



Elite Ecology

Passionate about Ecology

Land Adjacent to Forest Hill Golf Club, Botcheston



Preliminary Ecological Appraisal

November 2024



01782 308418



Part of Harmil Environmental Ltd.
Company Reg Number: 11310919
Company VAT Number: 320559225

admin@eliteecology.co.uk
www.eliteecology.co.uk



The New Barn, Suites 2/3, Shellow Lane,
Gawsworth, Cheshire, CW12 2FQ



Document Control			
Document Properties			
Organisation	Elite Ecology		
Prepared For	Mr. John Nixon		
Author	Mr. Matthew Cotterill and Miss. Rebecca Kay		
Approved (1 st Checker)	Mr. Marek Fraczek		
Approved (2 nd Checker)	Mr. Richard Millington		
Title	Land Adjacent to Forest Hill Golf Club, Botcheston Preliminary Ecological Appraisal Report		
Version History			
Date	Version	Status	Description/Changes
18/05/2022	V1	Draft	First Draft
19/05/2022	V1	Final Report	Proofread
27/11/2024	V2	Draft	First Draft
03/12/2024	V2	Final Report	Proofread

0. Executive Summary

This report has been prepared at the request of Mr. John Nixon. Elite Ecology were commissioned to undertake a Preliminary Ecological Appraisal of Land Adjacent to Forest Hill Golf Club, Markfield Lane, Botcheston, Leicestershire, LE9 9FH (Central OS Grid Reference: SK 48041 06217). This survey effort involved both a desktop study and field survey being undertaken.

The main purpose of this assessment was to identify the broad habitats (as stated in the JNCC Phase 1 Handbook) and the flora species present within the survey area, with any further evidence of protected species usage and/or features of potential ecological interest also included. The field survey was carried out on the 27th of April 2022 by **Mr. Matthew Cotterill**: PG Dip, BSc Hons. An updated field survey was conducted on the 7th of October 2024 by **Mr. Connor Wild**: MSc, Senior Ecologist, Natural England Bat Survey Licence Number: 2022-10201-CL17-BAT Bat Survey Level 1 and **Mr. David Whitehead**: Assistant Ecologist.

The current proposals for the site are to build a hotel. This will result in both the permanent and temporary loss and/or alteration of some of the habitats located on the proposed re-development site.

Leicestershire & Rutland Environmental Records Centre (LRERC) were commissioned to carry out an ecological data search of all protected species and sites recorded within a 2km radius of the site.

The preliminary ecological appraisal survey revealed numerous habitats on site and in the area surrounding. The phase 1 habitat map, habitat codes and target notes for the site are located within **Appendix D**. The following habitats were recorded on site (in habitat code order):

- **A2.2** - Scattered scrub.
- **A3.1** – Broad-leaved scattered trees.
- **B6** - Poor semi-improved grassland.
- **I2.4** – Refuse-tip.
- **J1.3** – Ephemeral/short perennial.
- **J1.4** – Introduced shrub.
- **J3.2.2** - Species poor hedge and trees.
- **J4** - Bare ground.
- **J5** - Brash pile.

The updated preliminary ecological appraisal survey revealed numerous habitats on site and in the area surrounding. The phase 1 habitat map, habitat codes and target notes for the site are located within **Appendix D**. The following habitats were recorded on site (in habitat code order):

- **g4 16** – Modified grassland: tall forbs.
- **g4 81** – Modified grassland: ephemeral.
- **g4 108** – Modified grassland: frequently mown.
- **g4 521** - Modified grassland: unmanaged.
- **h2a6** – Hedgerow.
- **h2a6 11** – Hedgerow with trees.
- **h3d** – Scrub.
- **u1c** – Artificial unvegetated land: scattered trees.
- **u1c 510** - Artificial unvegetated land: bare ground.
- **u1e 612** – Built linear feature: fence.
- **w2c 33** - Other coniferous woodland: line of trees.

No designated sites that were revealed by LRERC fell on the proposed re-development site itself. Therefore, the proposed re-development will have no impact upon any local designated sites as the works are due to remain within the site boundary.

No habitats of conservation concern were located on the site itself. Therefore, the proposed scheme of works will not impact upon any rare or valuable habitats.

Amphibians: Great Crested Newts (*Triturus cristatus*)

The water bodies on site are of **average** to **excellent** suitability for great crested newts. Therefore, eDNA surveys were separately carried out to determine the presence of the species. The results came back as positive in **P4** and are found in the separate report along with actions required.

Bats

There is suitable foraging habitat on the boundary of the site, therefore a low lighting plan will be required for the project.

Birds

If required, any tree, shrub or building removal should be undertaken outside of the bird breeding season (March to August, inclusive). If vegetation and/or structures are required to be removed during the bird breeding season, then a further inspection by a suitably qualified ecologist is required no more than twenty-four hours before these are to be removed. This is to ensure that no active nest site is illegally destroyed, due to the protection afforded to all active bird nests under the Wildlife and Countryside Act 1981. Adequate compensatory bird boxes are required to ensure no negative impacts are incurred by the works (see **Section 5**).

Hedgehogs (*Erinaceus europaeus*)

As a purely precautionary measure, it is recommended that provisions are incorporated for the construction. This will be to create provisions for hedgehogs to escape in the form of creating slopes or the inclusion of ramps at the end of each working day from all trenches dug into the ground. Additionally, any pipework left on site that is greater than 150mm in diameter will need to be planked off. Should this information be strictly adhered to, then the development works will not negatively impact on the local hedgehog populations.

Reptiles

Scrub is suitable for reptiles and there is major loss within these areas. Due to the potential for reptiles within the development area, presence/absence surveys are required.

Site Enhancements:

For the proposed site enhancements, please see **Section 6** of this report.

Biodiversity Net Gain:

Biodiversity net gain needs to be ensured for the scheme using the latest DEFRA metric.

Contents

0. Executive Summary	3
1. Introduction	6
1.1 Report Rationale	6
1.2 Site Description and Works	6
2. Survey Methodology	8
2.1 Desktop Survey	8
2.2 Field Survey	8
3. Desktop Survey Results	9
3.1 Statutory Sites	9
3.2 Non-statutory Sites	9
3.3 Woodland Sites	9
3.4 Regionally Important Geological Sites (RIGS)	9
3.5 Species Records	10
4. Field Survey	12
4.1 Habitats	12
4.2 Species	17
4.3 Potential Impacts of the Works	20
5. Recommendations	21
5.1 Designated Sites	21
5.2 Habitats	21
5.3 Species	21
5.4 Habitat Enhancements	23
6. Species Enhancements	27
6.1 Bats	27
6.2 Birds	28
6.3 Hedgehogs (<i>Erinaceus europaeus</i>)	28
6.4 Invertebrates	29
6.5 Reptiles	29
7. References	30
8. Appendices	31
Appendix A: Site Plans	32
Appendix B: Ecological Data Search Tables	34
Appendix C: Ecological Data Search Maps	39
Appendix D: Phase 1 Habitat Map	46
Appendix E: Biodiversity Legislation and Policy	48
Appendix F: Bats and Artificial Light	55
9. Notice to Readers: Conditions of this Report	56

1. Introduction

1.1 Report Rationale

This report has been prepared at the request of Mr. John Nixon. Elite Ecology were commissioned to undertake a Preliminary Ecological Appraisal of Land Adjacent to Forest Hill Golf Club, Markfield Lane, Botcheston, Leicestershire, LE9 9FH (Central OS Grid Reference: SK 48041 06217). This survey effort involved both a desktop study and field survey being undertaken.

The main purpose of this assessment was to identify the broad habitats (as stated in the JNCC Phase 1 Handbook) and the flora species present within the survey area, with any further evidence of protected species usage and/or features of potential ecological interest also included. The field survey was carried out on the 27th of April 2022 by **Mr. Matthew Cotterill**: BSc (Hons). An updated field survey was conducted on the 7th of October 2024 by **Mr. Connor Wild**: MSc, Senior Ecologist, Natural England Bat Survey Licence Number: 2022-10201-CL17-BAT Bat Survey Level 1 and **Mr. David Whitehead**: Assistant Ecologist.

1.2 Site Description and Works

The site is situated in a rural setting of Botcheston, Leicestershire. It is approximately 4.65 acres/1.88 hectares in size.

The site consists of poor semi-improved grassland with areas of dense bramble (*Rubus fruticosus*) and common broom (*Cytisus scoparius*) scrub, young trees in sessile oak (*Quercus petraea*), and tall ruderal throughout. Surrounding the site is hawthorn hedge with a small area of field maple (*Acer campestre*).

The updated survey revealed that the site now consists of the following habitats, artificial unvegetated ground, bare ground, ephemeral, hedgerows, modified grass, scrub, tall forbs, and trees.

The site shares boundaries with Forest Hill Golf Club, with its associated grasslands and ponds, with a woodland adjacent to the east.

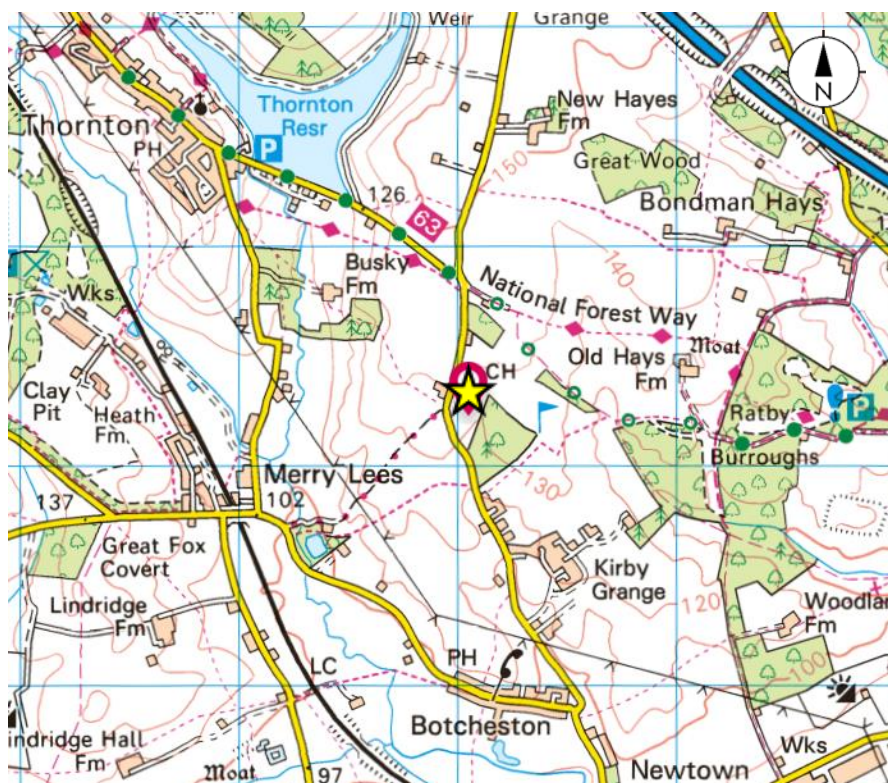
Within the wider landscape, further habitats are present. These come in the form of agricultural land, a clay pit, Forest Hill Golf Club, hedgerows, ponds, residential structures (and their associated land/gardens), running water, the Thornton Reservoir, and woodland. The habitats that surround the site also have the potential to be utilized by a variety of protected species.

The current proposals for the site are to construct a hotel and car park. This will result in both the permanent and temporary loss and/or alteration of some of the habitats located on the proposed re-development site.

Figure 1: An aerial map of the Land Adjacent to Forest Hill Golf Club (yellow star).



Figure 2: A OS map from Bing of the Land Adjacent to Forest Hill Golf Club (yellow star).



2. Survey Methodology

2.1 Desktop Survey

A variety of resources were independently consulted to assess the known local records within the nearby area and the importance of the site within the local landscape from an ecological perspective. The resources used were the Local Records Centre, www.naturalengland.org.uk, www.ordnancesurvey.co.uk, Google Maps, Google Earth, and Bing Maps. A search of other relevant nature conservation information was made through the use of the Multi-Agency Geographic Information for the Countryside (MAGIC) database.

The local records centre was contacted to provide data on all protected species and designated sites within a 2km radius of the proposed development site Leicestershire & Rutland Environmental Records Centre (LRERC) was the relevant local record centre for this project.

2.2 Field Survey

A Preliminary Ecological Appraisal (previously referred to as an Extended Phase 1 Habitat Survey) was carried out using the method outlined in the JNCC Handbook for *Phase 1 Habitat Survey: a technique for environmental audit (2010)*. This method aims to map and describe the broad habitat types and notable features present on the surveyed site.

As part of the field survey, the floral species will be identified and noted down. This will consider the dominant, abundant, frequent, occasional, and rare (DAFOR) species within each habitat on the survey site. The impacts of the proposed development scheme will be assessed by this report.

Each habitat will be assessed for the presence and/or the potential presence of protected species. The impacts of the proposed scheme of works on all potential protected species on site will be assessed. From this, either remedial action or recommended phase 2 presence/absence surveys will be devised.

Some of the classification codes and colours listed within the JNCC handbook may have been slightly modified for this project.

Habitat Surveys can be carried out at any time of the year, with the optimal time period falling between the months of April through until September. This survey was carried out in April 2022, with a follow up survey carried out in October 2024. Elite Ecology feels confident that the majority of the floral species located on the site were competently identified during the survey effort. In addition to this, Elite Ecology feels confident that this report reflects an accurate representation of the sites suitability for protected species to be present.

All sites surveyed by Elite Ecology will be run against the relevant Local Wildlife Site Criteria to assess whether they meet the required standards.

3. Desktop Survey Results

3.1 Statutory Sites

The information provided by LRERC revealed the presence of a single statutory protected site (e.g. LNR, SSSI, SPA, SAC or Ramsar) within the 2km search radius.

Site Name	Designation	Approx. Distance (m)	Heading
Botcheston Bog	SSSI	1,530	SE

3.2 Non-statutory Sites

The ecological data received from LRERC revealed seventeen non-statutory sites within the 2km search radius. These are as follows:

Site Name	Designation	Approx. Distance (m)	Heading
Bagworth Heath Country Park	LWS	1,473	NW
Bagworth, Merrylees Rd hedge, opposite Great Fox covert	LWS	1,704	W
Botcheston, Lodge Farm roadside verge and hedge	LWS	924	SW
Botcheston, roadside verge west of village, north side	LWS	997	S
Burroughs Verge / Bank	LWS	1,140	E
Burroughs Wood	LWS	1,168	E
Change Spinney	LWS	1,504	E
Choyce's Rough	LWS	1,517	NE
Crow and Polebrook Woods and adjacent footpath and bridleway with remnant woodlands	LWS	330	NE
Desford, Lindridge Lane Footpath Hedgerow	LWS	1,482	SW
Great Wood	LWS	1,109	NE
Hedgerow off Cow Lane	LWS	1,606	NE
Mature Ash Tree, The Swallows, Merry Lees	LWS	1,484	SW
Ratby Burroughs (S)	LWS	1,166	E
Ratby Burroughs meadows	LWS	1,280	E
Ratby, grassland and woodland edge west of Burroughs Wood (S)	LWS	1,094	E
Thornton Reservoir	LWS	1,097	NW

3.3 Woodland Sites

The information provided by LRERC revealed no Priority Habitat Index (PHI) woodland sites within the 2km search radius.

3.4 Regionally Important Geological Sites (RIGS)

The information provided by LRERC revealed no RIGS within the 2km search radius.

3.5 Species Records

3.5.1 Amphibians

Within the ecological data search provided by LRERC, four amphibian species were recorded within 2km of the site. These were of common frog (*Rana temporaria*), common toad (*Bufo bufo*), great crested newt (*Triturus cristatus*), and smooth newt (*Lissotriton vulgaris*). The nearest record was of great crested newt, located approximately 53m to the north-east.

3.5.2 Birds

Within the ecological data search provided by LRERC, thirty-nine bird species were recorded within 2km of the site. The nearest recording of a bird species was of swallow (*Hirundo rustica*), which has been recorded approximately 201m to the west of the site centroid. A table with the collated bird species can be found in **Appendix B**.

3.5.3 Crustacean

Within the ecological data search provided by LRERC, no crustacean species were revealed within the 2km search radius.

3.5.4 Fish

Within the ecological data search provided by LRERC, two fish species records were revealed within the 2km radius. These include common carp (*Cyprinus carpio*) and rainbow trout (*Oncorhynchus mykiss*). The nearest record was of rainbow trout, located approximately 940m to the south-west.

3.5.5 Flora

Within the ecological data search provided by LRERC, fifty-four floral species was revealed. This was of cherry laurel (*Prunus laurocerasus*) which was recorded approximately 317m to the north-east. A table with the collated flora species can be found in **Appendix B**.

3.5.6 Invertebrates

Within the ecological data search provided by LRERC, twenty-five invertebrate species was revealed within 2km of the site. The closest recorded was of centre-barred sallow (*Atethmia centrigo*), dusky thorn (*Ennomos fuscantaria*), grey dagger (*Acronicta psi*), oak hook-tip (*Watsonalla binaria*), and sallow (*Cirrhia icteritia*), all located approximately 363m to the north-east. A table with the collated invertebrate species can be found in **Appendix B**.

3.5.7 Mammals

Bats

Within the ecological data search provided by LRERC, several bat species were recorded within the 2km search radius of the site.

The UKBAP species recorded in the search were brown long-eared (*Plecotus auratus*), noctule (*Nyctalus noctule*), and soprano pipistrelle (*Pipistrellus pygmaeus*) bats.

The non-UKBAP species recorded in the search were common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's (*Myotis daubentonii*), Nathusius's pipistrelle (*Pipistrellus nathusii*), serotine (*Eptesicus serotinus*), whiskered (*Myotis mystacinus*), and whiskered/Brandt's (*Myotis mystacinus/brandtii*) bats.

Other unconfirmed bat species recorded in the search were of myotis bat species (*Myotis* sp.), *Nyctalus* bat species, and *pipistrellus* bat species.

The closest record to the survey site was of pipistrelle bat species found approximately 275m to the north of the site centroid.

Other Mammals

Within the ecological data search provided by LRERC, five mammal species were recorded within the 2km search radius of the site. These consist of American mink (*Neovison vison*), badger (*Meles meles*), hare (*Lepus europaeus*), hedgehog (*Erinaceus europaeus*), and muntjac (*Muntiacus reevesi*). The closest record to the site was of badger located approximately 357m to the south-east.

3.5.8 Molluscs

Within the ecological data search provided by LRERC, one mollusc was revealed within the 2km search radius. This record was of Jenkins' spire snail (*Potamopyrgus antipodarum*) located approximately 947m to the north-west.

3.5.9 Reptiles

Within the ecological data search provided by LRERC, no reptiles were revealed within the 2km search radius.

4. Field Survey

4.1 Habitats Prior to Clearance

The preliminary ecological appraisal survey revealed multiple habitats on site and within its immediate vicinity. The phase 1 habitat map, habitat codes and target notes for the site are located within **Appendix C**. The following habitats were recorded (in habitat code order):

4.1.1 **A2.2 - Scattered Scrub**



Scattered scrub can be found across the site in various density mainly consisting of bramble (*Rubus fruticosus*) with patches of broom (*Cytisus scoparius*). It has **high** potential for protected species.

4.1.2 **A3.1 - Broadleaf Scattered Trees**

There is a small area to the north with a few scattered trees containing ash (*Fraxinus excelsior*) and field maple (*Acer campestre*).

Scattered throughout the site are young specimens of blackthorn (*Prunus spinosa*), dogwood (*Cornus sanguinea*), and sessile oak (*Quercus petraea*).

This has **moderate** potential for protected species.



4.1.3 B2.2 – Semi-improved Grassland



This is the main habitat on site. Grasses that could be identified were cock's-foot (*Dactylis glomerata*) and perennial ryegrass (*Lolium perenne*).

The frequent plants in the area are broadleaf dock (*Rumex obtusifolius*), creeping thistle (*Cirsium arvense*), and dandelion (*Taraxacum officinale*). Occasionally there is ragwort (*Senecio jacobaea*). Rarely showing is English bluebell (*Hyacinthoides non-scripta*), cleavers (*Galium aparine*), common daisy (*Bellis perennis*), common horsetail (*Equisetum arvense*), cow parsley (*Anthriscus sylvestris*), creeping buttercup (*Ranunculus repens*), curly dock (*Rumex crispus*), field forget-me-not (*Myosotis arvensis*), hedgerow cranesbill (*Geranium pyrenaicum*), green alkanet (*Pentaglottis sempervirens*), red campion (*Silene dioica*), ribwort plantain (*Plantago lanceolata*), shining cranesbill (*Geranium lucidum*), sticky chickweed (*Stellaria media*), and white dead-nettle (*Lamium album*).

The area is clearly unmanaged and will have **high** potential for a number of herptile species.

4.1.4 I2.4 – Refuse Tip



There are a couple of areas on site containing rubbish. It largely consists of bricks, smashed tiles, broken China, and plastic bags. It has **low** protected species potential but would be utilised as hibernacula for herptile species.

4.1.5 J1.3 – Ephemeral/Short Perennial

Along by the ponds is some recent earth mounds with some plant species which typically are early pioneer species. Species include creeping thistle (*Cirsium arvense*) and purple dead-nettle (*Lamium purpureum*). This has **low** species potential.



4.1.6 J3.2.2 – Species-poor Hedge and Trees



This consists of almost entirely hawthorn (*Crataegus monogyna*) with patches of bramble (*Rubus fruticosus*) at the base. Despite the lack of species, it has **high** potential for amphibians, birds, hedgehog (*Erinaceus europaeus*), invertebrates, and reptiles.

4.1.7 J4 – Bare Ground

There is a worn in track that has been used by vehicles on and off. This has **negligible** species potential.



4.1.8 J5 – Brash Pile

There is a large brash pile on site. It is unclear how long it has been there, but it could be utilised by amphibians, hedgehog (*Erinaceus europaeus*), invertebrates, and reptiles. This has **moderate** species potential.

The updated preliminary ecological appraisal survey revealed multiple habitats on site and within its immediate vicinity. The phase 1 habitat map, habitat codes and target notes for the site are located within **Appendix C**. The following habitats were recorded (in habitat code order):

4.2 Habitats Post Clearance

4.2.1 g4 16 – Modified Grassland: Tall Forbs

This consists of cocksfoot grass (*Dactylis glomerata*), perennial ryegrass (*Lolium perenne*), rosebay willowherb (*Chamaenerion angustifolium*), and sow thistle (*Sonchus oleraceus*) in an abundant frequency. Common ragwort (*Senecio jacobaea*), and teasel (*Dipsacus fullonum*) were rarely seen.

4.2.2 g4 81 – Modified Grassland: Ephemeral

Rarely seen in this habitat is bristly ox tongue (*Helminthotheca echinodes*), common dandelion (*taraxacum*), herb Robert (*Geranium robertianum*), and sow thistle (*Sonchus oleraceus*).

4.2.3 g4 108 – Modified Grassland: Frequently Mown

Perennial ryegrass (*Lolium perenne*) dominated this habitat with bristly ox tongue (*Helminthotheca echinodes*) and herb Robert (*Geranium robertianum*) frequently seen.

4.2.4 g4 521 – Modified Grassland: Unmanaged

This habitat is dominated by of cocksfoot grass (*Dactylis glomerata*), and perennial ryegrass (*Lolium perenne*). Rosebay willowherb (*Chamaenerion angustifolium*) and sow thistle (*Sonchus oleraceus*) in an abundant frequency. Common ragwort (*Senecio jacobaea*) and teasel (*Dipsacus fullonum*) were rarely seen.

4.2.5 h2a6 – Hedgerow

This habitat is dominated by hawthorn (*Crataegus monogyna*) with English oak saplings (*Quercus robur*) and sour cherry (*Prunus cerasus*) rarely identified.

4.2.6 h2a6 11 – Hedgerow with Trees

Hawthorn (*Crataegus monogyna*) dominates this habitat followed by bramble (*Rubus fruticosus*) and English oak (*Quercus robur*) identified frequently with ash (*Fraxinus excelsior*) seen often.

4.2.7 h3d – Scrub

Dominating this habitat is bramble (*Rubus fruticosus*) with broad-leaved dock (*Rumex Obtusifolius*) in abundance frequency.

4.2.8 u1c – Artificial Unvegetated, Unsealed Surface

All species found in this habitat were rare in frequency, these include broom (*Cytisus scoparius*), common nettle (*Urtica dioica*), common ragwort (*Jacobaea vulgaris*),

English ivy (*Hedera helix*), herb Robert (*Geranium robertianum*), perennial ryegrass (*Lolium perenne*), ribwort plantain (*Plantago lanceolata*), and spear thistle (*Cirsium vulgare*).

4.2.9 u1c 32 – Artificial Unvegetated Land: Scattered Trees

This habitat contains an abundant frequency of ash (*Fraxinus excelsior*) and a frequent amount of English oak (*Quercus robur*) with lime (*Tilia* sp.) and rose (*Rosa* sp.) rarely identified.

4.2.10 u1c 510 – Artificial Unvegetated Land: Bare Ground

Species rarely seen in this habitat consist of bristly ox tongue (*Helminthotheca echinodes*), common dandelion (*taraxacum*), herb Robert (*Geranium robertianum*), and sow thistle (*Sonchus oleraceus*).

4.2.11 u1e 612 – Built Linear Feature: Fence

This feature consists of a wooden post and rail fence.

4.2.12 w2c 33 – Other Coniferous Woodland: Line of Trees

The only a species found in this habitat is Lawson's cypress (*Chamaecyparis lawsoniana*).

4.3 Species

4.3.1 Amphibians (including great crested newt)

No evidence of amphibians was found on site. The relevant water bodies off site scored between 0.58 – 0.80 on the HSI for great crested newts (*Triturus cristatus*). Due to the potential for newts in all the ponds eDNA samples were taken. The results came back as positive in **P4** and are found in the separate report along with actions required.

Golf Club 1	
	Pond 1 (P1) is on the golf club site itself at grid reference SK 48061 06400. It is approximately 85m north of the development site. It came out as average HSI with a score of 0.66. The pond itself has limited vegetation for newts to utilise, but the lack of immediate surrounding habitat, and mallard presence, would make it of only average suitability. It is absent of fish.
Golf Club 2	
	Pond 2 (P2) is on the golf club site itself at grid reference SK 48070 06383. It is approximately 62m north of the development site. It came out as average HSI with a score of 0.67. It is adjacent to P1 to the south and has all the same characteristics of that pond.
Golf Club 3	
	Pond 3 (P3) is on the golf club site itself at grid reference SK 48098 06370. It is approximately 35m north of the development site. It came out as average HSI with a score of 0.69. It is adjacent to P2 to the east and has similar characteristics to that pond, although the marginal vegetation is better.
Golf Club 4	
	Pond 4 (P4) is on the golf club site itself at grid reference SK 48142 06358. It is approximately 15m north of the development site. It came out as excellent HSI with a score of 0.80. It is adjacent to P3 to the east. It has some very good marginal vegetation, along with open water for newts to display. Suitable terrestrial habitat is on the site itself close by so its highly possible for newts to be present.
Woodland 1	
	Pond 5 (P5) is south of the site just inside the adjacent woodland at grid reference SK 48074 06076. It is approximately 10m east of the development site. It came out as good HSI with a score of 0.79. It has good quality water but is well shaded. Of all the ponds this is the most suitable for newts despite the HSI score.
Woodland 2	



Pond 6 (**P6**) is on the east side of the adjacent woodland at grid reference SK 48309 06066. It is approximately 245m east of the development site. It came out as average HSI with a score of 0.67. It has poor quality water. Also, it is largely dried up, and considering the time of year the survey was done with the mild weather, it is unlikely anything would survive to adult stage.

GCN HSI Calculator

Pond Name		Golf 1	Golf 2	Golf 3	Golf 4	Woodland 1	Woodland 2
Grid Ref		SK 48061 06400	SK 48070 06383	SK 48098 06370	SK 48142 06358	SK 48074 06076	SK 48309 06066
SI No	SI Description	SI Value	SI Value	SI Value	SI Value	SI Value	SI Value
1	Geographic location	1	1	1	1	1	1
2	Pond area	0.3	0.4	0.45	0.3	0.5	0.4
3	Pond permanence	0.9	0.9	0.9	0.1	0.9	1
4	Water quality	0.67	0.67	0.67	0.67	0.33	0.33
5	Shade	1	1	1	1	1	0.6
6	Water fowl effect	0.67	0.67	0.67	0.67	0.67	0.67
7	Fish presence	1	1	1	1	1	1
8	Pond Density	1	1	1	1	1	1
9	Terrestrial habitat	0.33	0.33	0.33	0.33	1	1
10	Macrophyte cover	0.4	0.35	0.4	0.9	1	0.35
HSI Score		0.66	0.67	0.69	0.80	0.79	0.67
Pond suitability (see below)		Average	Average	Average	Excellent	Good	Average

HSI Score	Pond Suitability
< 0.50	Poor
0.50 - 0.59	Below average
0.60 - 0.69	Average
0.70 - 0.79	Good
> 0.80	Excellent

4.3.2 Badgers (*Meles meles*)

No badger setts were recorded on or immediately offsite. As no setts are located onsite, no direct conflicts relating to badgers and development will be raised. If badgers are found to be within the area, and assuming the setts are well removed from the site, precautions during development will need to be implemented as a safeguard (see **Section 5.4**).

4.3.3 Bats

There is possible roosting habitat in the woodland adjacent to the site. The trees on site are very small, with no further survey effort required. However, the hedge line provides a good corridor for feeding bats so further action is required with a low lighting plan.

4.3.4 **Birds**

The trees and scrub on site contain the potential to support nesting birds, although no evidence of any nests was found during the site survey. Therefore, further precautionary measures are necessary for the survey site (please see **Section 5.3**).

4.3.5 **Dormice (*Muscardinus avellanarius*)**

These have not been recorded in the county in a long time. No evidence of dormice was recorded on the survey site and so no further action is required.

4.3.6 **Flora**

The only floral species of note recorded was a small cluster of English bluebell (*Hyacinthoides non-scripta*).

The updated survey revealed that English bluebell is no longer found on site.

4.3.7 **Hedgehogs (*Erinaceus europaeus*)**

The proposed scheme of works will impact upon suitable nesting features for hedgehogs. Also, hedgehogs are likely to forage through the site and as such, measures are required (please see **Section 5.3**).

4.3.8 **Invertebrates**

Only common species are likely to use the habitats on site. The proposed works will include the loss of scrub which provides a home for these. As such, further actions are required.

4.3.9 **Reptiles**

The scrub and tussocky grassland are suitable for reptiles and these species would be impacted by the loss of it. Further surveys will be required (see **Section 5**).

4.4 Potential Impacts of the Works

Based upon the results from the desktop survey, field survey and using a degree of academic supposition, the uncompensated development impacts have been summarised as follows:

- **Amphibians – Moderate**
- **Badgers – Negligible**
- **Bats – Moderate**
- **Birds – High**
- **Dormice – Negligible**
- **Fish – Negligible**
- **Flora – High**
- **Hedgehogs – High**
- **Invertebrates – Low**
- **Reptiles – High**

5. Recommendations

5.1 Designated Sites

The proposed development will have no impact upon any designated sites as the works are due to remain within the site boundary.

5.2 Habitats

5.2.1 Priority Habitats

No habitats of conservation concern were located on the site itself. Therefore, the proposed scheme of works will not impact upon any rare or valuable habitats.

5.2.2 Biodiversity Net Gain

Biodiversity net gain needs to be ensured for the scheme using the latest DEFRA metric.

5.3 Species

The site was found to contain the potential to support protected and/or rare species. Therefore, the following recommendations are required for the site:

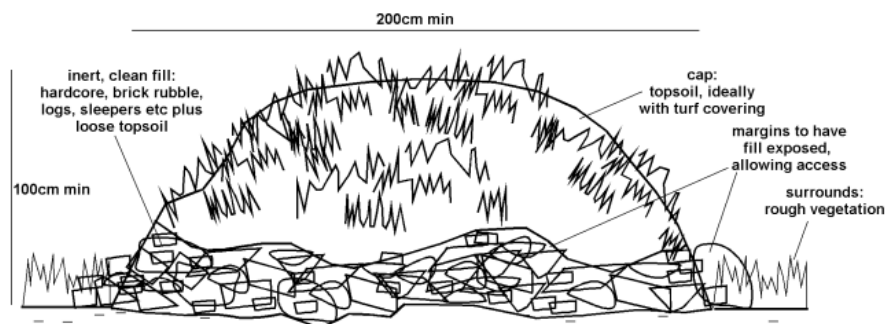
5.3.1 Amphibians

An eDNA surveys have been carried out on the ponds, with a positive result on **P4**. Further actions will be required as discussed in the eDNA report.

Furthermore, to ensure the colonisation of ponds by the local amphibian populations, it is recommended that scrubland, hedgerows, woodland, and/or rough grassland is included around the site.

It is also recommended that at least **one** hibernaculum is included into the design scheme. These are usually comprised of rubble, rock, log piles, and earth banks. An example design for the hibernacula can be seen within **Figure 3**.

Figure 3: A diagram illustrating the recommended hibernacula (GCN Mitigation Guidelines).



The waterbodies off site are of average, good and excellent suitability for Great Crested Newts (*Triturus cristatus*).

5.3.2 Bats

The trees on site that would be removed under the current proposal are very young, ultimately reducing its protected species potential. Also, due to highly suitable foraging habitat, a low lighting plan will need to be implemented into the scheme of works. Please refer to **Appendix G**.

5.3.3 Birds

If required, tree, shrub and scrub removal should be undertaken outside of the bird breeding season (March to August, inclusive). This is to ensure that no active nest site is illegally destroyed, due to the protection afforded to all active bird nests under the Wildlife and Countryside Act 1981. Adequate compensatory bird boxes are required to ensure no negative impacts are incurred by the works.

To increase the nesting potential at the site, it is recommended to include the following bird boxes on site:

- Three [Robin and Wren FSC Nest Boxes](#)
- Three [Apex Bird Boxes](#)
- Two [Large Bird Nest Boxes](#)

5.3.4 Hedgehogs (*Erinaceus europaeus*)

As a purely precautionary measure, it is recommended that provisions are incorporated for the construction. This will be to create provisions for hedgehogs to escape in the form of creating slopes or the inclusion of ramps at the end of each working day from all trenches dug into the ground. Additionally, any pipework left on site that is greater than 150mm in diameter will need to be planked off. Should this information be strictly adhered to, then the development works will not negatively impact on the local hedgehog populations.

Precautions should be in place to avoid accidental killing/injury of this species, and measures should be incorporated into the development to maintain/enhance the value of the site:

- Contractors made aware of the potential presence of hedgehogs.
- Vegetation clearance to be carried out by hand, slowly and methodically, particularly any areas of scrub.
- Should any hedgehogs be discovered onsite, they should be picked up (with a gloved hand) and relocated offsite away from the working areas. They should be placed under a hedgerow/vegetation.

- If any hibernating hedgehogs are discovered during the works, they must be recovered with vegetation, and works must temporarily cease in that area. Site contractors should contact an ecologist, who will visit site to ensure that suitable replacement refugia (e.g. leaf litter pile or accumulation of material most resembling what the hedgehog has been found in) can be constructed in an undisturbed part of the site that will remain unaffected for the rest of the winter, likely beneath one of the hedgerows. The ecologist, wearing suitable thick gloves, will then carefully translocate the specimen to the hibernacula. If there is any doubt over translocating the hedgehog to a different part of the site, or if it appears to be harmed or underweight, the ecologist will take it into care and contact the local wildlife hospital for advice.

5.3.5 Reptiles

Scrub and tussocky grass are suitable for reptiles, and this will be heavily impacted upon due to the total loss during the proposed works. As there is high potential for reptiles on site there will need to be surveys done to see what species utilise the site if any. This typically involves putting out a series of refugia mats to be surveyed between April and October (excluding July and August ideally due to temperatures). This would involve eight visits including mat deployment. The mats are left in situ for a minimum of two weeks before the first visit, and the following seven surveys need to cover a period of at least thirty days to ensure adequate cover.

5.4 Habitat Enhancements

5.4.1 Hedgerows and Boundaries

The hedgerow to the north is in very poor condition overall and requires re-planting. The new hedgerow should be made up of at least five different native species. It is an option to create traditional hedgerows consisting of:

- 50% hawthorn (*Crataegus monogyna*).
- 25% blackthorn (*Prunus spinosa*).
- 15% field maple (*Acer campestre*).
- 2% holly (*Ilex aquifolium*).
- 2% wild privet (*Ligustrum vulgare*).
- 2% guelder rose (*Viburnum opulus*).
- 2% dog rose (*Rosa canina*).
- 2% buckthorn (*Rhamus frangula*).

A 1m buffer strip of rank vegetation or wildflowers is recommended behind the hedgerow to increase foraging habitat for bats, birds, and beneficial invertebrates.

Hedgerows can be planted at either three plants per metre planted at 33cm intervals or at five plants per metre in a staggered double row, with 33cm between each plant along the row and 40cm between the rows.

Further recommendations on the hedge include the way it should be managed:

1st year

- Weed around the base of the shrub to prevent competition.
- In late summer any shrubs that have died should be replaced in the autumn.
- In the shrub's first spring cut the hedge down to 45-60cm off the ground to promote a thicker hedge.

Long-term

Leaving a wild, undisturbed margin adjacent to the hedgerow, ideally 2m, will encourage growth around the base of the hedge, providing cover for small mammals and nesting sites for birds.

Hedgerow tops should be cut by chainsaw and **never** flailed as this can severely damage and impede the growth of a hedge after repeated cuts. The hedge must not be cut must not be cut under 2m in height.

Hedgerows should be cut in 1/3 sections offset by a year, and then re-cut every five years. This will ensure that the health of the hedgerow is maintained.

5.4.2 Mixed Scrub

Areas of mixed scrub should be on site around the east boundary next to the woodland. A diverse area of scrub with a variety of structure will be beneficial for a variety of species including birds, reptiles, and small mammals.

Scrub should be planted at random within each square meter to avoid the creation of wind tunnels. Gaps within the scrub will naturally infill as the scrub matures and colonises the area.

Scientific Name	Common name
<i>Frangula alnus</i>	Alder Buckthorn
<i>Fagus sylvatica</i>	Beech
<i>Betula sp</i>	Birch
<i>Prunus spinosa</i>	Blackthorn
<i>Buxus sempervirens</i>	Box
<i>Rhamnus catharticus</i>	Buckthorn
<i>Crataegus monogyna</i>	Common Hawthorn
<i>Corylus avellana</i>	Common Hazel
<i>Cornus sanguinea</i>	Dogwood
<i>Prunus avium</i>	Wild Cherry

All scrub should be allowed to mature for fifteen years before management is introduced. Management for scrub should be rotational, with one third (1/3) of the scrub coppiced every three years, i.e., coppice 1/3, three years later coppice another 1/3, coppice the final 1/3 three years later, then re-coppice the first 1/3 three years after that and so on. This low-level management will allow for variation in the structure and maturity of the scrub whilst ensuring the habitat is still available for use by wildlife. Removal of scrub should be undertaken between November and January to avoid the breeding bird season.

5.4.3 Wildflower Meadow

A wildflower meadow should form a part of the site to maximise biodiversity. A variety of these can be found on the [Meadowmania](#) or [Wildflower Turf](#) webpages. This habitat must be connected to other habitat features, particularly hedgerows, to ensure beneficial invertebrates such as bees and butterflies can find and utilise this habitat. This is due to some species not crossing open areas, so connectivity with linear habitat features is critical. Further information on creating wildflower meadows can be found [here](#).

A rough grassland buffer strip should be incorporated next to hedgerow. This is to increase structural diversity at its base and around other areas on site. Grass tussocks should be allowed to form to provide micro-climates important for many invertebrate species. A buffer strip should also be incorporated between the mixed scrub and the amenity grassland within the centre of the site.

These areas should be mown three times a year:

- **Spring cut** - Cut back to height of 7.5cm only and complete this cut no later than the end of April.
- **Autumn cut** - cut between the end of August and late November.

5.4.4 Scattered Trees

A variety of tree species will increase the sites potential to support roosting bats, and nesting birds, while also providing foraging habitat for a variety of species. These should be scattered throughout the main section of the site.

All new trees to be planted within the development area should be native broadleaf tree species. The following small tree species could be planted; apple (*Malus x domestica*), cherry plum (*Prunus cerasifera*), pear (*Pyrus communis*), plum (*Prunus domestica*), and walnut (*Juglans regia*). Larger tree species could include ash (*Fraxinus excelsior*), beech (*Fagus sylvatica*), English oak (*Quercus robur*), sessile oak (*Quercus petraea*), silver birch (*Betula pendula*), and sycamore (*Acer pseudoplatanus*). These trees should be left to reach maturity. The mixed scrub will provide needed structure to the trees on site by providing a suitable under story.

5.4.5 Control of Aggressive Weeds

Any weeds which grow on site and are thought to be aggressive and pose a threat to the success of the planted trees should be eradicated as soon as possible. These will be identified within a plant identification survey undertaken twice yearly, one in March and one in July.

It will be necessary to remove all weeds found on site by hand during the first three years of the project, until the new trees are mature enough to survive.

5.4.6 **Invasive Species Eradication**

Any invasive species that appear on site will require eradication as soon as possible. The identification of any invasive species will take place within a plant identification survey undertaken twice yearly, one in March and one in July.

6. Species Enhancements

6.1 Bats

It is recommended that three [Eco Bat Boxes](#), [Integrated Eco Bat Boxes](#), and [bark boxes](#) designed for bats are installed around the development site to enhance the site for other local bat species populations by providing further roosting opportunities. These should avoid any artificial lighting, whilst being sighted facing east, south-east, south, south-west, and/or west.

The site can also be enhanced by introducing a bat friendly planting scheme in the soft landscaping plan. The table below outlines species recommended by the Bat Conservation Trust, all of which could be incorporated into the site post development.

Flowers for borders	Trees, shrubs & climbers
Aubretia	Bramble
Candytuft	Buddleia
Cherry pie	Common alder
Corncockle	Dogrose
Corn marigold	Elder
Corn poppy	English oak
Echniacea	Gorse
English bluebell	Guelder rose
Evening primrose	Hawthorn
Field poppies	Hazel
Honesty	Honeysuckle (native)
Ice plant 'pink lady'	Hornbeam
Knapweed	Ivy
Mallow	Jasmine
Mexican aster	Pussy willow
Michaelmas daisy	Rowan
Night-scented stock	Silver birch
Ox-eye daisy	Herbs
Phacelia	Angelica
Poached egg plant	Bergamot
Primrose	Borage
Red campion	Coriander
Red valerian	English marigolds
Scabious	Fennel
St. John's Wort	Feverfew
Sweet William	Hyssop
Tobacco plant	Lavenders
Verbena	Lemon balm
Wallflowers	Marjoram
Wood forget-me-not	Rosemary
Yarrow	Sweet Cicely
	Thyme

Artificial lighting **must avoid** the field boundary hedgerows and trees. If it is necessary to include artificial lighting in areas overlooking both hedgerows and trees, then this must include sensors to be triggered by larger bodies only. An artificial lighting plan should be drawn up to illustrate the spill of light. This is to include the proposed security lighting on the residential dwellings as well as all street lighting. This document should then be approved by a licenced bat ecologist. More information on bats and artificial lighting can be found within **Appendix D**.

6.2 **Birds**

The development site should be enhanced for birds by installing a variety of [bird boxes](#) on site. The exact locations will be determined once plans have been finalised.

The residential areas should incorporate a minimum of the following:

- Three [Robin and Wren FSC Nest Boxes](#)
- Three [Apex Bird Boxes](#)
- Two [Large Bird Nest Boxes](#)

Boxes installed on trees can face any direction as the trees will provide shelter, however the entrance must be kept clear of branches and vegetation. All bird enhancements must be situated in a way that prevents access to predators such as cats.

6.3 **Hedgehogs (Erinaceus europaeus)**

The site should be enhanced for the local hedgehog population by installing three [Eco Hedgehog Nest Boxes](#) around the site. This will create more opportunities for hedgehogs within the local landscape.

Provisions should be made to allow connectivity on site for hedgehogs. Wildlife permeable boundaries will provide entryways for wildlife to move between the gardens of the site.

In cases where fencing and walls are used, implementing 13x13cm hedgehog holes in the fence at ground level, leaving a sufficient gap beneath gates, leaving brick spaces at the base of brick walls. These access points should be marked with [Hedgehog Highway Signs](#) to ensure these points are not blocked in the future.

Figure 4: An example of a hedgehog tunnel (Taken from the RSPB)



6.4 Invertebrates

At present, the site is not considered to be of any importance to local invertebrate populations. In conjunction with the habitat creation, it is recommended that two [Bug Hotels](#) and two [Bumblebee Boxes](#) are incorporated into the scheme. This will enhance the site for the local invertebrate populations, which will thus attract species further up in the trophic level.

The site would benefit from plants rich in a pollen source throughout the year to enhance the area for the potential of bees. In order to ensure a nectar source year-round it is important to use plants that are relevant to the season. The table below includes just a few examples of which plants thrive through the different seasons to ensure a bee friendly area.

SPRING	SUMMER	AUTUMN	WINTER
• Flowering Cherry • Crab Apple • Hawthorn • Bugle • Daffodils • Pulmonaria • Sea Thrift • Alliums • Grape Hyacinth	• Lavender • Agastache • <i>Erysimum</i> 'Bowles' Mauve' • Scabious • Comfrey • Foxgloves • Cardoon • Echinops	• Sedums • Single-flowered Dahlias • <i>Verbena bonariensis</i> • Japanese Anemones • Autumn Asters • <i>Actaea simplex</i>	• Snowdrops • Winter Aconites • Ivy • Crocuses • Winter Honeysuckle • Hellebores • Mahonia • <i>Clematis cirrhosa</i>

6.5 Reptiles

Hibernacula should also be scattered though the site. These hibernacula can be made of cut timber, brash, inert hardcore, bricks, rubble, rocks, tree roots, and building rubble. A minimum of one of these are advised for this project. The key design features include:

- A sunny location.
- A well-drained section of the site.
- One of the long sides faces south.
- Access for reptiles through openings.
- Locate within suitable habitat (rough grassland and scrubland in this scenario).
- Minimal anthropogenic disturbance.
- Measure at least 4m length x 2m width x 1m height, but the larger the better.

7. References

- Bat Conservation Trust (2016). Bat Surveys – Good Practice Guidelines. 3rd Edition. Bat Conservation Trust: London.
- Berthinussen, A. & Altringham, J.D. (2012). The effect of a major road on bat activity and diversity. *Journal of Applied Ecology* 49: p.p. 82–89.
- Bickmore, C. J. (2002). *Hedgerow Survey Handbook*. London: DEFRA
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011).
- Circular 06/05 Biodiversity and Geological Conservation – Statutory Obligations and Their Impact System (2005).
- Countryside and Rights of Way Act 2000 (c.37). London: HMSO.
- Defra (2007a) *Securing a Healthy Natural Environment: an action plan for embedding an ecosystems approach*. PB12853. Defra London.
- Defra (2007b) *An Introductory Guide to Valuing Ecosystems Services*. PB12852. Defra London.
- Dietz, C., von Helversen, O. & Nill, D. (2009) *Bats of Britain, Europe and Northwest Africa*. London: A. C. Black.
- Hutson, A.M., Spitzenberger, F., Aulagnier, S., Coroiu, I., Karataş, A., Juste, J., Paunovic, M., Palmeirim, J. & Benda, P. (2008) *Pipistrellus pipistrellus*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1.
- Institute of Ecology and Environmental Management, Professional Guidance Series.
- Institute of Ecology and Environmental Management (2006), *Guidelines for Ecological Impact Assessment in the United Kingdom*.
- Institute of Environmental Assessment (1995). *Guidance for Baseline Ecological Assessment*.
- Joint Nature Conservation Committee (2005). *The Marine Habitat Classification for Britain and Ireland, Version 04*.
- Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a technique for environmental audit*.
- Millennium Ecosystem Assessment (2005).
- National Planning Policy Framework (2018).
- The Conservation of Habitats and Species Regulations 2017 (Amendment). SI 2017/1012.
- The Conservation (Natural Habitats, etc.) (Amendment) Regulations 2007. SI 2007/1843, London: HMSO.
- The natural choice: securing the value of nature (2011) (Natural Environment White Paper).
- Natural Environment and Rural Communities (NERC) Act 2006.
- RSPB (2002). *The Population Status of Birds in the UK*.
- RSBP (2009). *Birds of Conservation Concern 3*.
- Rydell J & Racey, P A (1993) Street lamps and the feeding ecology of insectivorous bats. *Recent Advances in Bat Biology*, Zool Soc Lond Symposium abstracts.
- UK Biodiversity Action Plan (2007). *UK List of Priority Species*. Joint Nature Conservation Committee.
- Wildlife and Countryside Act 1981 (and amendments) (c.69). London: HMSO.

8. Appendices

Appendix A: Site Plans

Appendix B: Ecological Data Search Tables

Appendix C: Ecological Data Search Maps

Appendix D: Phase 1 Habitat Map

Appendix E: Biodiversity Legislation and Policy

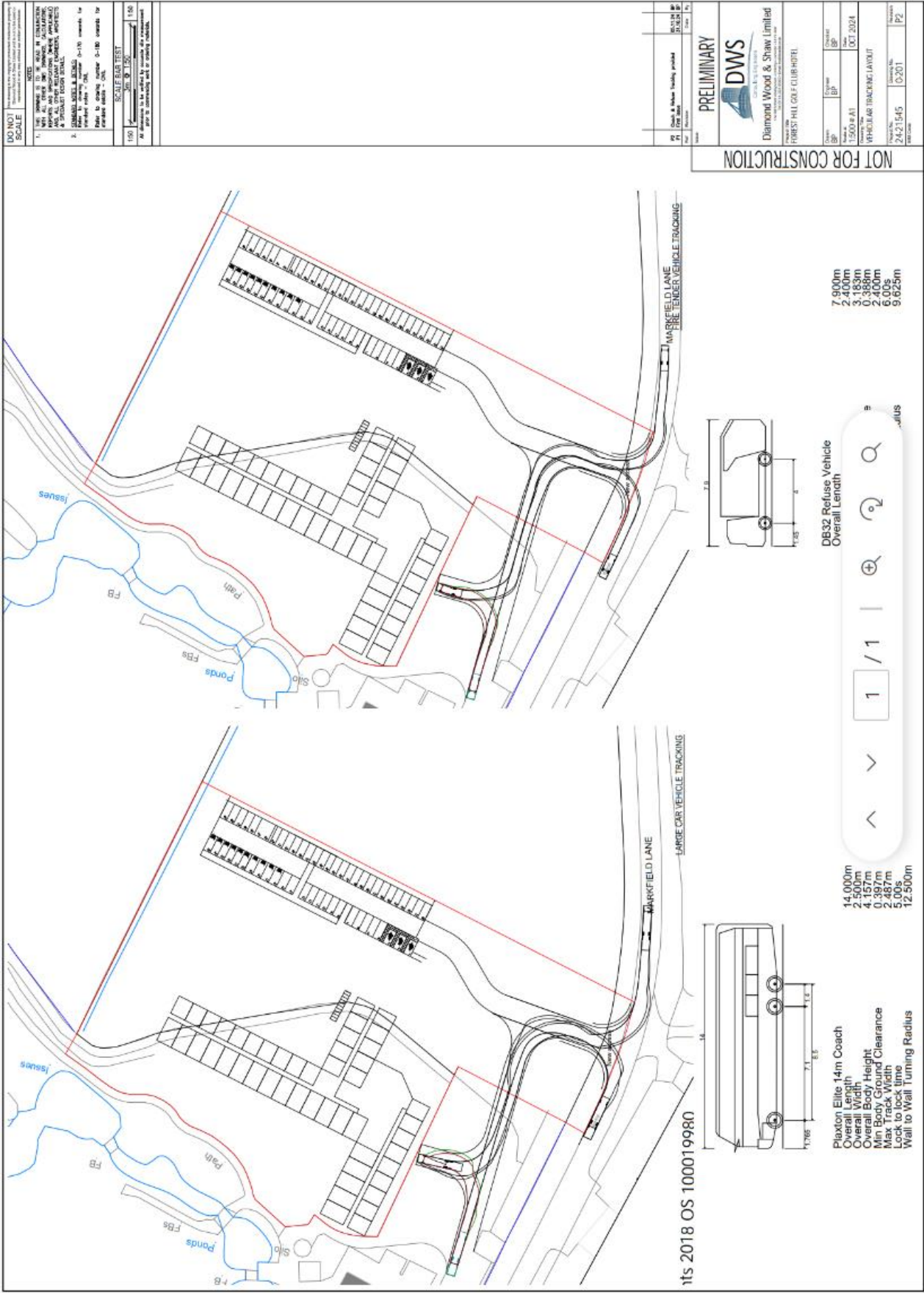
Appendix F: Bats and Artificial Light

Appendix A: Historic Plans



Revisions		Rev.	Date
1	Initial Design	1	10/10/2023
2	Revised Design	2	10/10/2023
3	Final Design	3	10/10/2023
4	Revised Design	4	10/10/2023
5	Final Design	5	10/10/2023
6	Revised Design	6	10/10/2023
7	Final Design	7	10/10/2023
8	Revised Design	8	10/10/2023
9	Final Design	9	10/10/2023
10	Revised Design	10	10/10/2023
11	Final Design	11	10/10/2023
12	Revised Design	12	10/10/2023
13	Final Design	13	10/10/2023
14	Revised Design	14	10/10/2023
15	Final Design	15	10/10/2023
16	Revised Design	16	10/10/2023
17	Final Design	17	10/10/2023
18	Revised Design	18	10/10/2023
19	Final Design	19	10/10/2023
20	Revised Design	20	10/10/2023
21	Final Design	21	10/10/2023
22	Revised Design	22	10/10/2023
23	Final Design	23	10/10/2023
24	Revised Design	24	10/10/2023
25	Final Design	25	10/10/2023
26	Revised Design	26	10/10/2023
27	Final Design	27	10/10/2023
28	Revised Design	28	10/10/2023
29	Final Design	29	10/10/2023
30	Revised Design	30	10/10/2023
31	Final Design	31	10/10/2023
32	Revised Design	32	10/10/2023
33	Final Design	33	10/10/2023
34	Revised Design	34	10/10/2023
35	Final Design	35	10/10/2023
36	Revised Design	36	10/10/2023
37	Final Design	37	10/10/2023
38	Revised Design	38	10/10/2023
39	Final Design	39	10/10/2023
40	Revised Design	40	10/10/2023
41	Final Design	41	10/10/2023
42	Revised Design	42	10/10/2023
43	Final Design	43	10/10/2023
44	Revised Design	44	10/10/2023
45	Final Design	45	10/10/2023
46	Revised Design	46	10/10/2023
47	Final Design	47	10/10/2023
48	Revised Design	48	10/10/2023
49	Final Design	49	10/10/2023
50	Revised Design	50	10/10/2023
51	Final Design	51	10/10/2023
52	Revised Design	52	10/10/2023
53	Final Design	53	10/10/2023
54	Revised Design	54	10/10/2023
55	Final Design	55	10/10/2023
56	Revised Design	56	10/10/2023
57	Final Design	57	10/10/2023
58	Revised Design	58	10/10/2023
59	Final Design	59	10/10/2023
60	Revised Design	60	10/10/2023
61	Final Design	61	10/10/2023
62	Revised Design	62	10/10/2023
63	Final Design	63	10/10/2023
64	Revised Design	64	10/10/2023
65	Final Design	65	10/10/2023
66	Revised Design	66	10/10/2023
67	Final Design	67	10/10/2023
68	Revised Design	68	10/10/2023
69	Final Design	69	10/10/2023
70	Revised Design	70	10/10/2023
71	Final Design	71	10/10/2023
72	Revised Design	72	10/10/2023
73	Final Design	73	10/10/2023
74	Revised Design	74	10/10/2023
75	Final Design	75	10/10/2023
76	Revised Design	76	10/10/2023
77	Final Design	77	10/10/2023
78	Revised Design	78	10/10/2023
79	Final Design	79	10/10/2023
80	Revised Design	80	10/10/2023
81	Final Design	81	10/10/2023
82	Revised Design	82	10/10/2023
83	Final Design	83	10/10/2023
84	Revised Design	84	10/10/2023
85	Final Design	85	10/10/2023
86	Revised Design	86	10/10/2023
87	Final Design	87	10/10/2023
88	Revised Design	88	10/10/2023
89	Final Design	89	10/10/2023
90	Revised Design	90	10/10/2023
91	Final Design	91	10/10/2023
92	Revised Design	92	10/10/2023
93	Final Design	93	10/10/2023
94	Revised Design	94	10/10/2023
95	Final Design	95	10/10/2023
96	Revised Design	96	10/10/2023
97	Final Design	97	10/10/2023
98	Revised Design	98	10/10/2023
99	Final Design	99	10/10/2023
100	Revised Design	100	10/10/2023
101	Final Design	101	10/10/2023
102	Revised Design	102	10/10/2023
103	Final Design	103	10/10/2023
104	Revised Design	104	10/10/2023
105	Final Design	105	10/10/2023
106	Revised Design	106	10/10/2023
107	Final Design	107	10/10/2023
108	Revised Design	108	10/10/2023
109	Final Design	109	10/10/2023
110	Revised Design	110	10/10/2023
111	Final Design	111	10/10/2023
112	Revised Design	112	10/10/2023
113	Final Design	113	10/10/2023
114	Revised Design	114	10/10/2023
115	Final Design	115	10/10/2023
116	Revised Design	116	10/10/2023
117	Final Design	117	10/10/2023
118	Revised Design	118	10/10/2023
119	Final Design	119	10/10/2023
120	Revised Design	120	10/10/2023
121	Final Design	121	10/10/2023
122	Revised Design	122	10/10/2023
123	Final Design	123	10/10/2023
124	Revised Design	124	10/10/2023
125	Final Design	125	10/10/2023
126	Revised Design	126	10/10/2023
127	Final Design	127	10/10/2023
128	Revised Design	128	10/10/2023
129	Final Design	129	10/10/2023
130	Revised Design	130	10/10/2023
131	Final Design	131	10/10/2023
132	Revised Design	132	10/10/2023
133	Final Design	133	10/10/2023
134	Revised Design	134	10/10/2023
135	Final Design	135	10/10/2023
136	Revised Design	136	10/10/2023
137	Final Design	137	10/10/2023
138	Revised Design	138	10/10/2023
139	Final Design	139	10/10/2023
140	Revised Design	140	10/10/2023
141	Final Design	141	10/10/2023
142	Revised Design	142	10/10/2023
143	Final Design	143	10/10/2023
144	Revised Design	144	10/10/2023
145	Final Design	145	10/10/2023
146	Revised Design	146	10/10/2023
147	Final Design	147	10/10/2023
148	Revised Design	148	10/10/2023
149	Final Design	149	10/10/2023
150	Revised Design	150	10/10/2023
151	Final Design	151	10/10/2023
152	Revised Design	152	10/10/2023
153	Final Design	153	10/10/2023
154	Revised Design	154	10/10/2023
155	Final Design	155	10/10/2023
156	Revised Design	156	10/10/2023
157	Final Design	157	10/10/2023
158	Revised Design	158	10/10/2023
159	Final Design	159	10/10/2023
160	Revised Design	160	10/10/2023
161	Final Design	161	10/10/2023
162	Revised Design	162	10/10/2023
163	Final Design	163	10/10/2023
164	Revised Design	164	10/10/2023
165	Final Design	165	10/10/2023
166	Revised Design	166	10/10/2023
167	Final Design	167	10/10/2023
168	Revised Design	168	10/10/2023
169	Final Design	169	10/10/2023
170	Revised Design	170	10/10/2023
171	Final Design	171	10/10/2023
172	Revised Design	172	10/10/2023
173	Final Design	173	10/10/2023
174	Revised Design	174	10/10/2023
175	Final Design	175	10/10/2023
176	Revised Design	176	10/10/2023
177	Final Design	177	10/10/2023
178	Revised Design	178	10/10/2023
179	Final Design	179	10/10/2023
180	Revised Design	180	10/10/2023
181	Final Design	181	10/10/2023
182	Revised Design	182	10/10/2023
183	Final Design	183	10/10/2023
184	Revised Design	184	10/10/2023
185	Final Design	185	10/10/2023
186	Revised Design	186	10/10/2023
187	Final Design	187	10/10/2023
188	Revised Design	188	10/10/2023
189	Final Design	189	10/10/2023
190	Revised Design	190	10/10/2023
191	Final Design	191	10/10/2023
192	Revised Design	192	10/10/2023
193	Final Design	193	10/10/2023
194	Revised Design	194	10/10/2023
195	Final Design	195	10/10/2023
196	Revised Design	196	10/10/2023
197	Final Design	197	10/10/2023
198	Revised Design	198	10/10/2023
199	Final Design	199	10/10/2023
200	Revised Design	200	10/10/2023
201	Final Design	201	10/10/2023
202	Revised Design	202	10/10/2023
203	Final Design	203	10/10/2023
204	Revised Design	204	10/10/2023
205	Final Design	205	10/10/2023
206	Revised Design	206	10/10/2023
207	Final Design	207	10/10/2023
208	Revised Design	208	10/10/2023
209	Final Design	209	10/10/2023
210	Revised Design	210	10/10/2023
211	Final Design	211	10/10/2023
212	Revised Design	212	10/10/2023
213	Final Design	213	10/10/2023
214	Revised Design	214	10/10/2023
215	Final Design	215	10/10/2023
216	Revised Design	216	10/10/2023
217	Final Design	217	10/10/2023
218	Revised Design	218	10/10/2023
219	Final Design	219	10/10/2023
220	Revised Design	220	10/10/2023
221	Final Design	221	10/10/2023
222	Revised Design	222	10/10/2023
223	Final Design	223	10/10/2023
224	Revised Design	224	10/10/2023
225	Final Design	225	10/10/2023
226	Revised Design	226	10/10/2023
227	Final Design	227	10/10/2023
228	Revised Design	228	10/10/2023
229	Final Design	229	10/10/2023
230	Revised Design	230	10/10/2023
231	Final Design	231	10/10/2023
232	Revised Design	232	10/10/2023
233	Final Design	233	10/10/2023
234	Revised Design	234	10/10/2023
235	Final Design	235	10/10/2023
236	Revised Design	236	10/10/2023
237	Final Design	237	10/10/2023
238	Revised Design	238	10/10/2023
239	Final Design	239	10/10/2023
240	Revised Design	240	10/10/2023
241	Final Design	241	10/10/2023
242	Revised Design	242	10/10/2023
243	Final Design	243	10/10/2023
244	Revised Design	244	10/10/2023
245	Final Design	245	10/10/2023
246	Revised Design	246	10/10/2023
247	Final Design	247	10/10/2023
248	Revised Design	248	10/10/2023
249	Final Design	249	10/10/2023
250	Revised Design	250	10/10/2023
251	Final Design	251	10/10/2023
252	Revised Design	252	10/10/2023
253	Final Design	253	10/10/2023
254	Revised Design	254	10/10/2023
255	Final Design	255	10/10/2023
256	Revised Design	256	10/10/2023
257	Final Design	257	10/10/2023
258	Revised Design	258	10/10/2023
259	Final Design	259	10/10/2023
260	Revised Design	260	10/10/2023
261	Final Design	261	10/10/2023
262	Revised Design	262	10/10/2023
263	Final Design	263	10/10/2023
264	Revised Design	264	10/10/2023
265	Final Design	265	10/10/2023
266	Revised Design	266	10/10/2023
267	Final Design	267	10/10/2023
268	Revised Design	268	10/10/2023
269	Final Design	269	10/10/2023
270	Revised Design	270	10/10/2023
271	Final Design	271	10/10/2023
272	Revised Design	272	10/10/2023
273	Final Design	273	10/10/2023
274	Revised Design	274	10/10/2023
275	Final Design	275	10/10/2023
276	Revised Design	276	10/10/2023
277	Final Design	277	10/10/2023
278	Revised Design	278	10/10/2023
279	Final Design	279	10/10/2023
280	Revised Design	280	10/10/2023
281	Final Design	281	10/10/2023
282	Revised Design	282	10/10/2023
283	Final Design	283	10/10/2023
284	Revised Design	284	10/10/2023
285	Final Design	285	10/10/2023
286	Revised Design	286	10/10/2023
287	Final Design	287	10/10/2023
288	Revised Design	288	10/10/2023
289	Final Design	289	10

Updated site plans: 2024



Appendix B: Ecological Data Search Tables

Amphibians	
Common Name	Latin Name
Common Frog	<i>Rana temporaria</i>
Common Toad	<i>Bufo bufo</i>
Great Crested Newt	<i>Triturus cristatus</i>
Smooth Newt	<i>Lissotriton vulgaris</i>
Birds	
Common Name	Latin Name
Arctic Skua	<i>Stercorarius parasiticus</i>
Avocet	<i>Recurvirostra avosetta</i>
Barn Owl	<i>Tyto alba</i>
Black Tern	<i>Chlidonias niger</i>
Black-necked Grebe	<i>Podiceps nigricollis</i>
Black-tailed Godwit	<i>Limosa limosa</i>
Brambling	<i>Fringilla montifringilla</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Canada Goose	<i>Branta canadensis</i>
Cetti's Warbler	<i>Cettia cetti</i>
Common Rosefinch	<i>Carpodacus erythrinus</i>
Common Scoter	<i>Melanitta nigra</i>
Crossbill	<i>Loxia curvirostra</i>
Cuckoo	<i>Cuculus canorus</i>
Curlew	<i>Numenius arquata</i>
Dunnoek	<i>Prunella modularis</i>
Egyptian Goose	<i>Alopochen aegyptiaca</i>
Fieldfare	<i>Turdus pilaris</i>
Firecrest	<i>Regulus ignicapilla</i>
Garganey	<i>Spatula querquedula</i>
Goldeneye	<i>Bucephala clangula</i>
Grasshopper Warbler	<i>Locustella naevia</i>
Green Sandpiper	<i>Tringa ochropus</i>
Greenshank	<i>Tringa nebularia</i>
Grey Partridge	<i>Perdix perdix</i>
Greylag Goose	<i>Anser anser</i>
Hawfinch	<i>Coccothraustes coccothraustes</i>
Hen Harrier	<i>Circus cyaneus</i>
Herring Gull	<i>Larus argentatus</i>
Hobby	<i>Falco subbuteo</i>
House Martin	<i>Delichon urbicum</i>
House Sparrow	<i>Passer domesticus</i>
Indet. Harrier	<i>Circus</i>
Kingfisher	<i>Alcedo atthis</i>
Lapwing	<i>Vanellus vanellus</i>
Lesser Redpoll	<i>Acanthis cabaret</i>

Lesser Spotted Woodpecker	Dryobates minor
Linnet	Linaria cannabina
Little Gull	Hydrocoloeus minutus
Little Ringed Plover	Charadrius dubius
Little Tern	Sternula albifrons
Long-tailed Duck	Clangula hyemalis
Mandarin Duck	Aix galericulata
Marsh Harrier	Circus aeruginosus
Marsh Tit	Poecile palustris
Mediterranean Gull	Ichthyaetus melanocephalus
Merlin	Falco columbarius
Night-heron	Nycticorax nycticorax
Osprey	Pandion haliaetus
Peregrine	Falco peregrinus
Pintail	Anas acuta
Red Kite	Milvus milvus
Redstart	Phoenicurus phoenicurus
Red-throated Diver	Gavia stellata
Redwing	Turdus iliacus
Reed Bunting	Emberiza schoeniclus
Ring Ouzel	Turdus torquatus
Ring-necked Parakeet	Psittacula krameri
Ruddy Duck	Oxyura jamaicensis
Sand Martin	Riparia riparia
Scaup	Aythya marila
Skylark	Alauda arvensis
Slavonian Grebe	Podiceps auritus
Song Thrush	Turdus philomelos
Spoonbill	Platalea leucorodia
Spotted Crake	Porzana porzana
Spotted Flycatcher	Muscicapa striata
Starling	Sturnus vulgaris
Stone-curlew	Burhinus oedicephalus
Swallow	Hirundo rustica
Swift	Apus apus
Tree Sparrow	Passer montanus
Tundra Swan	Cygnus columbianus
Whimbrel	Numenius phaeopus
White-fronted Goose	Anser albifrons
Whooper Swan	Cygnus cygnus
Willow Tit	Poecile montanus
Wood Duck	Aix sponsa
Wood Sandpiper	Tringa glareola
Wood Warbler	Phylloscopus sibilatrix
Yellow Wagtail	Motacilla flava
Yellowhammer	Emberiza citrinella

Flora	
Common Name	Latin Name
Alder Buckthorn	Frangula alnus
Bee Orchid	Ophrys apifera
Bitter-vetch	Lathyrus linifolius
Bluebell	Hyacinthoides non-scripta
Bluebell	Hyacinthoides non-scripta x hispanica = H. x massartiana
Brookweed	Samolus valerandi
Buck's-horn Plantain	Plantago coronopus
Caper Spurge	Euphorbia lathyris
Cherry Laurel	Prunus laurocerasus
Chicory	Cichorium intybus
Columbine	Aquilegia vulgaris
Common Cottongrass	Eriophorum angustifolium
Common Valerian	Valeriana officinalis
Devil's-bit Scabious	Succisa pratensis
Eared Willow	Salix aurita
Field Pepperwort	Lepidium campestre
Field Scabious	Knautia arvensis
Golden Dock	Rumex maritimus
Grape-hyacinth	Muscari neglectum
Greater Burdock	Arctium lappa
Greater Celandine	Chelidonium majus
Harebell	Campanula rotundifolia
Heath Speedwell	Veronica officinalis
Heather	Calluna vulgaris
Himalayan Balsam	Impatiens glandulifera
Himalayan Cotoneaster	Cotoneaster simonsii
Hybrid Avens	Geum rivale x urbanum = G. x intermedium
Japanese Rose	Rosa rugosa
Lesser Hawkbit	Leontodon saxatilis
Marsh Ragwort	Jacobaea aquatica
Marsh Valerian	Valeriana dioica
Navelwort	Umbilicus rupestris
Nuttall's Waterweed	Elodea nuttallii
Orange Balsam	Impatiens capensis
Orange Foxtail	Alopecurus aequalis
Pear	Pyrus communis
Portugal Laurel	Prunus lusitanica
Ragged-Robin	Silene flos-cuculi
Rhododendron	Rhododendron ponticum
Round-fruited Rush	Juncus compressus
Rye Brome	Bromus secalinus

Sanicle	<i>Sanicula europaea</i>
Scarlet Pimpernel	<i>Anagallis arvensis</i> subsp. <i>arvensis</i>
Slender Trefoil	<i>Trifolium micranthum</i>
Small-leaved Lime	<i>Tilia cordata</i>
Smooth Brome	<i>Bromus racemosus</i>
Tawny Sedge	<i>Carex hostiana</i>
Tubular Water-dropwort	<i>Oenanthe fistulosa</i>
Variegated Yellow Archangel	<i>Lamium galeobdolon</i> subsp. <i>argentatum</i>
Velvet Bent	<i>Agrostis canina</i>
Wall Cotoneaster	<i>Cotoneaster horizontalis</i>
White Stonecrop	<i>Sedum album</i>
Wild Strawberry	<i>Fragaria vesca</i>
Wood-sorrel	<i>Oxalis acetosella</i>

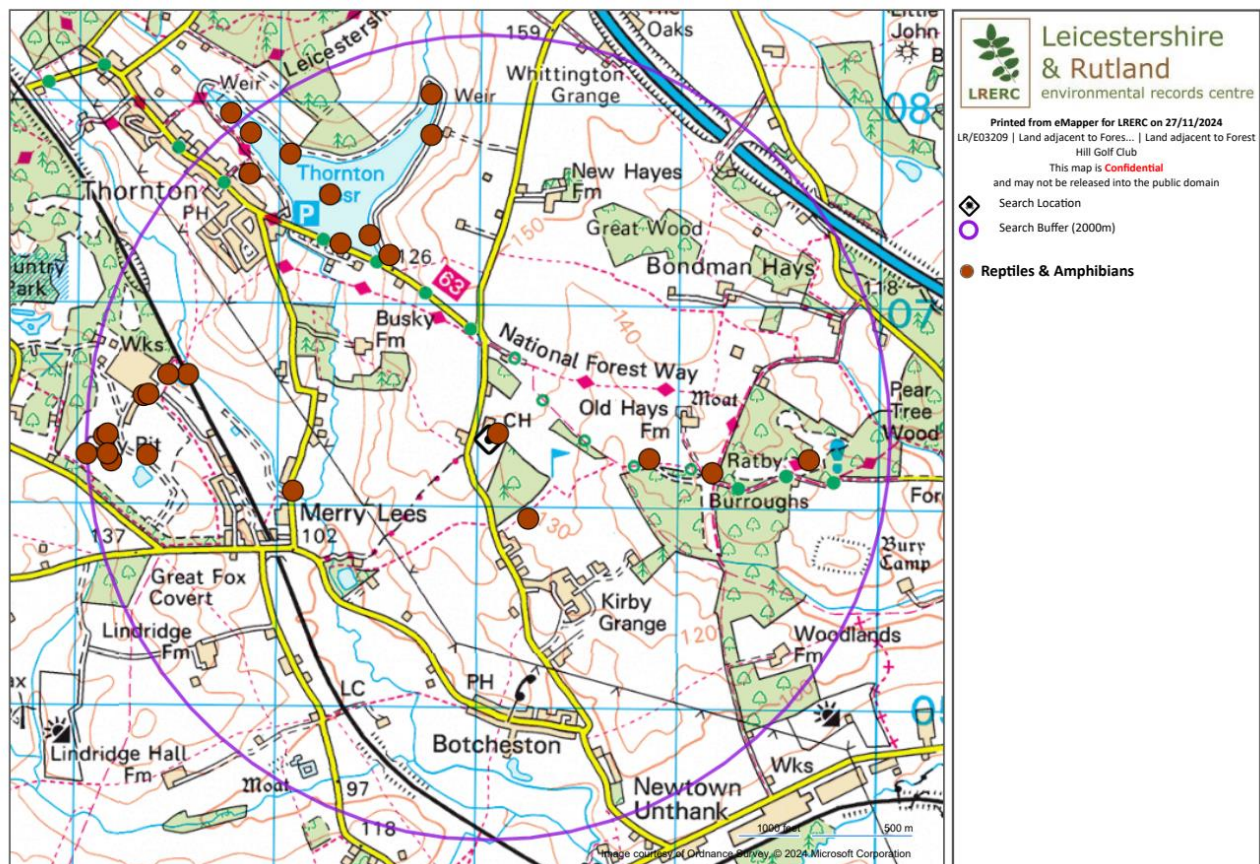
Invertebrates	
Common Name	Latin Name
Beaded Chestnut	<i>Agrochola lychnidis</i>
Brindled Beauty	<i>Lycia hirtaria</i>
Buff Ermine	<i>Spilosoma lutea</i>
Centre-barred Sallow	<i>Atethmia centrargo</i>
Cinnabar	<i>Tyria jacobaeae</i>
Dingy Skipper	<i>Erynnis tages</i>
Dusky Thorn	<i>Ennomos fuscantaria</i>
Grey Dagger	<i>Acronicta psi</i>
Harlequin Ladybird	<i>Harmonia axyridis</i>
Knot Grass	<i>Acronicta rumicis</i>
Latticed Heath	<i>Chiasmia clathrata</i>
Oak Hook-tip	<i>Watsonalla binaria</i>
Powdered Quaker	<i>Orthosia gracilis</i>
Purple Emperor	<i>Apatura iris</i>
Rosy Rustic	<i>Hydraecia micacea</i>
Rustic	<i>Hoplodrina blanda</i>
Sallow	<i>Cirrhia icteritia</i>
Shaded Broad-bar	<i>Scotopteryx chenopodiata</i>
Small Emerald	<i>Hemistola chrysoprasaria</i>
Small Heath	<i>Coenonympha pamphilus</i>
Small Phoenix	<i>Ecliptopera silaceata</i>
Small Square-spot	<i>Diarsia rubi</i>
Wall	<i>Lasiommata megera</i>
White Ermine	<i>Spilosoma lubricipeda</i>
White-letter Hairstreak	<i>Satyrus w-album</i>

Mammals	
Common Name	Latin Name

American Mink	Neovison vison
Badger	Meles meles
Bat	Chiroptera
Brown Long-eared Bat	Plecotus auritus
Common Pipistrelle	Pipistrellus pipistrellus
Daubenton's Bat	Myotis daubentonii
Hare	Lepus europaeus
Hedgehog	Erinaceus europaeus
Long-eared Bat species	Plecotus
Muntjac	Muntiacus reevesi
Myotis Bat species	Myotis
Nathusius's Pipistrelle	Pipistrellus nathusii
Natterer's Bat	Myotis nattereri
Noctule	Nyctalus noctula
Nyctalus Bat species	Nyctalus
Pipistrelle Bat species	Pipistrellus
Serotine	Eptesicus serotinus
Soprano Pipistrelle	Pipistrellus pygmaeus
Whiskered Bat	Myotis mystacinus
Whiskered/Brandt's Bat	Myotis mystacinus/brandtii

Appendix C: Ecological Data Search Maps

Amphibians



This topographic map of the Leicestershire area shows the distribution of blue dots, which represent a specific data set. The map includes geographical features like the River Great Ouse, National Forest Way, and various villages such as Thorntoft, Busby, and Botcheston. A large cluster of blue dots is visible near Thorntoft, and several other dots are scattered throughout the area.



Leicestershire & Rutland

environmental records centre

Printed from eMapper for LRERC on 27/11/2024

LR/E03209 | Land adjacent to Fores... | Land adjacent to Forest Hill Golf Club

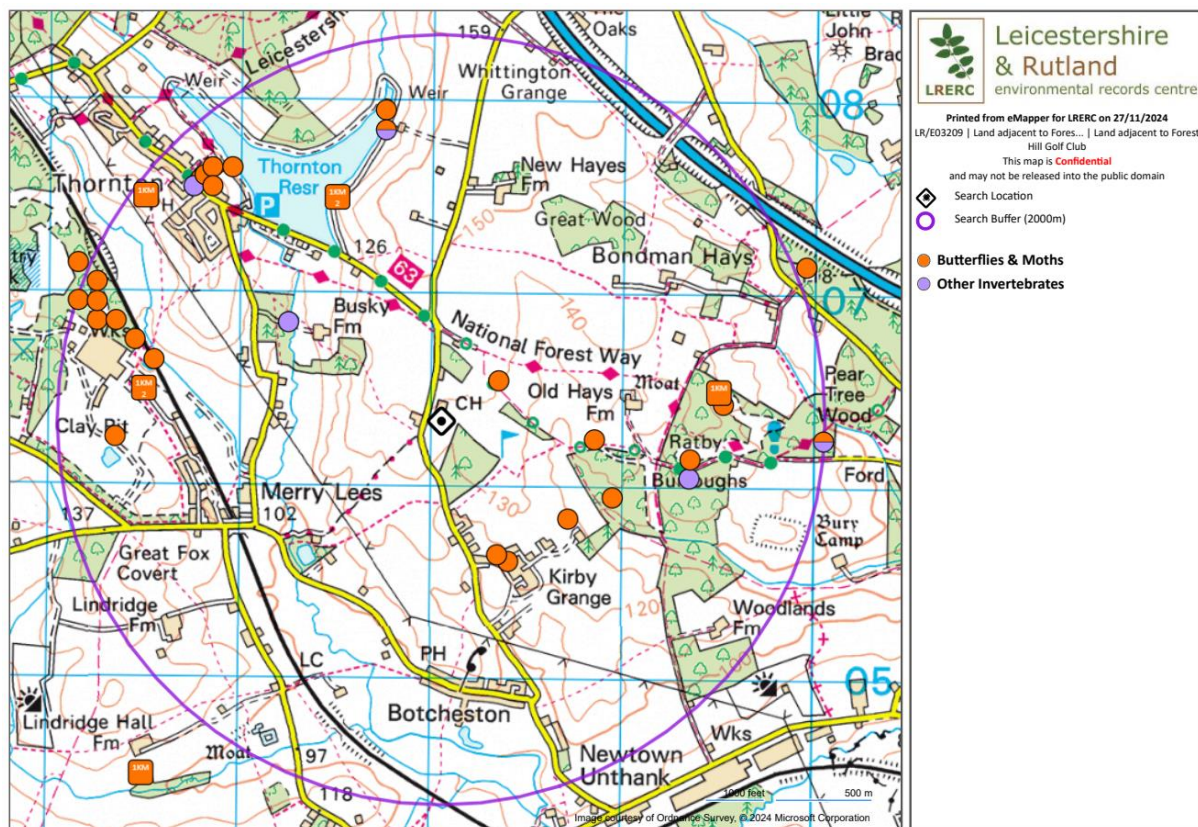
This map is **Confidential** and may not be released into the public domain

 Search Location

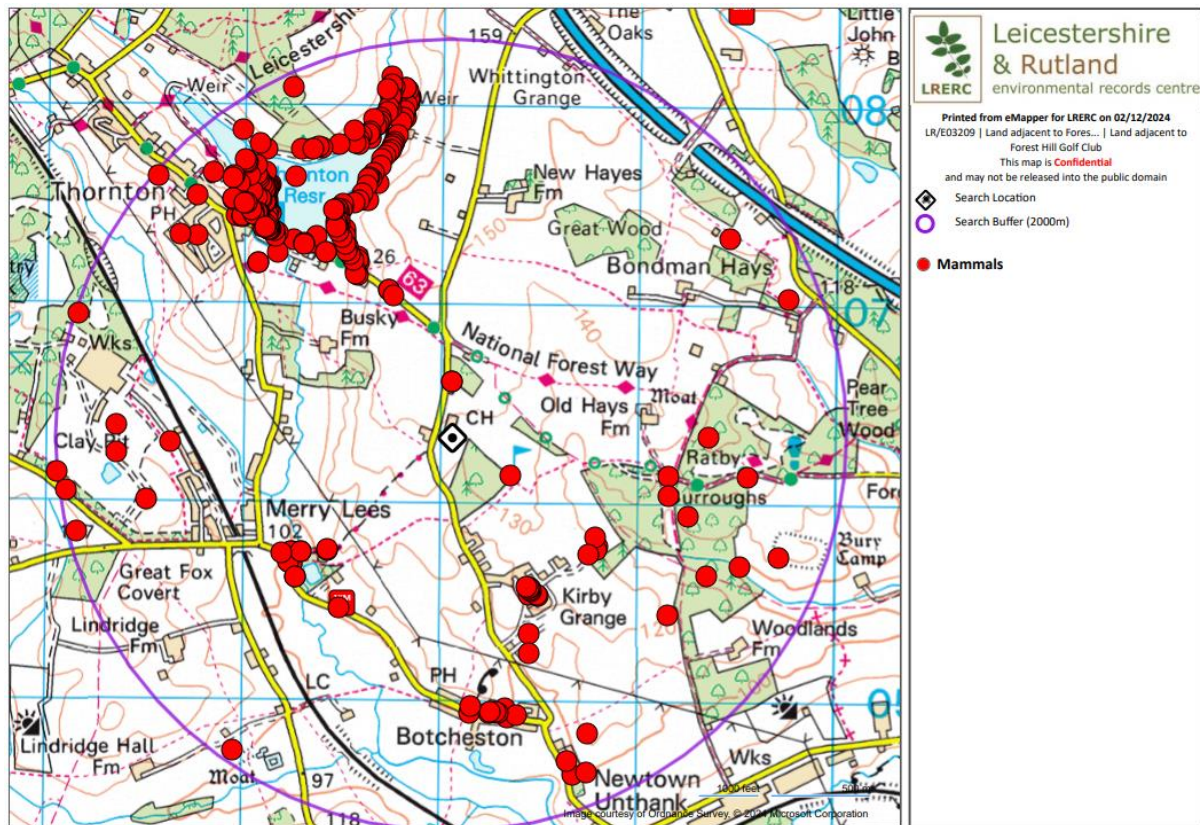
 Search Buffer (2000m)

 Birds

Butterflies and moths

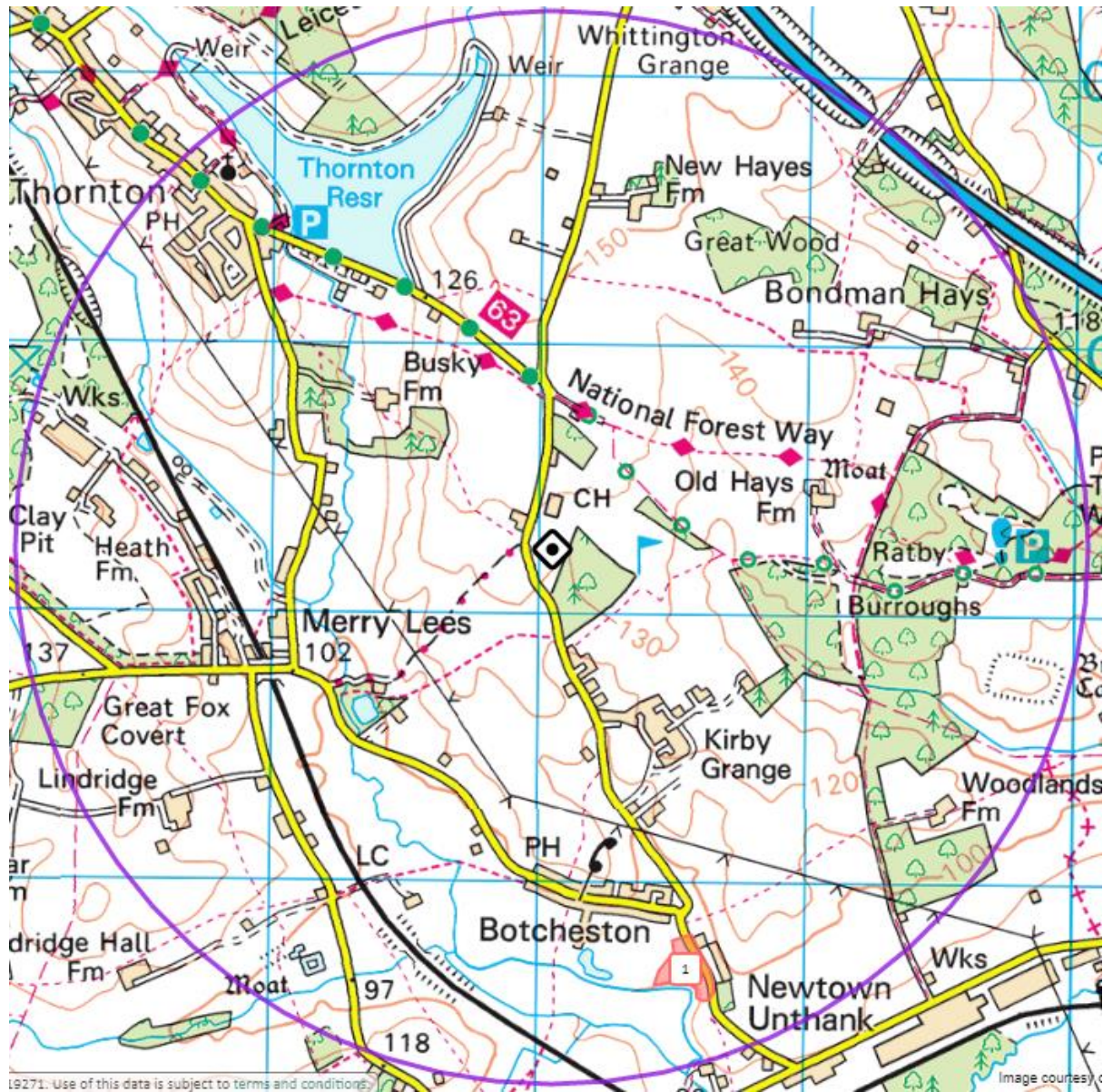


Mammals



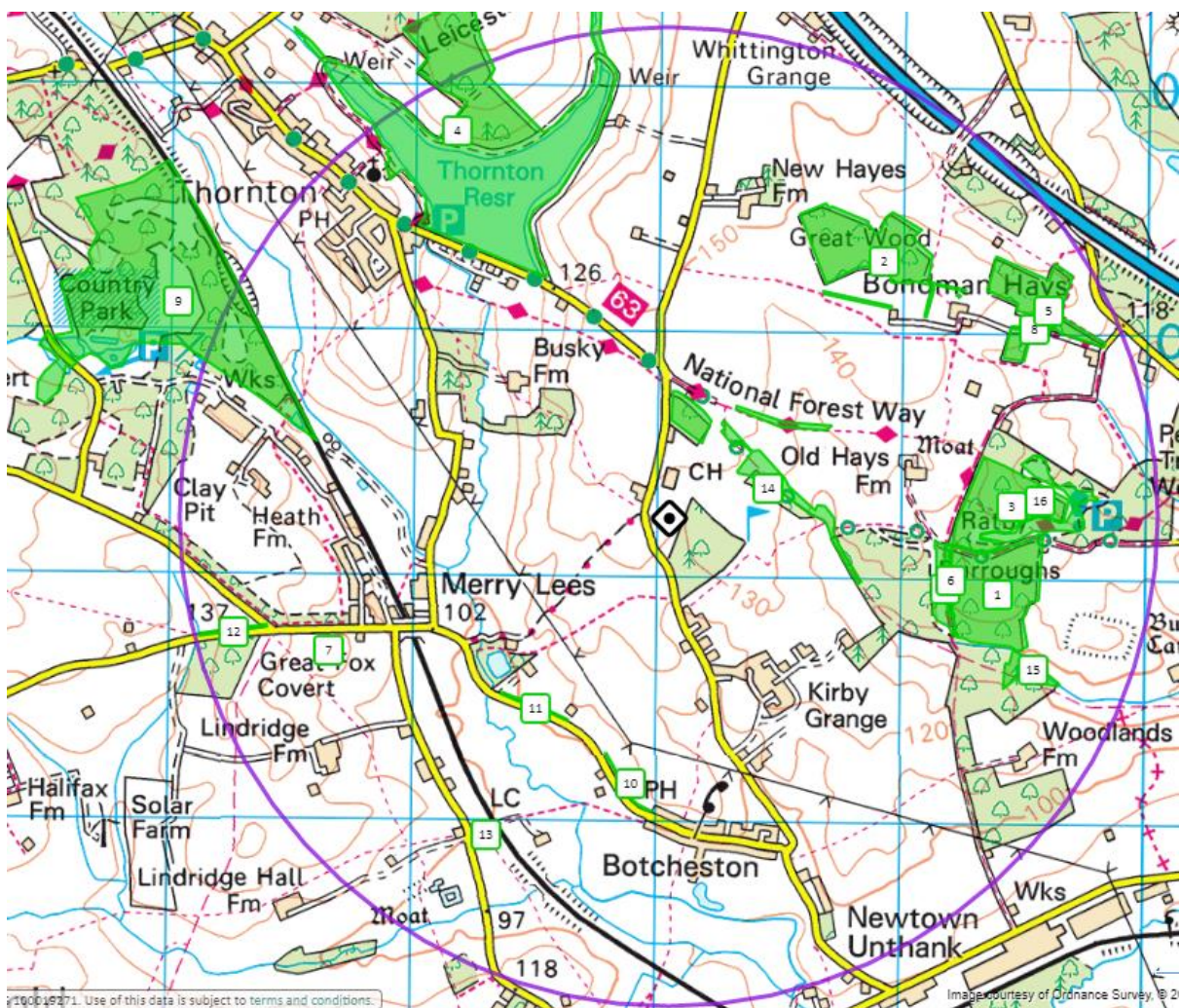
National

1: Botcheston Bog

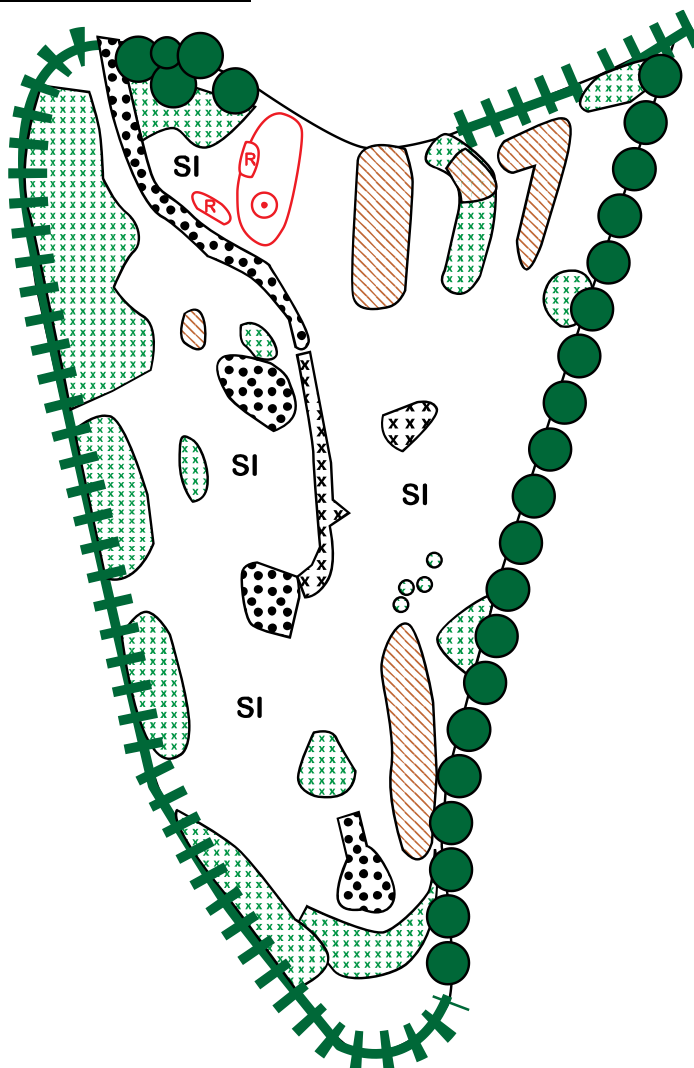


Local Wildlife Sites (LWS)

- 1: 11191 - Ratby Burroughs (S)
- 2: 11199 - Great Wood
- 3: 25880 - Burroughs Wood
- 4: 25882 - Thornton Reservoir
- 5: 50932 - Choyce's Rough
- 6: 53681 - Burroughs Verge / Bank
- 7: 58179 - Mature Ash Tree, The Swallows, Merry Lees
- 8: 72529 - Hedgerow off Cow Lane
- 9: 90370 - Bagworth Heath Country Park
- 10: 90953 - Botcheston, roadside verge west of village, north side
- 11: 90954 - Botcheston, Lodge Farm roadside verge and hedge
- 12: 91613 - Bagworth, Merrylees Rd hedge, opposite Great Fox covert
- 13: 92046 - Desford, Lindridge Lane Footpath Hedgerow
- 14: 92062 - Crow and Polebrook Woods and adjacent footpath and bridleway with remnant woodlands
- 15: 92065 - Change Spinney
- 16: 92078 - Ratby Burroughs meadows
- 17: 92079 - Ratby, grassland and woodland edge west of Burroughs Wood (S)

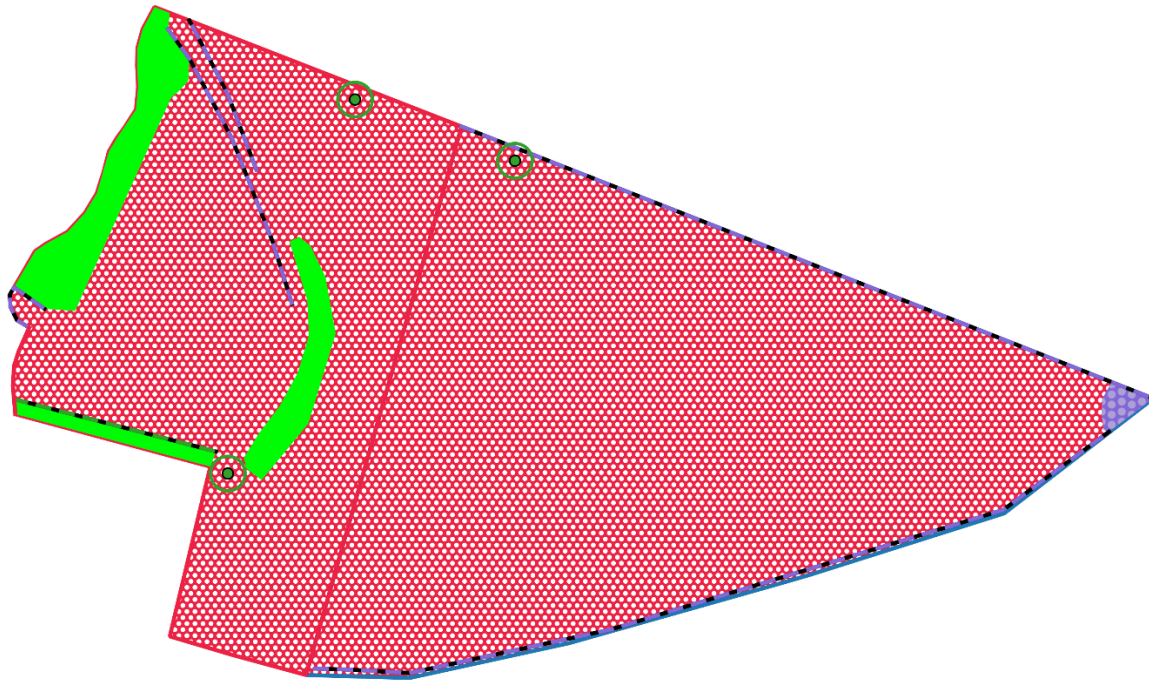
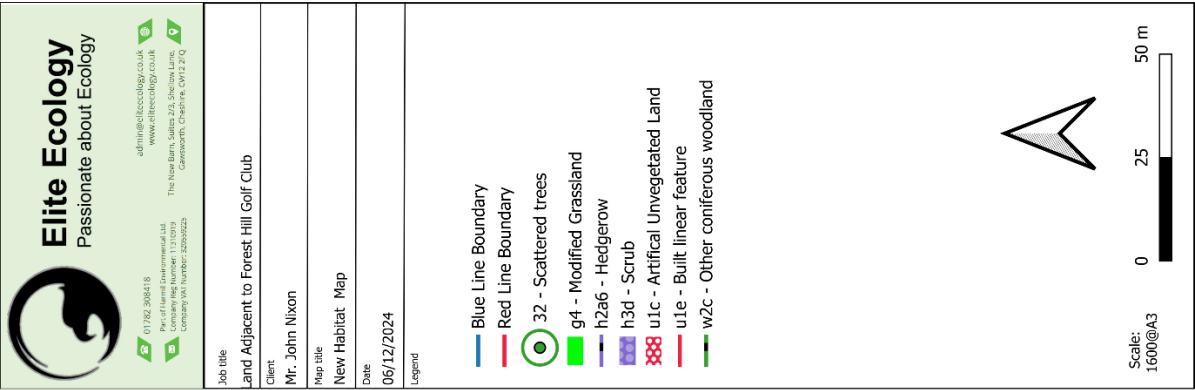


Appendix D: Phase 1 Habitat Map



KEY	
	A2.2 - Scattered scrub
	A3.1 – Broad-leaved scattered trees
SI	B6 - Poor Semi-improved grassland
	C3.1 - Tall Ruderal
	I2.4 – Refuse-tip
	J1.3 – Ephemeral/short perennial
	J3.2.2 - Species poor hedge and trees
	J4 - Bare ground
	J5 - Brash pile

Phase 1 Habitat Map - Post Clearance



Appendix E: Biodiversity Legislation and Policy

General Legislation and Policy:

The framework of legislation and policy which underpins nature conservation in England. This is a material consideration in the planning process in England.

Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2010 as amended)

The Conservation of Habitats and Species Regulations 2017 consolidate and update the Conservation Regulations 1994 and the conservation of habitats and species regulations 2010 (and all their amendments). The Conservation of Habitats and Species Regulations 2017 are the principal means by which the EEC Council Directive 92/43 (The Habitats Directive) as amended is transposed into English and Welsh law.

The Conservation of Habitats and Species Regulations 2017 place duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Conservation of Habitats and Species Regulations 2017 also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively. Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

The Wildlife and Countryside Act (WCA) 1981 (As amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Conservation (Natural Habitats. & c.) Regulations 1994 (as amended), offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs.

The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists supersede Section 74 of the CRoW Act 2000. These species and habitats are a material consideration in the planning process.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Biodiversity Action Plan

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. Lists of Broad and Local habitats are also included. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

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

Planning Policy (England) and National Planning Policy Framework

In early 2012, the National Planning Policy Framework (NPPF) replaced much previous planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives. The latest National Planning Policy Framework was updated in February 2019, with the section in relation to conserving the natural environment being located within section 15.

Section 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and, where possible, provide net gains in biodiversity. Opportunities to incorporate biodiversity gains into a development should be encouraged.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused.

Species Specific Legislation

This section contains a summary of legislation with relation to the species present or potentially present in the survey area. The reader should refer to the original legislation for definitive interpretation.

Nesting and Nest Building Birds

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Some species (listed in Schedule 1 of the WCA) are protected by special penalties.

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

'Reckless' offences with regard to the disturbance of nesting wild birds included in Schedule 1 of the Wildlife and Countryside Act were added by the Countryside and Rights of Way Act 2000.

The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. These lists include a number of bird species.

The reader is referred to the original legislation for the definitive interpretation.

Badger

The main legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992 (the 1992 Act). Under the 1992 Act it is an offence to:

- wilfully kill, injure, take or attempt to kill, injure or take a badger;
- possess a dead badger or any part of a badger;
- cruelly ill-treat a badger;
- use badger tongs in the course of killing, taking or attempting to kill a badger;
- dig for a badger;
- sell or offer for sale or control any live badger;
- mark, tag or ring a badger; and
- interfere with a badger sett by:
 - damaging a sett or any part thereof;
 - destroying a sett;
 - obstructing access to a sett;
 - causing a dog to enter a sett; and
 - disturbing a badger while occupying a sett.

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger".

Bats

All species of bat are fully protected under a variety of domestic, European and international legislation and conventions. These include:

- Bern Convention (Appendix II)
- Bonn Convention (Appendix II)
- Conservation Regulations (Northern Ireland) 1995
- Conservation of Habitats and Species Regulations 2017
- Countryside Rights of Way Act 2000
- Eurobats Agreement
- Habitats Directive (Annexes IV and II)
- Habitats Regulations 1994 (as amended) Scotland
- NERC Act 2006
- Wildlife and Countryside Act 1981 (as amended)
- Wild Mammals Protection Act

In addition to this, some species have additional protection by being listed on the UK Biodiversity Action Plan (UKBAP).

The legislation afforded to bats makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a bat while it is occupying a structure or place which it uses for that purpose.

All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which protects birds, nests, eggs and nestlings from harm. In addition to this, some rarer species, such as barn owls are afforded extra protection.

National Planning Policy Framework, Section 15:

The published framework in 2018 replaces the previous Planning Policy Statement 9 and National Planning Policy (dated 2012).

Section 15: Conserving and enhancing the natural environment reaffirms the government's commitment to maintaining green belt protections and preventing urban sprawl, retains the protection of designated sites and preserves wildlife. It also aims to improve the quality of the natural environment and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.

Biodiversity 2020:

This sets out to halt overall biodiversity loss and support healthy well-functioning ecosystems by establishing coherent ecological networks, with more and better places for nature, to the benefit of wildlife and people. The government's policy is aimed at individuals, communities, local authorities, charities, business and government, which all have a role to play in delivering Biodiversity 2020.

Freshwater White-clawed Crayfish

The white-clawed crayfish is partially protected under Wildlife and Countryside Act 1981 (as amended). It is listed on schedule 5 and therefore afforded protection under Section 9 (1 and 5). Therefore, it is an offence to take white-clawed crayfish and to sell, or attempt to sell, any part of the species, alive or dead, or intend to buy or sell.

Great Crested Newt

The great crested newt (*Triturus cristatus*) is fully protected under a variety of legislation and conventions. These include:

- Bern Convention (Appendix II)
- Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
- Conservation of Habitats and Species Regulations 2017
- EU Habitats Directive (Annex II and IV)
- Nature Conservation (Scotland) Act 2004
- NERC Act 2006 (Section 41 England; Section 42 Wales)
- Wildlife and Countryside Act 1981 (as amended)

In addition to this, the great crested newt has been listed as a priority species on the UK Biodiversity Action Plan (UKBAP).

This legislation covers all aspects of newt life stages (eggs, efts and adult newts) and makes it illegal to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.

Licenses can be obtained from Natural England (DEFRA) under the Conservation (Natural Habitats etc.) Regulations 1994, to permit activities for the purposes of:

- Regulation 44(2)(e): 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, or
 - Regulation 44(2)(f): Preventing the spread of disease
 - Regulation 44(2)(g): Preventing serious damage to any form of property or fisheries
- Or
- If there is no satisfactory alternative.

The above regulations allow people to carry out activities which would otherwise be illegal.

Hazel Dormouse

Hazel Dormouse and their habitats are protected by:

- Wildlife and Countryside Act 1981 (as amended)
- Countryside Rights of Way (CROW) 2000
- The Natural Environment and Rural Communities Act 2006
- Conservation of Habitat and Species Regulations 2010

These make it an offence to:

- Capture, injure or kill a Hazel Dormouse
- Disturb a Hazel Dormouse
- Damage or destroy breeding or nesting sites in use by Hazel Dormice
- Disturb a Dormouse whilst it is occupying a structure or place that they use for shelter or protection
- Obstruct access to any structure or place that the Dormouse uses for shelter and protection.
- To possess or control any live or dead specimens.

Otter

Otters are fully protected by the European Habitats Directive (92/43/EEC) by being incorporated in annex II of the legislation. In addition to this, otters are listed on schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take an otter.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by otters.
- To intentionally or recklessly disturb an otter whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell otters.

Reptiles

All six native reptiles within Great Britain are legally protected, with the extent of protection varying dependent upon their rarity and conservation importance.

Those that receive full protection under the Wildlife and Countryside Act 1981 (as amended) are the rare sand lizard and smooth snake. These species also receive protection under the Conservation (Natural Habitats &c.) Regulations 1994 (also referred to as the Habitats Directive). This means that they are protected from deliberate disturbance, killing, injury or capture and the habitat in which they live is also fully protected against damage or destruction. Any activity involving disturbance or damage to habitats utilised by sand lizards or smooth snakes would require a licence issued by the Department of the Environment, Food and Rural Affairs (DEFRA) following consultation with the statutory nature conservation organisation (Natural England).

The remaining four reptile species are 'partially protected' under the Wildlife and Countryside Act 1981 (as amended), with these species being slow-worm, common lizard, grass snake and adder. This means that these species are protected against intentional killing, injuring and against sale, but their habitat is not protected. In planning terms this means that the presence of these species is a material consideration and there is a requirement to ensure that any reptile interest is safeguarded. If a proposed development is likely to have an impact on these reptiles, then the statutory nature conservation organisation must be notified, particularly if capture and translocation is being proposed. In some parts of the UK, sites that support common reptile species such as common lizards and slow-worms can qualify as County Wildlife Sites. Sites of this designation may receive protection in planning policy.

Water Voles

Water Voles are fully protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- To intentionally kill, injure or take a water vole.
- To possess or control any live or dead specimens.
- To intentionally or recklessly damage, destroy or obstruct access to any structure, feature or place of shelter in use by water voles.
- To intentionally or recklessly disturb a water vole whilst it is in occupation of a feature or structure.
- To sell, possess or transport for the purpose of sale or publicly declare the desire to buy or sell water voles.

Non-Native Floral Species

It is an offence under schedule 9 of the Wildlife and Countryside Act 1981 (as amended) to plant or otherwise cause non-native flora to grow in the wild. This includes the transportation of earth that has previously had non-native species growing and includes the spread of the species.

All stands of non-native floral species need to be disposed of safely at a licenced landfill site according to the Environmental Protection Act (Duty of Care) Regulations 199

Appendix F: Bats and Artificial Light

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specify that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

➤ **To introduce lighting curfews or use of PIR sensors.**

Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

➤ **To consider no lighting solutions where possible.**

Options such as white lining, good signage and LED cat's eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

➤ **To use only high-pressure sodium or warm white LED lamps where possible.**

High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

➤ **To minimise the spread of light.**

The light spread should be kept at or near horizontal to ensure 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. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

➤ **To consider the height of the lighting column.**

While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing, or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

➤ **To avoid reflective surfaces below lights.**

The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

9. Notice to Readers: Conditions of this Report

All reports are certified products and cannot be shown, copied, or distributed to third parties without the written permission of Elite Ecology. No liability is accepted for the contents of the report, other than to that of the client(s). If any part of this report is altered without the written permission of Elite Ecology, then the whole report becomes invalid.

Elite Ecology agrees to supply ecological consulting services and advice of a preliminary or thorough nature as advised or commissioned. Upon commissioning Elite Ecology to undertake the work, the client(s) grant access to the site upon the agreed date. If no site access is available upon this date, Elite Ecology holds the right to charge the client(s) for lost staffing time and additional travel costs.

Elite Ecology undertake all site surveys with reasonable skill, care, and diligence, within the terms of the contract that has been agreed with the client and abiding by the Elite Ecology Terms and Conditions. The actions of the surveyors on site, and during the production of the report, were undertaken in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management.

The latest good practice guidelines put in place by Natural England or the relevant statutory conservation bodies have been followed by the surveyors on site. If those methodologies fail to identify a protected species during the survey efforts, no responsibility can be attributed to Elite Ecology. If any of these guidelines are adapted between the date(s) of the surveys being undertaken and the submission of this report, then Elite Ecology takes no responsibility for this.

Should any equipment be damaged or lost on site at the fault of the client(s), then Elite Ecology withholds the right to charge 100% above the current market value for that exact product or the nearest similar product.

The survey results purport the current status of the site and its potential for protected species utilisation at the time of surveying. It should not be viewed as a complete list of the possible flora and fauna species that could be using the site at different times of the year.

Elite Ecology has been provided with full payment for this report and thus the product has been released to the client(s) for the purpose of their planning application. If any part of the report is lost or altered without the written permission of Elite Ecology, then the entire report becomes invalid. Due to the potential for continual change within the natural world, this report is valid for **2 years only** from the date of the last survey visit. If this report is submitted after the 2 year deadline, then a further updated inspection will be required to ascertain whether the site remains in the same condition as it was when initially inspected.

No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.