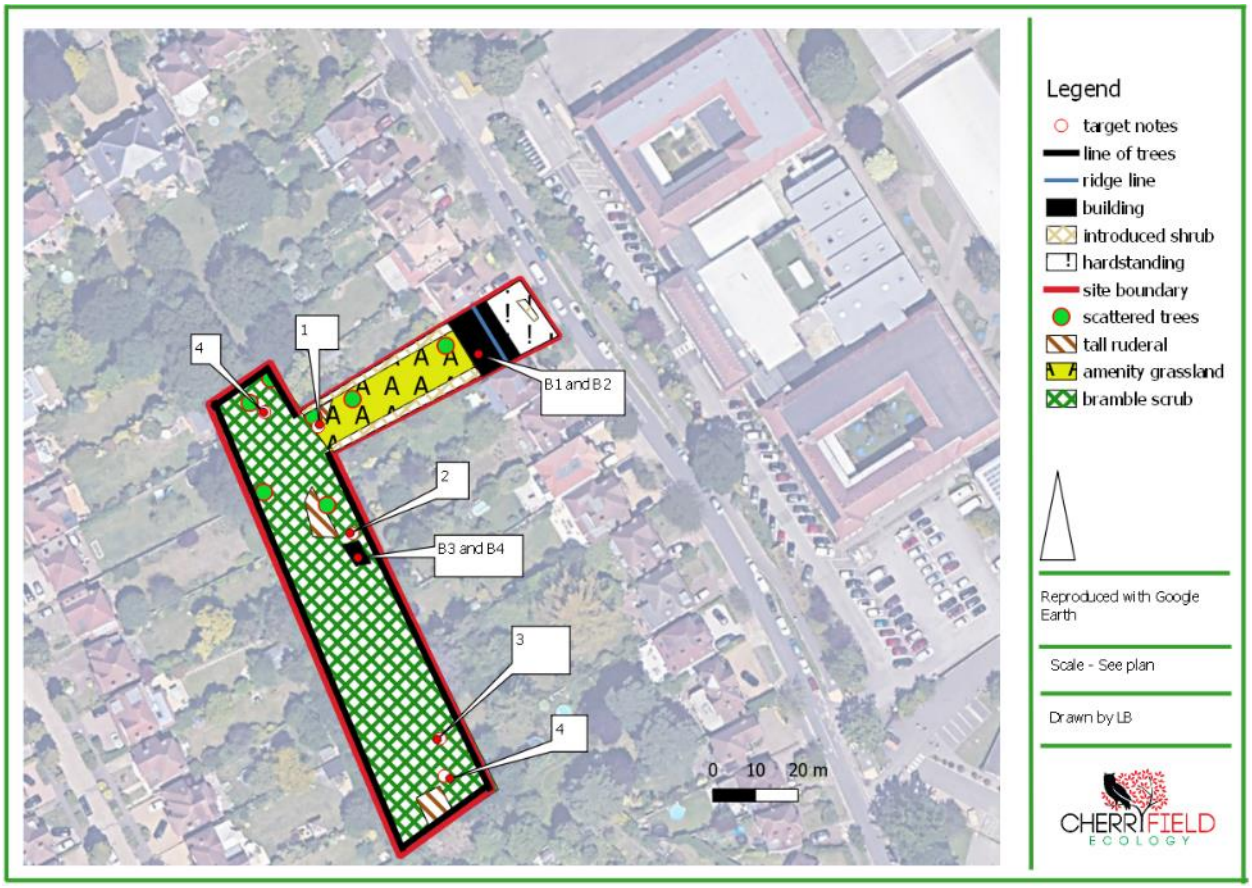

Figure 17: Site Plan

3.7 Evidence or Likelihood of Species Presence

This section details the evidence located and likelihood of species presence.

3.7.1 Bats

Table 8: Bats, evidence or the potential for the species.

Bats found	No bats were found at the time of the survey.
Evidence of bat use	No evidence of bats was found at the time of the survey.
Potential for bat use	Level of likelihood of presence – B1 –High B1 has clay hung tile on the front, which is known to be used by crevice dwelling species e.g., common pipistrelle. Furthermore, there are several gaps within roofing tiles along the ridgeline and under the lead flashing on the window towards the right of the building. There are also gaps present within the loft void.  Figure 18: example of a gap under the roofing tile

	 Figure 19: clay hung tile B2, B3 and B4 – negligible B2, B3 ad B4 are negligible due to the lack of roosting features.

3.7.2 Badgers

Table 8: Badgers, evidence or the potential for the species

Badgers found	No badgers were found at the time of the survey.
Evidence of badger use	No evidence of badger use was found at the time of the survey.
Potential for badger use	Level of likelihood of presence – Negligible The site has poor connectivity with more suitable sites. Furthermore, there is a lack of evidence of badger use e.g., latrines. However, the site does provide foraging opportunities.

3.7.3 Breeding Birds

Table 9: Breeding birds, evidence or potential for the species

Breeding birds found	No breeding birds were found at the time of the survey.
Evidence of breeding bird use	No evidence of breeding birds was found at the time of the survey.
Potential for breeding bird use	Level of likelihood of presence –High The presence of bramble scrub, lines of trees and scattered trees provide ample areas for breeding bird species to use as nesting sites.

3.7.4 Amphibian

Table 10: Amphibians, evidence or potential for species use.

Amphibians found	No Great Crested Newt (GCN) were found at the time of the survey.
Evidence of amphibian use	No evidence of GCN was found at the time of the survey.
Potential for amphibian use	Level of likelihood of presence – Low There is a lack of waterbodies within a 250m radius of the site. Furthermore, the site has limited connectivity to more suitable habitat. However, the site does provide suitable refuge and foraging areas.

3.7.5 Reptile

Table 11: Reptiles, evidence or potential for species use.

Reptiles found	No reptiles were found at the time of the survey.
Evidence of reptile use	No evidence of reptiles was found at the time of the survey.
Potential for reptile use	Level of likelihood of presence –Moderate The bramble scrub and brash piles provide good refuge, foraging and basking sites. However, there is a limited connectivity with other suitable sites.

3.7.6 Other Species e.g. Hazel Dormouse / Otter / Water Vole

Table 12: Other protected species, evidence or potential for species use.

Species found	No other protected species were found at the time of the survey.
Evidence of species use	No evidence of other protected species was found at the time of the survey.
Potential for species use	Level of likelihood of presence – Negligible The site is negligible due to the lack of suitable habitat e.g. chalk stream for water vole. Furthermore, there is a lack of connectivity with more suitable habitats.

3.7.7 Invasive Non-Native

Rhododendron and cotoneaster are present within the rear garden. Both species are under schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Figure 20: example of the rhododendron

4.0 Conclusions, Discussion, Impacts and Recommendations

The following section details the conclusions, discussion, impacts and recommendations in the context of the proposed works.

4.1 Conclusion and Discussion

The proposals include for the demolition of the existing dwelling and the erection of six new dwellings.

The site consists of a detached two storey dwelling (B1), a small storage building (B2), two sheds (B3 and B4), amenity grassland/introduced shrubs, hardstanding, bramble scrub, scattered trees, tall ruderal, and a line of trees.

The site has high potential for bats as B1 has suitable roosting features e.g., clay hung tile.

The site has high potential for breeding birds due to the abundance of suitable nesting areas.

The site provides moderate potential for reptiles as the bramble scrub provides good foraging, basking and refuge areas, but does have limited connectivity.

The site provides low potential for GCN due to the lack of suitable water bodies and limited connectivity to more suitable habitats but does provide suitable refuge and foraging areas.

The site provides negligible potential for other protected species and badger due to the lack of suitable habitat/features and the limited connectivity to more suitable habitats.

Further surveys **will be required**. Please see section 4.3 for further details.

4.2 Potential Impacts

Impact assessments must be proportionate to the scale of the development (CIEEM, 2018) and Table 13 details a proportionate impact assessment based on current information.

Table 13: Impact Assessment

Impact	Bats - A bat roost may be lost in the development. Breeding Birds – Active nests may be lost in the development if work is conducted during the nesting season. GCN – Potential loss of habitat. Reptiles – Loss of habitat.
Characterisation of unmitigated impact on the feature	Bats - A low-level loss/impact at a local level. Breeding Birds – A low-level loss/impact at a local level. GCN – A very low-level loss/impact at a local level. Reptiles - A low-level loss/impact at a local level.
Effect without mitigation	Without mitigation individual bats, birds, GCN and reptiles could be killed, injured or trapped during the works.
Mitigation and/or potential enhancement	See Table 13 and Table 14
Significance of effects of residual impacts (after mitigation)	Bats - If lost roosts are replaced by bat boxes, the effects would be negligible. Breeding Birds – If lost habitat is replaced by bird boxes and mitigation is followed, the effects would be negligible. GCN – If mitigation is followed, the effects would be negligible. Reptiles – If mitigation is followed, the effects would be negligible.

4.3 Recommendations

Badger – No further surveys are necessary; however, if any badger setts are found throughout works, all works must stop, and advice sought.

Bats – **Presence/likely absence surveys** will be required (three surveys, at least two weeks apart), with two surveyors to cover the building **B1**; These surveys must be undertaken within the May to September window (with September considered sub-optimal). Two of these surveys will need to be undertaken during the optimal timeframe of mid-May to August.

Breeding Birds - No further surveys are recommended; however, the development should take place outside the nesting season (March to August). If this is not possible, it is recommended that a qualified ecologist is on site to ensure the building/vegetation is not occupied by breeding birds, prior to demolition/clearance. Should an occupied nest be found, a buffer zone would need to be created until the nest is no longer in use.

Great Crested Newt (GCN) – No further survey is necessary; however, a qualified ecologist will need to supervise the clearance of any grassland/scrub vegetation on site via a destructive search.

Reptiles – **Presence/ likely absence surveys** for reptiles are required to establish if any reptile species are using the site. These will be undertaken between the months of March and October. Bitumen tiles will be placed across the site in week one and will then be checked once a week over a seven-week period, in suitable weather (9^{o}C to 18^{o}C, no rain, little winds and sunny).

Habitats – All habitats are common and widespread, no impacts foreseen.

4.4 Recommended Enhancements and Mitigation

Table 14: Recommended Mitigation

Work	Specification
General Information	No development will occur until bat surveys consistent with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) (Collins et al. 2016) have been undertaken in the appropriate survey season, May to September (Mid-May to August optimal). The Three Tests to be answered before planning can be granted (NE, 2017): *Test 1:* Regulation 53(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment". Test 1 can be achieved via the 'imperative reasons of overriding public interest'. Although not for the ecologist to determine the planning officer will on grant of consent. *Test 2*: Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative" Test 2 would be achieved on the grant of consent as no other sites have been considered for the development. *Test 3:* Regulation 53(9) (b) states: the appropriate authority shall not grant a licence unless they are satisfied "that 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." Test 3 will be achieved once full emergence/re-entry surveys are conducted and full mitigation appropriate to species and population has been designed and implemented via an NEPS licence issued from the statutory authority (Natural England), if this becomes necessary following a dusk and pre-dawn survey.
Mitigation	Based on Mitchell – Jones, (2004), ***subject to change following surveys.*** Under licence, demolition of suitable bat roosting features e.g. clay hung tile etc. will require the supervision of a bat licensed ecologist. The suitable bat roosting features e.g. lead flashing, clay hung tile etc. will be stripped by hand only. All areas across the roof/wall tops/weatherboarding etc. will be checked for bats i.e. endoscope (where possible) and via destructive search.

If bats are found, these will be removed by hand (Ecologist only) and placed in bat boxes that will be in place before works begin.

Bat boxes will be installed. These will be no less than 3m above ground level and away from any neighbouring ledge to prevent local cats predating on bats using the boxes.

Two Chillon Woodstone bat box(es) or similar boxes (Figure 21) will be hung on the trees at a minimum of 3m from ground level and face south/southwesterly.

These boxes are known to be used by crevice and void dwelling species.

Figure 21: Chillon Woodstone bat box (British made)

Two Bat tubes to be installed (Figure 22). These require no maintenance, can be installed on a gable end/under an eave, no less than 3m above ground level, face south or north and can be faced in any material to provide an aesthetic matching the reminding building.

Figure 22: Example of bat tube

	Commuting bats may be using the grounds and surrounds – therefore, any tree, hedges or linear feature should be retained were possible.
Roof and Tile Linings	Bitumen Felt - When a bat roost is present and being mitigated/compensated we only recommend this type of linear for the tiles/roof covering. There is no reason that building regulations will not allow a traditional 'cold roof' and, therefore, we recommend this as the best design for bats in any project where bats are able to access the roof/loft or hung tile/weather boarding etc. The reasoning for this is twofold; firstly, bats can damage the Modern Roofing Membrane (MRM) meaning that the MRM will become useless allowing water to pass through from above and, secondly, bats will become trapped in the fibres and die from dehydration and starvation. **However, Natural England will accept an MRM being used in a bat roost under the following circumstances -** **The MRM must have passed the testing regime set out in Essah *et al* (2020) and a certificate must be provided as proof of this. Assuming the certificate is provided with the license application, NE will issue/register the site.** **It is for the client to provide the certificate to the Ecologist applying for the license.**
Lighting	Any lighting near or shining onto any trees, especially those with bat boxes in or commuting routes shown to be present at further survey stage, will be designed to minimise the impact it has on potential bat roosting and commuting. Lighting will be in line with the BCT lighting guidelines (Bats and Lighting in the UK (Bat Conservation Trust, 2018) *https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/* This lighting, where possible, will be of low level, be on downward deflectors and be on PIR sensors. Using LED directional lighting can also be a way of minimising the light spill affecting the habitat. No up-lighting should be used. Light spill must be minimised to as low as possible. This will ensure that the roosting and commuting resources that the bats are likely to be using is maintained.

Table 15: The local authority has a duty to enhance biodiversity in its day-to-day duties; the following are suggested enhancements that are easily installed into a development and can be cost effective whilst ensuring a gain for local wildlife.

Work	Specification
Bird and insect box enhancement.	Bird boxes for a variety of different species can also be installed. A selection of open fronted boxes and songbird boxes can be installed (Figure 24 and Figure 25); it is recommended that a minimum of four of each of the boxes are installed.  Figure 23: Robin box  Figure 24: Songbird box A variety of insect boxes can be installed in the area; a minimum of four boxes are recommended (Figure 26 and Figure 27).

	 Figure 25: Urban bee nesting box, used for solitary bees and wasps  Figure 26: Bug biome, ideal for ladybirds, lacewings and bees
Hedgehog highways and small mammal connectivity.	In order to allow hedgehogs and other small mammals a continuous corridor across the site, thus linking the garden and green spaces. ▪ A 13cm-by-13cm is sufficient for any hedgehog to pass through. This will be too small for nearly all pets (Figure 28). ▪ Remove a brick from the bottom of the wall, creating a 13cm-by-13cm hole. ▪ Cut a small hole in your fence if there are no gaps. ▪ Dig a channel underneath your wall, fence or gate. ▪ Ideally, rather than walls or fences, a hedge will provide foraging, shelter and a route along as well as through the site.

	 Figure 27: Hedgehog Highway, *Source – Wildlife Trust - http://7474fab53f1b6ee92458-8f3ac932bad207a00c83e77eaee8d15c.r12.cf1.rackcdn.com/Hedgehog%20Highway.jpg*
Swifts *Apus apus*	Swift nest boxes are recommended due to the increased lack of nesting opportunities swifts are finding in modern built dwelling homes. Information is adapted from the RSPB https://www.rspb.org.uk/our-work/rspb-news/news/stories/swift-advice-for-ecologists/ and http://actionforswifts.blogspot.com The following will be undertaken: ▪ Two swift bricks will be installed into new or restored buildings to increase the overall availability of nest sites for swifts and other species. Birds such as house sparrow can use swift bricks, but swifts cannot use house sparrow nest bricks. ▪ Integral swift bricks are the preferred option on new housing developments. These should be fitted in clusters of 2 to 4 on gable ends and near the roofline where swifts would naturally look for a potential nest site. ▪ Try to ensure swift bricks have a minimum of 5m clearance beneath and in front. Always avoid locating them above doors and windows to help prevent a disturbance issue to both the birds and human owners.

	▪ Alternatively, swift boxes can be placed on the external walls of a building when a restoration or opportunities don't exist to build in the boxes.  Figure 28: Example of swift bricks, that can be built into a dwelling, *Source:* *https://www.birdbrickhouses.co.uk/brick-nesting-boxes/*  Figure 29: Swift box, *source:* *http://actionforswifts.blogspot.com/p/diy-swift-box-designs.html*
Hedgerows	Hedgerows provide excellent corridors for wildlife and are extremely important to many species of wildlife. A hedgerow is to be included in development plans to assist a range of species (Figure 31).

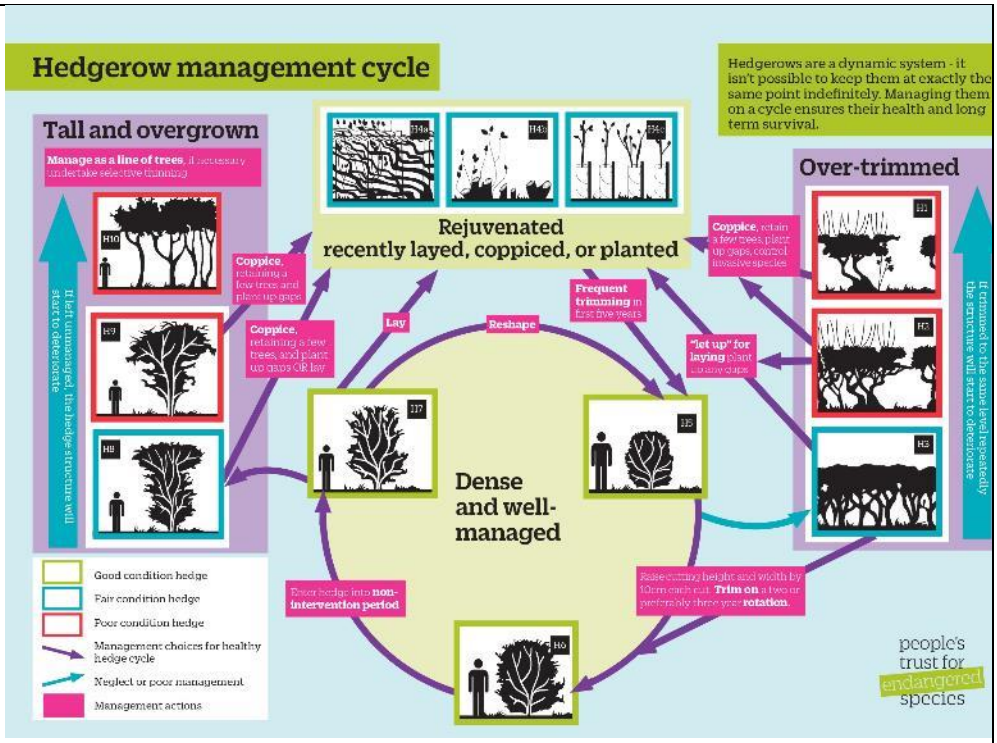

Figure 30: Hedgerow management cycle (https://hedgerowsurvey.ptes.org/)

It is recommended that a diversity of hedgerow species is included in the proposed hedgerows on site. Suitable hedgerow species include:

- Hawthorn (*Crateagus monogyna*)
- Hazel (*Corylus avellana*)
- Holly (*Ilex europaeus*)
- Wild Privet (*Ligustrum vulgare*)
- Field Maple (*Acer campestre*)
- Blackthorn (*Prunus spinosa*)
- Guelder Rose (*Viburnum opulus*)
- Wayfaring Tree (*Viburnum lantana*)
- Dog Rose (*Rosa canina*)
- Spindle (*Euonymus europaea*)
- Holly (*Ilex europaeus*)

The hedgerow should include 5 or more woody species within a 30m length in order to be classified as **species-rich**.

Where possible, no cutting will take place between during peak bird nesting season, which runs from March to September. Where possible, shrubs and

	hedgerows will not be cut back annually, as flower buds often form on second-year growth. Trimming hedges on a two-year or three-year rotation, targeting different sections each year, will make sure there are always flowers for pollinators in spring and berries for birds in autumn. Hedges cut every three years can produce two and a half times as much blossom as those cut annually. Rotational cutting can also save time and money that would be invested in annual cutting.
Reptiles Habitat Enhancement	. Four reptile hibernacula and basking banks will be included in the development plans to enhance the habitat for reptiles. (Edgar et al., 2010). Hibernacula are underground chambers that amphibians and reptiles use throughout the winter to protect themselves from the cold. The following information has been adapted from https://www.wildlifetrusts.org/actions/how-build-hibernaculum-amphibians-and-reptiles. **How to make your hibernaculum (The Wildlife Trusts, 2020):** • In a sunny spot, dig a hole about 50cm deep and 1.5 metres across. • Fill with logs, branches, bricks and rocks, leaving plenty of gaps in between. • Insert entrance tubes (drainpipes) at ground level into the hole. • Cover the pile with soil (to about 50cm high). • Plant meadow seeds or long grasses over the mound to create a feast for summer pollinators.

5.0 References

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, September 2018. Chartered Institute of Ecology and Environmental Management, Winchester, online at https://www.cieem.net/data/files/ECIA%20Guidelines.pdf

Collins, J. (ed), (2016), Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition, BCT, London

Google Earth, (2017), Located on site postcode, online

Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit.

MAGIC, (2017): Magic maps, NEPS licences and designated sites, online http://www.magic.gov.uk/Login.aspx?ReturnUrl=%2fMagicMap.aspx, accessed as report date.

Mitchell-Jones, A.J. (2004), Bat Mitigation Guidelines, English Nature, Peterborough

National Planning Policy Framework, 2019

Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing. Natural England. Bristol.

Paul Edgar, Jim Foster and John Baker (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth

Records: Surrey Groups (2022)

The Great British Hedgerow Survey (2019), People's Trust for Endangered Species, online https://hedgerowsurvey.ptes.org/, accessed report date.

Tom Langton, Catherine Beckett and Jim Foster (2001). Great Crested Newt Conservation Handbook. Froglife.

UKHab (2020), *UK Habitat Classification*, UKHab, [Online] https://ukhab.org/ (Accessed at time of report)

Appendix I – Site Plans

Proposed Site Plan (unnamed, 2022)