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Client: P A Wright and Sons Ltd, Gopsall House Farm, Twycross CV9 3PP

Phase 1: Preliminary Ecological Appraisal

Land at Gopsall Hall Farm

Document Reference: **Gopsall0925_PEA**

Prepared: August 2025

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NE class license: Bats: survey (level 2)

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SUMMARY

The Phase 1 preliminary ecological appraisal is undertaken in order to identify key ecological constraints to the proposed development; inform planning to allow significant ecological effects to be avoided or minimized; identify any further ecological surveys needed to inform an ecological impact assessment and to support the development of mitigation of compensation measures.

Methodology

The survey was conducted by carrying out a systematic walkover of the site by Dr. Stefan Bodnar to record habitats, species, and any notable features of interest with regard to flora & Fauna. This is in accordance with standard Phase 1 survey techniques (JNCC, 2016) ¹ and is a methodology recommended by CIEEM (2018^{1,2}).

Key Issues and Conclusions

- This Phase 1 Ecology Report confirms that the Construction Zone is of 'mainly low ecological value' consisting of Building, hardstanding, improved grassland though with mature landscape trees of higher value and SI grassland to the lower section of the garden.
- The proposed development should demonstrate Net Biodiversity Gain, in accordance with National Planning Policy Framework 2024
- There are no Statutory Designated Nature Conservation Sites adjacent to the site.
- The Biological Data Search no protected species were recorded within the site. There is no evidence of badger use of the site, and no setts within 30m of the build, therefore no further surveys are required.
- The Dower house building has high bat roost potential, therefore to determine any potential use by bats, 3 emergence surveys will be required in line with BCT Good practice Survey guidelines (2023), **should the roof or loft space be impacted**
- **The mature isolated oak trees and in hedge mature oak/ash trees have moderate and high bat roost potential**, 3 emergence surveys will be required in line with BCT Good practice Survey guidelines (2023), **should any of these trees be impacted**
- Any works to the workshop roof (categorization negligible bat roost potential) will require supervision of strip.
- The site is of low suitability for reptiles and amphibians, but bearing in mind the habitats affected which are of low to negligible value, no further surveys are required, although a series of precautions should be taken during development, as detailed in section 4.3b. .
- No site clearance is indicated but any site clearance required should be undertaken outside of the peak bird breeding season (mid March to mid August) or undertaken under ecological supervision.
- There are no signs of non native invasive plant species.

1. INTRODUCTION

1.1. Background

At the request of the client, a Phase 1 Preliminary Ecological Appraisal was carried out at an area of land and buildings at Gopsall Hall farm, Bilston Road, Twycross, CV9 3PP, to evaluate the habitats, describe any further surveys required and indicate the level of required mitigation/ compensation/ enhancement in relation to the proposed development of the site.

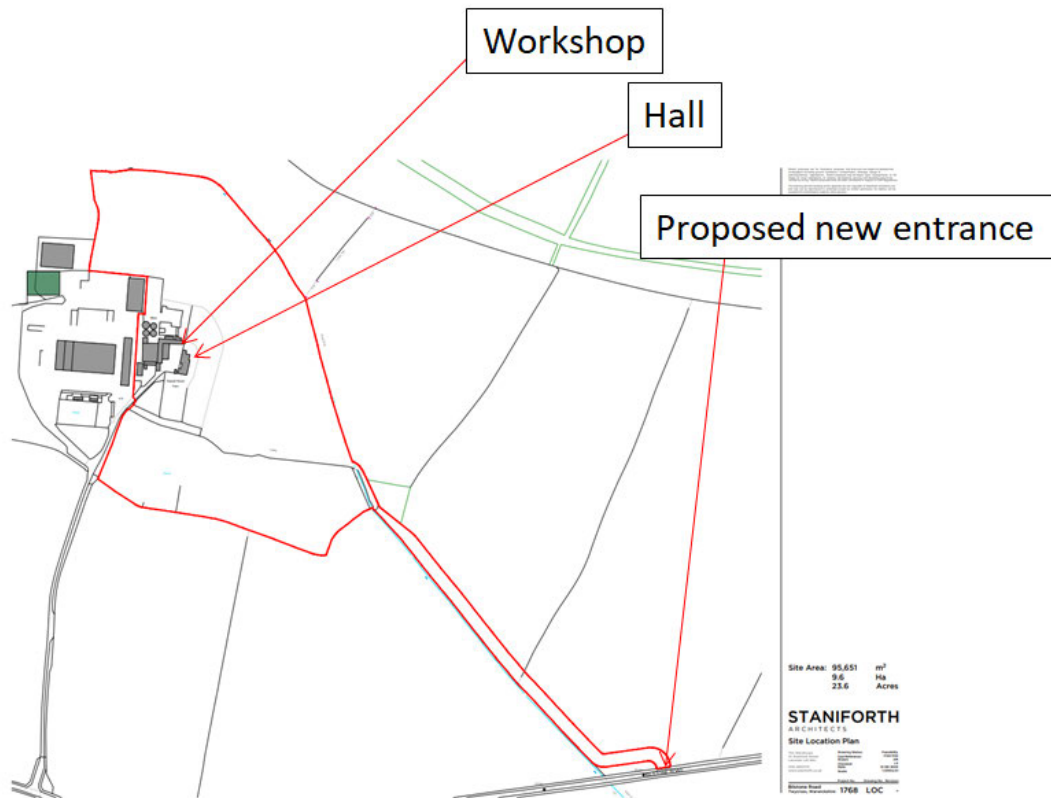
1.2. Site Location

The site is an area of land and buildings at Gopsall Hall farm, Bilston Road, Twycross, CV9 3PP. The site location is described on the below. A satellite image and Phase One diagram (see Appendices) also show the areas concerned.

Figure 1. Showing site location



Map data 2025© Google.



Location plan



Site plan

It is understood that any proposed works are limited to the main Hall and workshop as shown above. In addition, the land to the East leading to the road is included as this will form a new entrance and roadway leading to the Hall.

1.3. Site Description

The main building (Dower House) is a Grade 2 listed 3 storey detached property dating from the mid 18th Century. Listing below:

Heritage Category:	Listed Building
Grade:	II
List Entry Number:	1074216
Date first listed:	10-Aug-1989
List Entry Name:	GOPSALL HOUSE FARMHOUSE
Statutory Address 1:	GOPSALL HOUSE FARMHOUSE, 15, BILSTONE ROAD

Location

Statutory Address:	GOPSALL HOUSE FARMHOUSE, 15, BILSTONE ROAD
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The building or site itself may lie within the boundary of more than one authority.

County:	Leicestershire
District:	Hinckley and Bosworth (District Authority)
Parish:	Twycross
National Grid Reference:	SK 34663 05649

Details

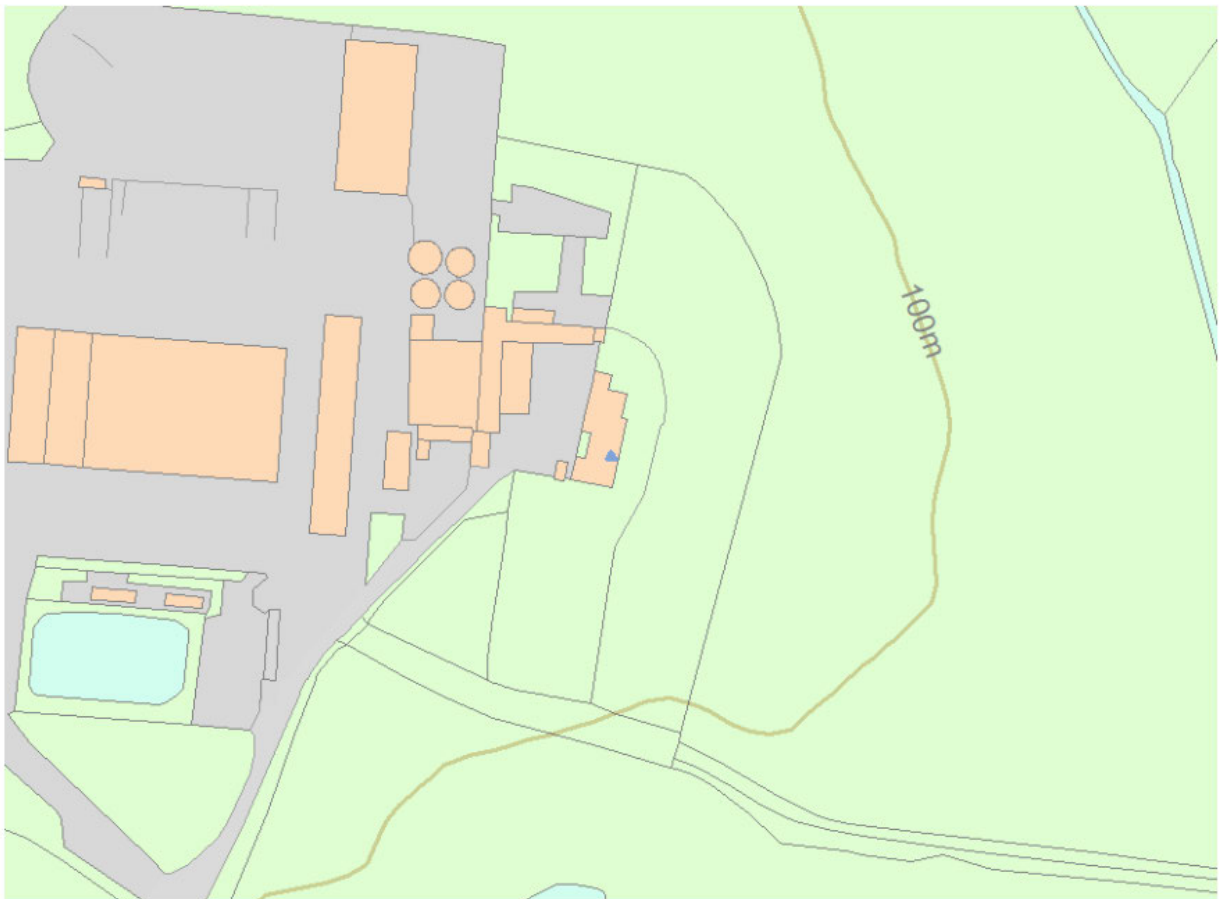
SK 30 NW TWYXCROSS BILSTONE ROAD (north side) 1/106 Gopsall House Farmhouse (No 15)

II

House, formerly the dower house to Gopsall Park (demolished). Circa 1740. Red brick with plain tile roof and brick ridge stacks. 2 storeys and attic with first floor band and rubbed brick eaves cornice. Regular 1:3:1 window front with central pedimented projection; glazing bar sashes in open boxes, with segmental heads; round window in tympanum of pediment and 2 flat topped and corniced dormers. 2 gables to rear with central recess. Left return front of 2 storeys and 2 bays. Interior modernised.

Listing NGR: SK3466305649

This building is listed under the Planning (Listed Buildings and Conservation Areas) Act 1990 as amended for its special architectural or historic interest.



It is in brick with clay tile, re-roofed in 1970s. Clay hips and ridge. Frontage has a round window as a design leading into the upper storey rooms and 2 x front dormer windows dating from pre

1920s, though worked on previously (flat mineral roof, decayed wood). There is a 2 storey infill to rear of building in brick and clay tile, and a side single storey clay tile roof extension to side from 1990s, orangery from 2008. Mainly intact, lifted flashing by chimney and missing mortar in one location on a hip, slight raised tiles by chimney and by dormer. No soffits, corballed effect to main building. The area in front of the building is a mown modified grassland, the area further towards native hedgerows with in hedge native trees (Ash, oak) which lies within a parkland type setting with mature isolated oak trees. It is understood all the hedges and trees are unaffected by proposed works. To the south of the house is a formal garden area with landscape plantings and early mature cypresses and further south still is an ornamental fish pond, both of which are outside the scope of the Planning application.



Map data 2025 © Google.

Figure 2. Satellite image of local area around proposed development site.

1.4. Brief Description of Project: Refer to planning application for full detail

1.5. Purpose of the Preliminary Ecological Appraisal

The phase 1 preliminary ecological appraisal report identifies key ecological constraints to the proposed development; informs planning to allow significant ecological effects to be avoided or minimized; identifies any further ecological surveys needed to inform an ecological impact assessment and supports the development of mitigation of compensation measures. It is composed of two parts. A site visit, during which a preliminary ecological appraisal of the site is carried out to identify the major habitat types, plant, bird, reptile, mammal and other species using the site. Also a desk study, which gathers ecological data on the site and its surrounding area, to identify protected species and statutory protected sites in the vicinity of the proposed development site, in order to produce recommendations on the key ecological constraints to the proposed development.

2. METHODOLOGY

2.1 Desk Study Methodology

Information was gathered from a number of web-based data sources, published ecological reports and where appropriate, the authors own records. The ecological data search covers the following areas:

- ☐ Species of particular note
- ☐ Local Nature Reserves
- ☐ Protected species (e.g. badger, grass snake, great crested newts, otter, water vole and bats).

Plant names (common and scientific) within this report follow 'New Flora of the British Isles' (Stace, 2019)⁸.

2.2. Survey Methodology

The survey was conducted by carrying out a systematic walkover of the site by Dr. Stefan Bodnar to record habitats, species, and any notable features of interest with regard to flora & Fauna. This is in accordance with standard Phase 1 survey techniques (JNCC (2106)¹ and is a methodology recommended by CIEEM (2018)^{2,3}.

During the survey, emphasis was placed on searching for evidence of and potential of habitats and features supporting protected or notable species, especially those listed under the Conservation of Habitats and Species Regulations, revised 2017⁴, and the Wildlife & Countryside Act 1981 (as amended)⁵.

The range of methods used were as follows:

Bats

The assessment was carried out using the guidance provided within the publication: Bat Surveys for Professional Ecologists (4th Edition), BCT (2023)⁶, the relevant section is reproduced below:

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Potential suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible ^a	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^b and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
^a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute). ^b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. ^c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten <i>et al.</i>, 2016 and Jansen <i>et al.</i>, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.		

The trees within the site were appraised for their potential suitability to support breeding, resting and hibernating bats in accordance with survey methods documented in the Bat Surveys: Good Practice Guidelines (Bat Conservation Trust 2023)⁶. Features of medium and high potential for bats were searched for signs of use by bats, such as droppings, urine staining and scratches around entrance holes etc.

A visual inspection of the trees from ground level with the aid of binoculars was undertaken to search for evidence of actual bats as well as signs of bats (droppings, feeding remains, urine staining, scratch marks, noise and the remains of dead bats etc.). In addition, the trees were

assessed for the presence of features likely to be attractive to roosting bats, such as cavities or rot holes in the trunk or branches, splits in the timber, delaminating bark, deep bark crevices, dead branches and dense ivy cover etc.

- The site was also assessed for potential bat foraging areas and commuting routes.
- Features of medium and high potential for bats were searched for signs of use by bats, such as droppings, urine staining and scratches around entrance holes etc. The site was also assessed for actual and potential bat foraging areas and commuting routes.
- Buildings within the site were assessed in accordance with the methodology outlined in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines (2023)⁶

□ **Reptiles**

The site was assessed for its suitability to support reptiles based upon the abundance of suitable habitats such as structurally diverse habitats, hedgerows, scrub, rough grassland, wood piles, rubble, banks and compost heaps etc. The site was assessed with respect to its potential for use for hibernation and spring/summer use based on guidance provided in the Herpetofauna Workers' Manual (Joint Nature Conservation Committee 2003)⁹ , Common Standards Monitoring Guidance for Reptiles and Amphibians, 2004, JNCC¹⁰ and the Reptile Management Handbook (Edgar, Foster & Baker 2010)¹¹. Great Crested Newts were assessed using techniques described in the Great Crested Newt Conservation Handbook by Tom Langton, Catherine Beckett and Jim Foster¹⁴

[REDACTED]

Birds

All birds observed during the field survey were recorded, in addition to features capable of supporting nesting birds (e.g. trees, hedgerows, buildings, bramble beds, ruderal vegetation and rough grassland etc). The site was also assessed for its actual and potential suitability to support

Schedule 1 (Wildlife & Countryside Act 1981 (as amended)⁵ and Biodiversity Action Plan priority species (now included within Section 41 of the NERC Act)⁷.

Other Species

The site was also assessed for its actual and potential suitability to support other protected or notable fauna including species listed as Invasive species under Schedule 9 of the Wildlife and Countryside Act, 1981, (as amended)⁵ in accordance with the Guidelines for Preliminary Ecological Appraisal (Chartered Institute of Ecology and Environmental Management, 2018^{2,3}).

2.3. Site Location and Access

Gopsall Hall farm, Bilston Road, Twycross, CV9 3PP All areas of the site were available for access.

2.4. Date and Time of Survey

The site assessment was conducted on 25th August 2025.

2.5. Weather Conditions

The weather conditions during the survey were sunny and dry.

2.6. Survey Constraints

Owing to the time of year the initial survey took place it can be considered to provide a reasonable, though not exhaustive plant list. This survey noted the habitat types on the site, and the dominant vegetation at the time of the survey, which is likely to be constant and a fair reflection of the habitat quality present.

2.7 Evaluation of Ecological Features

The potential of the Site to support legally protected or notable species was determined through a review of field observations and desk study information.

The likelihood of the occurrence of any protected and/or invasive species is ranked as follows and relies on habitat suitability for the species at the Site as well as an evaluation, in parallel, of desk study data and published guidance/literature which is referenced accordingly:

- Negligible – while presence cannot be absolutely discounted, the Site supports very limited or poor-quality habitat for a species or species group. There may be no local records of the species/species group from the data search, and the surrounding habitats are considered unlikely to support wider populations of a species/species group. The Site may also be outside or peripheral to the known natural range of a species/species group;
- Low – habitats within the Site are of poor to moderate quality for a given species/species group. There are few or no returns from the data search, but presence cannot be discounted based on the national distribution of the species/species group, the nature of surrounding habitats, habitat fragmentation or recent on-site disturbance, etc.
- Medium – habitats within the Site are of moderate quality providing some opportunities for a given species/species group. The desk study reveals historic local occurrence of the species/species group and the Site is within the national distribution and with suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat isolation, and/or disturbance
- High – habitats within the Site are of high quality for a given species/species group. The desk study provides evidence of local occurrence. The Site may be within/peripheral to a national or regional stronghold and/or has good quality surrounding habitat and good connectivity
- Confirmed Presence - presence confirmed from the most recent site survey or by recent, confirmed records

The CIEEM EcIA guidelines (CIEEM, 2018) state that “the importance of an ecological feature should be considered within a defined geographical context. It is recommended that the following frame of reference be used, or adapted to suit local circumstances:

- International and European;
- National
- Regional
- Metropolitan, County, vice-county or local authority-wide area
- Local

3.0 Results

3.1 Desk Study Results

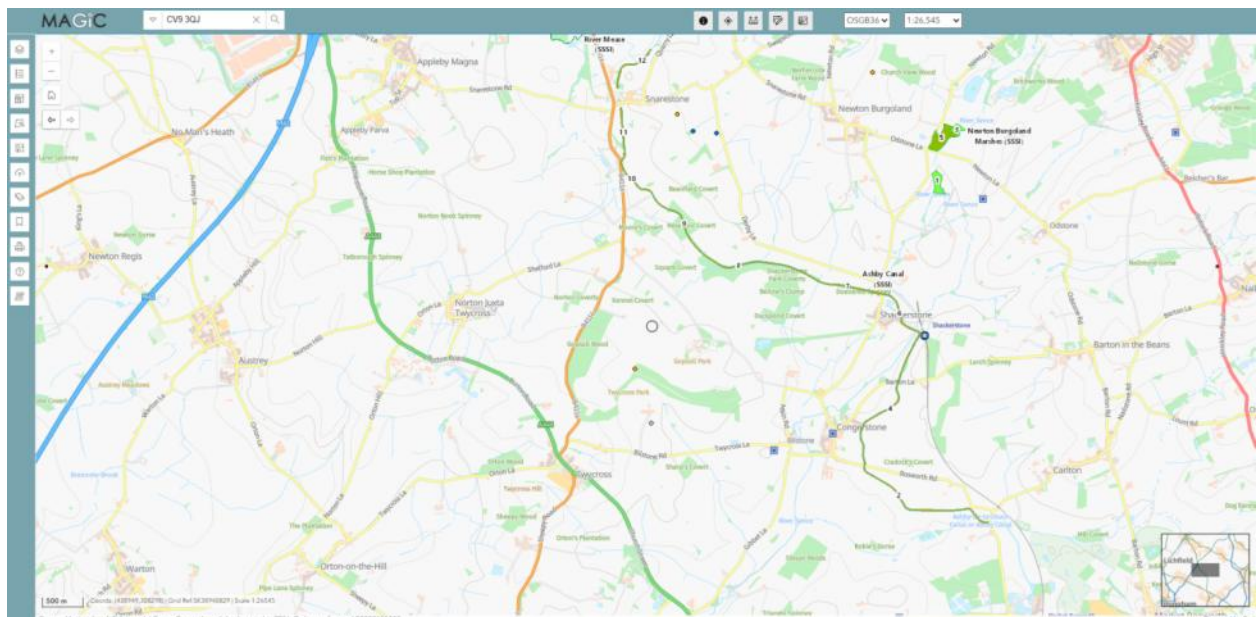
The data is provided from the Natural England 'MAGIC' website¹⁶, obtained on 7th September 2025, and a bespoke data search from LERC (September 2025) appropriate sections reproduced and referenced below

3.1a Statutory & Non Statutory Nature Conservation Sites

The maps below show all Statutory and Non Statutory Nature Conservation Sites (this includes Sites of Special Scientific Interest, Local Wildlife Sites, Local Nature Reserves, Special Areas of Concern) within 5km of the proposed development.

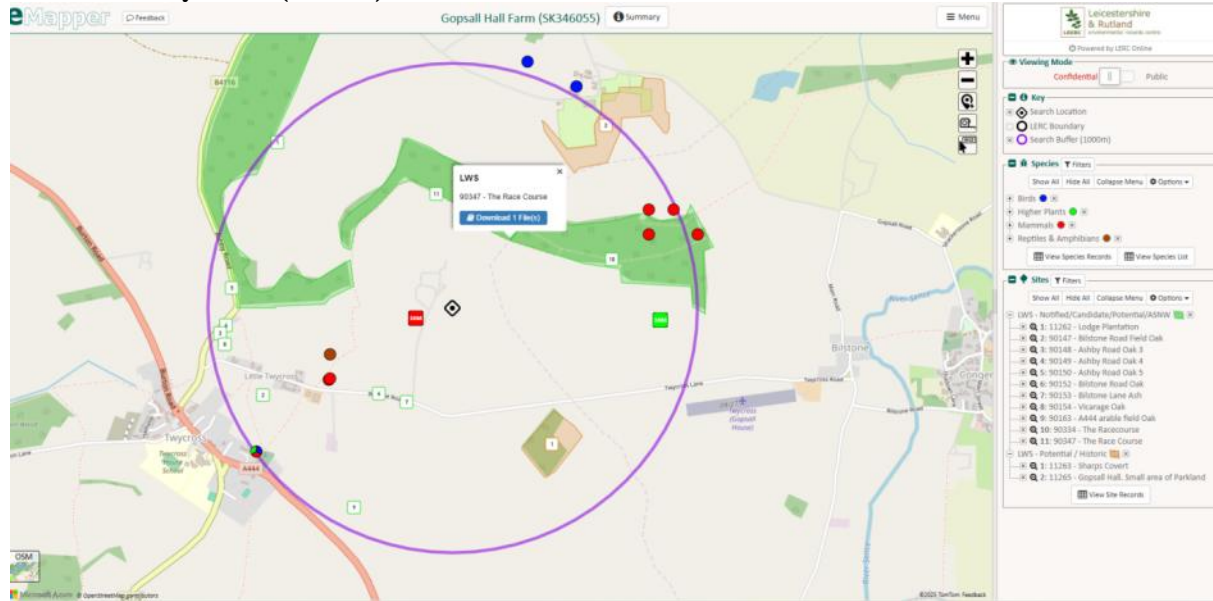
Statutory Protected Sites:

The nearest site is Newton Burgoland SSSI 3.5NE



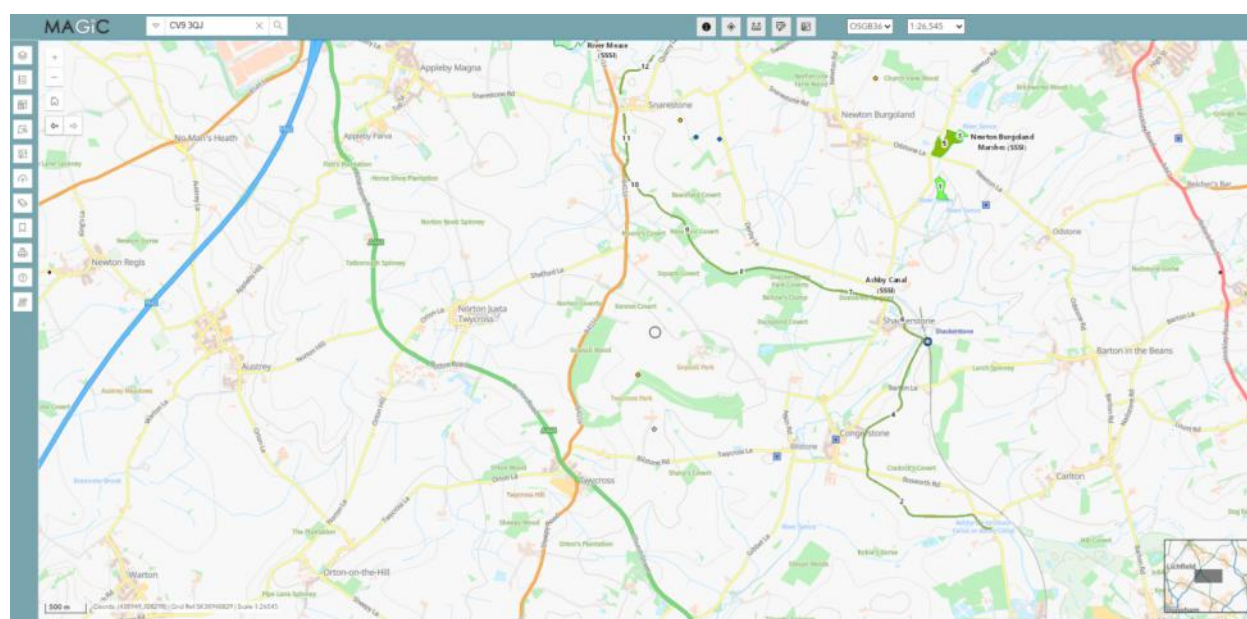
(c) Crown Copyright and database rights 2025. Ordnance Survey 100022861.

Non Statutory Sites (LERC)



Contains a series of Local Wildlife sites (LWS) and candidate Local Wildlife sites. Nearest is The Race course approximately 450m North of site, none near on or abutting the red line development boundary.

A Natural England 'Magic' data search (shown below) illustrates the locations of all European Protected Species license applications in the locality relating to bat roosts and herpetiles.



(c) Crown Copyright and database rights 2025. Ordnance Survey 100022861.

4 species of bats are known to roost within 2km of the site, with Great Crested Newt not present within 5 km.

3.1b. Protected & Notable Species Records

In relation to protected and notable species, the following were recorded from a variety of online web based resources, and in places, the authors own records, presented here with the approximate distances of the nearest record. In addition, a number of ecological survey reports within the area have been interrogated for protected species records. All records are post-2010 unless otherwise stated.

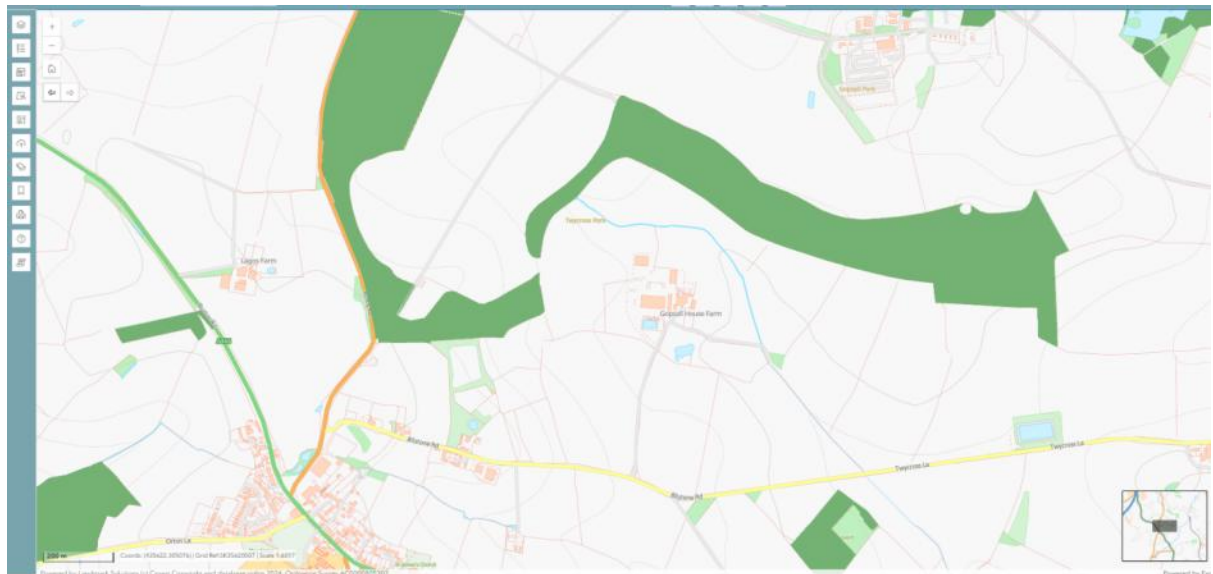
Protected Bat Species Occurrence Table

Species (Latin Name)	Common Name	Approximate distance of nearest record from the survey site (km)
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Within 2 km
<i>Pipistrellus pygamaeus</i>	Soprano pipistrelle	Within 2 km
<i>Myotis natterei</i>	Natterers bat	Within 2 km
<i>Plecotus auritus</i>	Brown long eared bat	Within 2 km

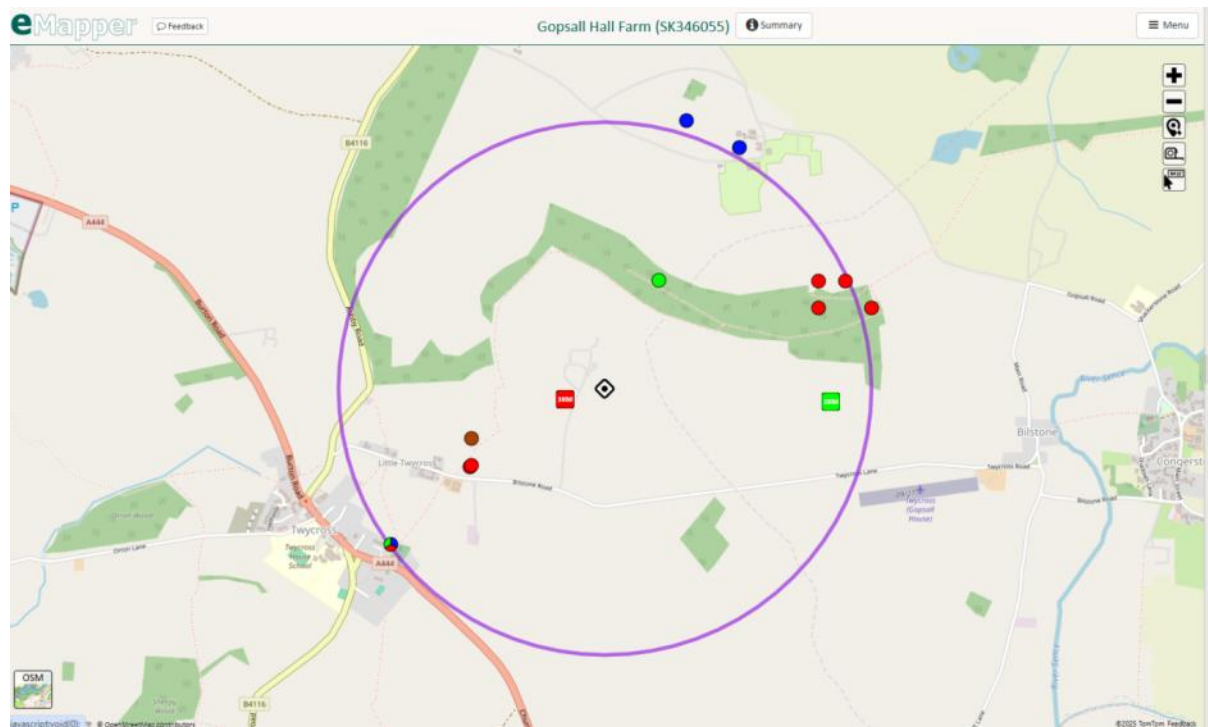
Species (Latin Name)	Common Name	Approximate distance of nearest record from the survey site (km)
<i>Triturus cristatus</i>	Great Crested Newt	Not in 4 km
██████████	██████████	██████████
<i>Erinaceus europaeus</i>	Hedgehog	Within 1 km

On site habitats:

There are no Habitats of Principal Importance identified on the Natural England 'MAGIC' site, See below:



Data from LERC: Protected species:



Relatively few species recorded [REDACTED], and common frog. At 1 km are recorded Barn owl, Hobby, Osprey, Red kite and 'Bat sp.'

3.1c Interpretation of Available Biological Data

The site is not on, near or adjacent to any Statutory or Non Statutory Protected Site.. 4 species of bats are known to roost within 1km of the site, with Great Crested Newt present within 250m at around [REDACTED] and hedgehog are likely to be encountered in the area. Bird records are some distance away and not of relevance to this application

3.2 Survey Results

3.2a Habitat Types Present & Baseline Ecological Conditions

The main house is in brick with clay tile, re-roofed in 1970s. Clay hips and ridge. Frontage has a round window as a design leading into the upper storey rooms and 2 x front dormer windows dating from pre 1920s, though worked on previously (flat mineral roof, decayed wood). There is a 2 storey infill to rear of building in brick and clay tile, and a side single storey clay tile roof extension to side from 1990s, orangery from 2008. Mainly intact, lifted flashing by chimney and missing mortar in one location on a hip, slight raised tiles by chimney and by dormer. No soffits, corballed effect to main building. The area in front of the building is a mown modified grassland, the area further towards native hedgerows with in hedge native trees (Ash, oak) which lies within a parkland type setting with mature isolated oak trees. It is understood all the hedges and trees are unaffected by proposed works. To the south of the house is a formal garden area with landscape plantings and early mature cypresses and further south still is an ornamental fish pond, both of which are outside the scope of the Planning application.

Habitats present:

Improved grassland (modified grassland g4): regularly managed grassland, dominated by Perennial ryegrass, Annual meadowgrass, creeping buttercup, White clover, Perennial ryegrass. Other species include dandelion, broad leaved plantain Condition assessment below:

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	No	
	Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No	
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	No	
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes	
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	Yes	
Essential criterion achieved (Yes or No)		No	

Essential criterion achieved (Yes or No)		No
Number of criteria passed		4
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved x/✓
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	X
Suggested enhancement interventions to improve condition score		

Footnotes

Native hedgerows: There are two native hedges along the Eastern boundary with in hedge ash and oak trees (unaffected by proposal). The native hedgerow is hawthorn, blackthorn, ash, field

maple. The hedgerow to the SE (running adjacent to proposed new access) has in hedge poplar trees (early mature).

Arable: An area used for arable cultivation, bare earth at time of survey

SI Grassland (ONGg3c): condition poor

Cocksfoot, False oatgrass, along margins of the field to the South-East

Native and Non-native trees: Mainly early mature non native trees including Lawson cypress, Cherry, non native shrubs. It is likely that none of these trees are protected via Tree Preservation Orders.

Off site: Ornamental fish pond with planted landscape surrounds including weeping willow

Isolated trees: Isolated mature and over-mature oak trees within the arable area.

Hardstanding: Area of parking and access around building, driveway, patio to rear.

Building: Main and workshop building

See Phase 1 Habitat plan (appendix 1d) and images, Appendix 2.

3.2.2 Protected and Notable Species on Site

Bats:

There are 18 species of bat found in the UK, 17 of which are known to breed in the UK. All are small, nocturnal, flying, insectivorous mammals that are under considerable conservation threat and many having undergone severe population declines over the last century. Some species, such as pipistrelle bats (*Pipistrellus* sp) still remain relatively common and widespread in the UK, while others, such as greater horseshoe bats (*Rhinolophus ferrumequinum*), have an extremely restricted distribution. All species of bats and their roosting sites are afforded full protection under both UK and European legislation and are designated as 'European protected species'.

Bat Roost Potential of Trees:

The site has moderate to moderate to high ecological value for bat commuting, foraging and roosting with the hedgerows and mature trees within the landscape and the large fish pond nearby. A number of the on-site trees have high and moderate bat roost potential including the isolated oak trees and some in hedge oak and ash trees (target noted)

Roost potential of building:

The main house is in brick with clay tile, re-roofed in 1970s. Clay hips and ridge. Frontage has a round window as a design leading into the upper storey rooms and 2 x front dormer windows dating from pre 1920s, though worked on previously (flat mineral roof, decayed wood). There is a 2 storey infill to rear of building in brick and clay tile, and a side single storey clay tile roof extension to side from 1990s, orangery from 2008. Mainly intact, lifted flashing by chimney and missing mortar in one location on a hip, slight raised tiles by chimney and by dormer. No soffits, corballed effect to main building.

Gaps and raised flashing in mortar at dormers, gap in mortar at hip, raised flashing by chimney.

Loftspace. Extensive main loft to 2.5m. There was evidence of bat access (droppings, several hundred) and there is opportunity for bat roost formation. An evaluation of: (High bat roost potential). **In line with BCT guidance (2023) at least two emergence surveys will be**

required to conclusively determine if any bats are present, should the loft space be impacted as part of proposed works to the building.

The more recent features comprising the 1980s two storey infill, and the single storey and orangery were inspected and concluded that these sections have negligible bat roost potential as they are sealed and relatively modern, with no significant or suitable decay features.

The single storey workshop in brick with a replaced clay tile roof has, no cavity wall or loftspace, though there are raised tiles as recycled tiles were used in the re-roofing. The roof is lined with breathable membrane and kingspan insulation. It is considered of negligible bat roost potential, with no evidence of bats or breeding birds, though with a low residual risk of occasional crevice dwelling bats using one of the raised tiles as a day roost (possibly on an occasional basis). Should works be required to this roof, it will be required that this will be done under direct ecological supervision.

Badgers

Badgers (*Meles meles*) are protected in England and Wales under the Protection of Badgers Act 1992. Protection applies both to the animal itself and to its nesting burrows (setts), and current interpretation of the Act also confers some protection to key foraging areas. Badgers remain comparatively widespread and common throughout the UK..

At the time of survey, there was no evidence of foraging badger activity on the site and it can be confirmed that there are no setts on site or within 30m of the intended build areas. No further badger surveys are recommended on site.

Other mammals

The presence of other specially protected mammals, such as otter and water vole, is assessed as unlikely, due to the lack of suitable habitats on the site.

Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions) to intentionally kill, injure or take any wild bird, or to damage, take or destroy the nest of any wild bird whilst that nest is being built or in use, or to take or destroy its eggs.

Furthermore, the Act affords additional protection to specific species of birds listed in Schedule 1 of the Act. In respect of these species, it is unlawful to intentionally or recklessly disturb such a bird whilst it is nest-building or is in, on or near a nest containing eggs or young; or to disturb their dependent young. Following recent revisions, fifty-nine species are listed on the UKBAP.

Birds recorded on site include:

Bird Species:	Latin name:
Blackbird	<i>Turdus merula</i>
Greenfinch	<i>Carduelis chloris</i>
Goldfinch	<i>Carduelis carduelis</i>
House Sparrow	<i>Passer domesticus</i> Amber status
Carrion crow	<i>Corvus corone</i>
Magpie	<i>Pica pica</i>
Jackdaw	<i>Corvus monedula</i>
Robin	<i>Erithacus rubecula</i>
Woodpigeon	<i>Columba palumbus</i>

Red list Species

Red is the highest conservation priority, with species needing urgent action. Red list criteria includes:

- Species is globally threatened.
- Historical population decline in UK during 1800–1995.
- Severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969).
- Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period.

Amber list Species

Amber is the next most critical group. Birds in the amber list will be subject to at least one of the relevant factors listed below:

- Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern).
- Moderate (25-50%) decline in UK breeding population over last 25 years, or longer.
- Moderate (25-50%) contraction of UK breeding range over last 25 years, or longer.
- Moderate (25-50%) decline in UK non-breeding population over last 25 years, or longer.

The hedge and trees on site and along the edges of the survey site could also provide suitable for nesting habitat for a number of other common woodland bird species. It is recommended that these trees be protected and retained within the proposed development. No vegetation clearance is predicted, however it is recommended that any site clearance of vegetation is undertaken outside of the bird breeding season (mid March to mid August). If site clearance is undertaken during these months, a suitably qualified and experienced ecologist should be employed to ascertain the presence of any breeding birds within the site.

Great Crested Newt

The Great Crested Newt (*Triturus cristatus*) is one of the two rarest amphibian species in Britain. It is primarily a terrestrial animal, spending much of its life on land, but returning to the water to breed. Great crested newts will often return to breed in the same waterbody where they were spawned. In addition, they are highly opportunistic and will also colonise suitable new waterbodies rapidly. Great Crested Newt is a 'European protected species' afforded full protection under both UK and European legislation. This protection extends to the habitats which support it. The habitats within 500m of a breeding pond are generally considered to be protected by the legislation. The Great Crested Newt is a priority species and subject to its own Biodiversity Action Plan.

There are no ponds on site and the grassland is of low quality for Great Crested Newt. The nearest records of GCNs are 4km from the site, and the grass habitat on site make the likelihood of GCNs low and do not justify further survey. No further survey is recommended.

However, to ensure no newts or other amphibians are harmed as a result of this development, it is recommended appropriate precautions should be taken during development.

- If Great Crested Newts are discovered at any time during processes involved with the development, work should cease immediately and the advice of a licensed ecologist sought.
- All site staff involved with site clearance and construction works are to be made aware of the potential for encountering Great Crested Newts through a tool kit talk and the appropriate measures to be taken if great crested newts are encountered.
- Keep duration of groundworks as short as possible.
- Undertake during the day works that might only affect newts above ground.
- Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit.
- Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets.

Reptiles

There are four widespread species of British reptile comprising grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These animals are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected.

The on-site habitat is of low suitability for reptiles and there are no records within 1 km. It is considered unlikely that reptiles would be present on site, no further survey is recommended. To reduce risk to reptiles as a result of the proposed development, appropriate precautions should be taken during development. Including:

- Ensuring storage of piles of materials and excavated earth on the site should be kept to a minimum.
- Storing piles of materials and excavated earth away from the field boundaries to deter reptiles from using them for temporary cover.

4.0. DISCUSSION

It is important that this proposed development should demonstrate Net Biodiversity Gain, in accordance with National Planning Policy Framework 2024¹⁷. There is also a duty to ensure no net loss of biodiversity placed on Local Authorities in the Natural Environment and Rural Communities Act 2006, Section 40⁷. There are requirements noted for this under The National Planning Policy Framework (2024)¹⁷ which refers to compensation/ mitigation. It is confirmed that the enhancement, mitigation and compensation within this section will comply with all the relevant UK and EU legislation relating to protection and enhancement of ecology.

4.1. Ecological Constraints

The value of the majority of the site impacted by the works, hardstanding and existing buildings are negligible, the rest of the site, the improved and SI grassland, in terms of ecological value to wildlife is low. The mature landscape trees, and native hedges with in hedge trees are of moderate to high ecological value

The on-site lighting should be carefully chosen to ensure it is low lux, cowled (directed downwards to prevent light splay), and used on timers or motion sensors to minimize the impact on local bat populations. This should conform the BCT lighting guidance, 2018, revised 2023.

Should any hedgerow be lost to enable access into the site, it should be replaced, at a minimum 1:2 ratio, in anticipation of the high failure rate of young trees, with additional hedgerow planting around the proposed new buildings and gardens.

The habitats present within the area consists of the following elements (see Phase 1 Habitat Map in Appendix 1d).

- Improved grassland (modified grassland g4: Condition Status: poor)
- SI grassland (ONGg3C: Condition Status: poor)
- Landscape trees (native)
- Garden plantings and non native trees
- Building
- Hardstanding

4.2. Additional Ecological Surveys Recommended

For the main building, there was evidence of bat access (droppings, several hundred) and there is opportunity for bat roost formation. An evaluation of: (High bat roost potential). **In line with BCT guidance (2023) at least three emergence surveys will be required to conclusively determine if any bats are present, should the loft space be impacted as part of proposed works to the building.**

The more recent features comprising the 1980s two storey infill, and the single storey and orangery were inspected and concluded that these sections have negligible bat roost potential as they are sealed and relatively modern, with no significant or suitable decay features.

The single storey workshop in brick with a replaced clay tile roof has, no cavity wall or loftspace, though there are raised tiles as recycled tiles were used in the re-roofing. The roof is lined with breathable membrane and kingspan insulation. It is considered of negligible bat roost potential, with no evidence of bats or breeding birds, though with a low residual risk of occasional crevice dwelling bats using one of the raised tiles as a day roost (possibly on an occasional basis). Should works be required to this roof, it will be required that this will be done under direct ecological supervision.

Mature isolated oak trees and in hedge mature oak and ash trees: Categorised as moderate and high bat roost potential. Should any trees be removed or works to these trees, and in line with BCT guidance (2023) at least three emergence surveys will be required to conclusively determine if any bat roosts are present

4.3 Minimising Ecological Impact

This section states how the negative impacts of the development can be addressed.

4.3a Protecting the Ecological Value of the Site

The proposed development, if not mitigated for, will cause a small Net Loss of Biodiversity to the site, the site is subject to a BNG calculation/metric that will address this issue.

In addition, the on-site lighting should be carefully chosen to ensure it is low lux, cowed (directed downwards to prevent light splay), and used on timers or motion sensors to minimize the impact on local bat populations.

The mature and semi-mature trees on site should be retained and enhanced, with additional tree and hedgerow planting. The trees and scrub are of high suitability for breeding birds and potentially will have a number of nests during the breeding season. It will be important to ensure landscape planting uses species which are beneficial to wildlife. See appendices for recommended species planting lists.

Any hedgerow unavoidably lost to accommodate the works should be replaced with appropriate compensation planting at a minimum of 1:2 ratio, in anticipation of the high failure rate of young trees.

4.3b Precautionary Measures during Development

All retained trees should be treated in accordance British Standard BS5837 (2012) *Trees in Relation to Design, Demolition and Construction – Recommendations*, to ensure require adequate root protection fencing.

Though none is indicated, any site clearance if required, should be carried out outside of the peak bird breeding season. Peak bird breeding season is between mid March and mid August, although certain species can breed outside these months and if breeding birds are found then work should cease and the advice of an ecologist sought.

To protect any reptiles or other amphibians which might be using the site, it is recommended appropriate precautions should be taken during development. These include;

- If great crested newts are discovered at any time during processes involved with the development, work should cease immediately and the advice of a licensed ecologist sought.
- All site staff involved with site clearance and construction works are to be made aware of the potential for encountering great crested newts and reptiles through a tool kit talk and the appropriate measures to be taken if great crested newts are encountered.
- Keep duration of groundworks as short as possible.
- Undertake during the day works that might only affect newts above ground.

- Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit.
- Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets.
- Ensuring storage of piles of materials and excavated earth on the site should be kept to a minimum.
- Storing piles of materials and excavated earth away from the field boundaries to deter reptiles from using them for temporary cover.

Appropriate precautionary measures are recommended, in case mammals enter the working areas at night:

- Ensure that all those in work are aware of the potential for setts or badgers to be encountered, and the actions to be taken if these are discovered at anytime.
- All excavations to be covered over or ramped so that any badgers could get out of an excavated structure. Further measures are detailed below:
- Any ground-works that are to be left open overnight will be provided with a means of escape should a badger enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water.
- Any trenches/pits will be inspected each morning to ensure that no badgers have become trapped overnight. Should a badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, by forming a temporary sett. Should a trapped badger be encountered the Ecologist should be contacted immediately for further advice who, if necessary, will contact Natural England in respect of legislative and licensing issues.
- The storage of topsoil or other 'soft' building materials on site will be given careful consideration. Badgers will readily adopt such mounds as setts; so as to avoid the adoption of any mounds, these will be kept to a minimum and any essential mounds subject to daily inspections (or nightly patrols if 24 hour security is present on site), with consideration given to temporarily fencing any such mounds to exclude badgers.

4.4 Opportunities for Biodiversity Gain and Off-setting Requirements

It is important that this proposed work should demonstrate Net Biodiversity Gain, in accordance with National Planning Policy Framework 2024.

On site mitigation to reduce and possible eliminate negative impacts is likely to include, but not be limited to:

1. Retention and enhancement of value of existing mature and semi-mature trees. To include supplementary planting with native species, additional hedgerow planting.
2. Planting of native deciduous specimen tree species.
3. Introduction of bat and bird friendly native planting schemes, hibernacula, and wildflower hedgerow edge mix seeding.
4. Bird and bat boxes
5. Wildflower seeding areas, use of flowering lawn seed mixes, for any disturbed areas of grassland.

5. Conclusion

- This Phase 1 Ecology Report confirms that the Construction Zone is of 'mainly low ecological value' consisting of Building, hardstanding, improved grassland though with mature landscape trees of higher value and SI grassland to the lower section of the garden.
- The proposed development should demonstrate Net Biodiversity Gain, in accordance with National Planning Policy Framework 2024
- There are no Statutory Designated Nature Conservation Sites adjacent to the site.
- The Biological Data Search no protected species were recorded within the site. There is no evidence of badger use of the site, and no setts within 30m of the build, therefore no further surveys are required.
- The Dower house building has high bat roost potential, therefore to determine any potential use by bats, 3 emergence surveys will be required in line with BCT Good practice Survey guidelines (2023), **should the roof or loft space be impacted**
- **The mature isolated oak trees and in hedge mature oak/ash trees have moderate and high bat roost potential**, 3 emergence surveys will be required in line with BCT Good practice Survey guidelines (2023), **should any of these trees be impacted**
- Any works to the workshop roof (categorization negligible bat roost potential) will require supervision of strip.
- The site is of low suitability for reptiles and amphibians, but bearing in mind the habitats affected which are of low to negligible value, no further surveys are required, although a series of precautions should be taken during development, as detailed in section 4.3b. .
- No site clearance is indicated but any site clearance required should be undertaken outside of the peak bird breeding season (mid March to mid August) or undertaken under ecological supervision.
- There are no signs of non native invasive plant species.

Date	Prepared by	Checked and Verified by
18 th September 2025	Dr Louise Sutherland MIALE Ecologist	Dr Stefan Bodnar MCIEEM Principal Ecologist

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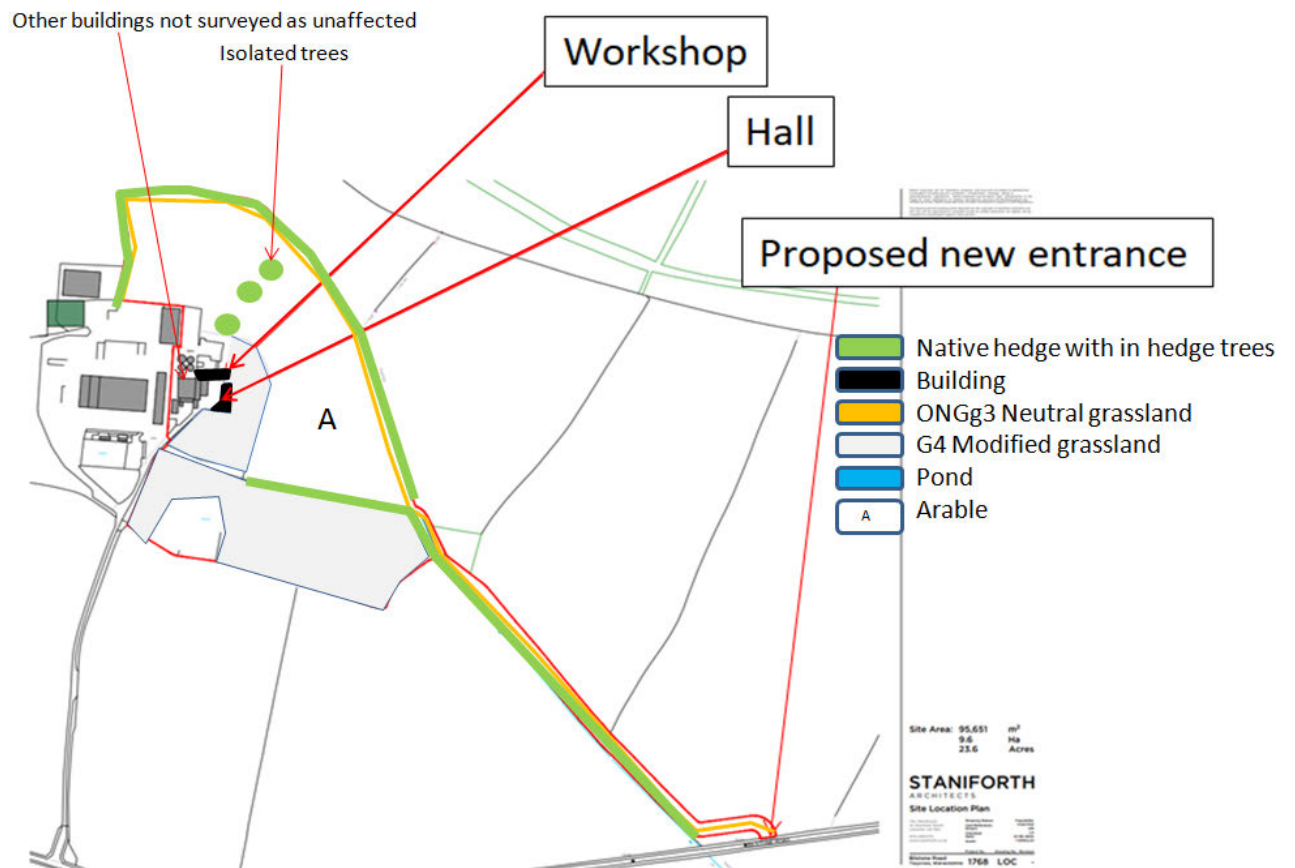
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Appendix 1a Satellite Image



Map data 2025 © Google

Appendix 1d Phase 1 Habitat Map



Appendix 2 Photographs



2 storey 1970s/80s infill on main house



Main house



Mani house: single storey section



Front with decayed dormers







Orangery (above) g4 modified grass below



ONG grassland and garden planted, isolated oak tree



Fish pond



Workshop External



Workshop internal



Workshop external





Workshop external and isolated trees below.



Main house loft (mainly cluster flies, some bat droppings)



Bat droppings on beam



Hedgerow to Bilston Road



Field gate and hedgerow to SE.

Appendix 4: Specifications for Biodiversity Gain

Appendix 4a: British Native Trees to Attract Wildlife

Species	Average mature / ultimate height			Growth rate			Soil/ground conditions					Tolerant of sites that are				Valuable for	
	0.5-5m	6m-15m	16m+	Fast	Medium	Slow	Wet ground	Light sandy soils	Heavy soils	acid	alkaline	Shaded	Polluted	Coastal	Exposed	Birds	Insects
Alder		•		•			■		•		•	•	•		•		•
Ash			•		•		▲	•				•	•		•		
Aspen		•		•					•	•	•		•	•	•		•
Beech			•			•		•			•	•					•
Birch, Downy		•		•			▲			•			•		•		•
Birch, Silver		•		•				•		•			•		•		•
Blackthorn	•			•					•	•	•			•	•	•	•
Broom	•				•			•		•	•	•	•	•	•		•
Buckthorn, Alder	•					•	▲			•							
Cherry, Wild		•			•			•	•		•		•				
Cherry, Bird		•			•			•	•	•		•				•	•
Crabapple		•				•			•	•	•	•				•	•
Elder		•		•				•	•	•	•	•	•	•	•		•
Elm, Wych		•			•				•		•	•	•	•	•		•
Gorse	•				•				•		•	•				•	•
Hawthorn	•				•				•	•	•	•	•	•	•	•	•
Hazel		•		•					•		•	•					•
Holly		•				•		•	•	•	•	•	•	•	•	•	•
Lime, small-leaved			•		•				•		•	•					•
Maple, Field		•			•				•		•	•	•				
Oak, Pedunculate			•			•			•		•				•	•	•
Oak, Sessile			•			•	▲	•	•	•		•			•	•	•
Pine, Scots			•		•			•		•					•		•
Poplar, Black			•	•			▲	•	•		•						•
Rose, Dog	•				•			•	•		•	•	•		•		•
Rose, Guelder	•				•		▲		•		•	•					•
Rowan		•		•				•		•	•	•	•	•	•	•	
Spindle	•				•				•		•	•					
Whitebeam, Common		•			•			•	•		•	•					•
Wild Service	•					•			•		•	•		•		•	
Willow, Crack		•		•			■				•		•	•	•	•	•
Willow, Goat		•		•	•		■		•		•	•	•	•	•	•	•
Willow, White			•	•			■				•	•	•	•	•	•	•
Yew		•				•		•			•	•			•	•	

■ Only species to survive waterlogged sites with anaerobic conditions.

▲ Will tolerate wet ground if there is some seasonality of "flushing (water movement) within the soil.

Appendix 4b: Non-native plants to attract wildlife

Buddleja X weyeriana cultivars

You can plant the orange-flowered B. X weyeriana hybrids with a clear conscience as they don't appear to produce viable seed, they also attract a broad spectrum of insects including both butterflies and bees, and they flower late into the season when nectar is scarce. The beautiful B. x fallowiana 'Lochin' with silver leaves is attractive to butterflies and is also said not to produce seeds. The orange ball Buddleja (B. globosa) from South America seems to attract bees rather than butterflies.

Bupleurum fruticosum ('Shrubby Hare's Ear')

A shrubby evergreen umbellifer from Southern Europe, where it is often cultivated. It has leathery aromatic foliage and umbels of yellowish flowers, a bit like those of Fennel, that are very attractive to hoverflies and other small insects. Well worth growing for this reason.

Ceanothus X 'Gloire de Versailles'

Ceanothus come from the Western United States. Most Ceanothus have bunches of very small flowers that don't seem very attractive to insects. 'Gloire de Versailles' however is a hybrid with loose bunches of pale blue tubular flowers that are very attractive to butterflies and bees.

Caryopteris X clandonensis 'Kew Blue'

A deciduous shrub from China for a sunny position, has small tubular blue flowers attractive to insects.

Clethra alnifolia ('Sweet Pepper Bush')

A deciduous shrub from the Eastern United States that likes damp, acid or woodland soil. Has spikes of small scented white flowers attractive to moths and butterflies.

Hebe X 'Great Orme' and H. X 'Midsummer Beauty'

Hebes are close relatives of the herbaceous genus Veronica, and come from New Zealand. Some are much more attractive to insects than others. 'Great Orme' is a medium-sized hybrid with pale pink flowers that are attractive to butterflies. It is a distinctive cultivar and available true to name in the nursery trade.

'Midsummer Beauty' seems to be more of a generic name for a series of large shrubs with blue or grey-blue flowers in long spikes, attractive to both bees and butterflies. There are a number of other blue and white flowered Hebes that seem very popular with bumblebees.

Myrtus communis ('European Myrtle')

An attractive evergreen shrub from the South of France and Spain with small evergreen aromatic leaves. It has been grown in our gardens for centuries, but is susceptible to hard frost and prefers a site against a warm sunny wall. Fluffy white flowers in early summer are bumblebees' heaven. Purplish berries follow later which are stripped by blackbirds in January.

Amelanchier species ('Shad Bush')

Shrubs with white cherry-like blossoms early in the year, followed by blackish berries in late summer. Valuable for the berries as a source of food for berry-eating birds when most other berries are not yet ripe.

Erica terminalis ('Corsican Heath')

A shrubby heather-like plant popular with bumblebees. The Cornish Heath, Erica vagans, from the Atlantic fringes of Europe is also a good bee plant. Erica manipuliflora, from Southern Europe, and its hybrid Erica X griffithii have fragrant flowers that attract butterflies.

Eupatorium ligustrinum

A late-flowering evergreen bush that looks very like a privet, but has bunches of white fluffy flowers in September and October. These flowers seem very attractive to range of insects, especially hoverflies.

Ribes sanguineum (Flowering Currant)

It is a very good early flower for bumblebees, as indeed are the flowers of the closely related blackcurrants and gooseberries.

Appendix 4c: Plants good for moths, with species of moth they encourage beside

Plant	Moths
Bird's Foot Trefoil (<i>lotus corniculatus</i>)	<i>Burnet, Belted Beauty, Chalk Carpet, Latticed Heather</i>
Bladder Campion (<i>silene vulgaris</i>)	<i>Campion, Marbled Coronet, Nettle Pug, Marbled Clover, Dark Brocade, Sandy Carpet</i>
Borage (<i>borago officinalis</i>)	<i>Crimson Speckled</i>
Wild Clary (<i>salvia horminoides</i>)	<i>Twin-spot Carpet</i>
Biting Stonecrop (<i>sedum acre</i>)	<i>Yellow Ringed Carpet, Northern Rustic</i>
Cowslip (<i>primula veris</i>)	<i>Plain Clary, Northern Rustic</i>
Dropwort (<i>filipendula hexapetala</i>)	<i>Satyr Pug</i>
Evening Primrose (<i>oenothera biennis</i>)	<i>Elephant Hawk</i>
Field Scabious (<i>kanutia arvensis</i>)	<i>Marsh Fritillary, Narrow Bordered Bee Hawk, Lime Speck Pug, Shaded Pug</i>
Foxglove (<i>digitalis purpurea</i>)	<i>Lesser Yellow Underwing, Foxglove Pug</i>
Golden Rod (<i>solidago</i>)	<i>Lime Speck Pug, Bleached Pug, Golden Rod, Wormwood Pug, V Pug</i>
Greater Stitchwort (<i>stellaria holostea</i>)	<i>Dart, Yellow Underwing, Marsh Pug, Plain Clary</i>
Hedge Bedstraw (<i>gallium mollugo</i>)	<i>Ruddy Carpet, Royal Mantle, Common Carpet, Wood Carpet, Water Carpet, Beech Green Carpet, Mottled Grey, Green Carpet</i>
Hedge Woundwort (<i>stachys sylvatica</i>)	<i>Rosy Rustic, Plain Golden Y, Sub-angled Wave</i>
Hemp Agrimony (<i>eupatorium cannabinum</i>)	<i>Wormwood Pug, V Pug, Lime Speck Pug, Marsh Pug, Gem, Scarce Burnished</i>
Herb Bennet (<i>geum urbanum</i>)	<i>Riband Wave</i>
Herb Robert (<i>geranium robertianum</i>)	<i>Barred Carpet</i>
Hollyhock (<i>althaea rosea</i>)	<i>Mallow</i>
Kidney Vetch (<i>anthyllis vulneraria</i>)	<i>6-belted Clearwing</i>
Lady's Bedstraw (<i>gallium verum</i>)	<i>Hummingbird Hawk, Small Elephant Hawk, Gallium Carpet, Plain Wave, Riband Wave, Bedstraw Hawk, Archer's Dart, Red Chestnut, Ruddy Carpet, Royal Mantle, Common Carpet, Water Carpet, Beech Green Carpet, Red Twin Spot Carpet, Wood Carpet, Mottled Grey, Green Carpet</i>
Lady's Mantle (<i>alchemilla mollis</i>)	<i>Red Carpet</i>
Lesser Knapweed (<i>centaurea nigra</i>)	<i>Silver Y, Lime Speck Pug, Satyr Pug</i>
Lesser Meadow Rue	<i>Marsh Carpet</i>
Maiden Pink (<i>dianthus deltoides</i>)	<i>Marbled Coronet</i>
Marjoram (<i>majorana originaum</i>)	<i>Sub-angled Wave, Lace Border</i>

Marshmallow (<i>althea officinalis</i>)	<i>Marshmallow</i>
Meadow Clary (<i>salvia pratensis</i>)	<i>Brown Spot Pinion, Hebrew Character, Powdered Quaker, Emperor</i>
Mullein	<i>Mullein, Striped Lychnis</i>
Navelwort (<i>umbilicus rupestris</i>)	<i>Weaver's Wave</i>
Pink	<i>Hawk</i>
Primrose (<i>primula vulgaris</i>)	<i>Pearl Bordered Yellow Underwing, Double Square Spot, Green Arches, Triple Spotted Clary, Ingrained Clary, Silver Ground Carpet</i>
Purple Loosestrife (<i>lythrum salicaria</i>)	<i>Emperor, Small Elephant Hawk, Powdered Quake</i>
Ragged Robin (<i>lychnis flos cuculi</i>)	<i>Campion, Lychnis, Twin-spot Carpet, Marbled Clover</i>
Red Campion (<i>melandrium rubrum</i>)	<i>Rivulet, Campion, Lychnis, Twin-spot Carpet, Sandy Carpet, Marbled Clover</i>
Red Clover (<i>trifolium pratense</i>)	<i>Latticed Heath, Chalk Carpet, Belted Beauty, Mother Skipton, Shaded Broad Bar, Narrow-bordered 5-spot Burnet</i>
Red Valerian (<i>centranthus ruber</i>)	<i>Elephant Hawk</i>
Rock Rose (<i>helianthemum mummularium</i>)	<i>Amulet, Cistus Forester, Silky Wave, Ashworth's Rustic, Argus, Wood Tiger, Northern Brown</i>
Rosebay Willowherb	<i>Twin-spot Carpet, Small Phoenix, White Banded Carpet</i>
Small Scabious (<i>scabiosa columbaria</i>)	<i>Lime Speck Pug, Shaded Pug</i>
Soapwort (<i>saponaria officinalis</i>)	<i>Marbled Clover</i>
St John's Wort	<i>Treble Bar</i>
Sweet Violet (<i>viola odorata</i>)	<i>Broad Bordered Yellow Underwing, Lesser Broad Bordered Yellow Underwing</i>
Tansy (<i>tanacetum vulgare</i>)	<i>Essex Emerald</i>
Thrift (<i>armeria maritima</i>)	<i>Amulet, Feathered Ranunculus, Thrift Clearwing, Black Banded</i>
Thyme	<i>Thyme Pug, Satyr Pug, Lace Border</i>
Toadflax (<i>linaria vulgaris</i>)	<i>Toadflax Pug, Marbled Clover</i>
Valerian (<i>valeriana officinalis</i>)	<i>Valerian Pug, Lesser Cream Wave</i>
White Campion (<i>silene latifolia alba</i>)	<i>Marbled Coronet, Marbled Clover, Sandy Carpet</i>
Wild Clematis (<i>clematis vitalnba</i>)	<i>Lime Speck Pug, Haworth's Pug, Small Emerald, The Fern, Pretty Chalk Carpet, Least Carpet, Pug, Chalk Carpet, Small Waved Umber</i>
White Clover (<i>trifolium repens</i>)	<i>Cloudy Wing Skipper, Orange, Clouded Sulphur</i>
Wild Pansy (<i>viola tricolor</i>)	<i>Pluvia</i>
Wild Strawberry (<i>fragaria vesca</i>)	<i>Amulet, Yellow Shell, Beautiful Carpet, Dark Marbled Carpet</i>

Wild Wallflower	<i>Flame Carpet</i>
Wormwood (<i>artemesia absinthium</i>)	<i>Wormwood Pug</i>
Yarrow (<i>achillea millefolium</i>)	<i>Essex Emerald, Lime Speck Pug, Straw Belle, Wormwood Pug, Ruby Tiger, Yarrow Pug, V Pug, Sussex Emerald, Grey Pug, Tawny Speckled Pug, Common Pug, Mullein Wave</i>
Yellow Flag Iris (<i>iris pseudacorus</i>)	<i>Belted Beauty, Water Ermine</i>
Barberry	<i>Scarce Tissue, Wheat</i>
Blackthorn/Sloe	<i>March, Common Emerald, Little Emerald, Mottled Pug, Feathered Thorn, Orange, Scalloped Hazel, Scalloped Oak, August Thorn, Brimstone, Early Thorn, Pale Brindled Beauty, Blue Bordered Carpet, Broken Barred Carpet, November, Pale November, Winter, Sloe Pug, Green Pug, Sharp Angled Peacock, The Magpie</i>
Broom	<i>Grass Emerald, The Streak, Broom-tip, Lead Belle, Spanish Carpet, Frosted Yellow</i>
Dog Rose	<i>V Pug, Little Thorn, Shoulder Stripe, Barred Yellow, Streamer</i>
Hawthorn	<i>March, Common Emerald, Little Emerald, November, Pale November, Winter, Mottled Pug, Pinion Spotted Pug, Common Pug, Grey Pug, Peppered, Brindled Beauty, Pale Brindled Beauty, Feathered Thorn, Scalloped Hazel, The Magpie, Scalloped Oak, Large Thorn, Early Thorn, Oak Tree Pug, Broken Barred Carpet</i>
Hazel	<i>Oak Beauty, Small White Wave, The Magpie, Clouded Border, Barred Umber, Winter, Pale November</i>
Oak	<i>Brindled Pug, Oak Tree Pug, Spring Usher, Peppered, Oak Beauty, Brindled Beauty, Pale Brindled Beauty, Small Brindled Beauty, Feathered Thorn, Orange, Lunar Thorn, Purple Thorn, Scalloped Hazel, Scalloped Oak, Scorched Wing, Large Thorn, August Thorn, November, September Thorn, Pale November, Winter, March, Blotched Emerald, Common Emerald, Little Emerald, False Mocha, Maiden's Blush, Marbled ug, Red-green Carpet, Broken Barred Carpet</i>
Rowan	<i>Orange Underwing, Welsh Wave, Mottled Pug, Red-green Carpet</i>
Wild Privet	<i>Lilac Beauty, Barred Toothed Striped, Yellow Barred Brindle,</i>

Appendix 4d: Plants and Habitats to attract Bats

1. Flower Borders and Lawns

Larvae and adults of many insects will be catered for by introducing a wide range of food, in the form of nectar, seeds and fruit as well as vegetation.

- Grow night scented flowers. These attract moths and other night flying insects of particular importance to bats.
- Plant herbs and old fashioned cottage-garden annuals attractive to insects.
- Leave part of your lawn un-mown from about mid-May to encourage insect larvae which feed on grass. Allow to seed before cutting, and rake up the hay afterwards.
- Sow wild flower seed collections in your borders.

2. Trees and Shrubs

At woodland edges space and sunshine combine with the trees to give shelter and warmth, and insects will concentrate there. So even in the smallest garden try to have at least one tree or shrub. Native trees are more attractive to insects than foreign species.

If space is limited, silver birch and goat willow are quick growing and are host to many insect visitors. With a little more space, try to make a bank of vegetation to give your garden a woodland edge structure.

3. Shelter Belts

Rows of bushes or trees can be created or improved, encouraging concentrations of insects and providing a feeding area for bats,

- Plant up gaps in natural hedges,
- A row of fast-growing cypress can be valuable.
- Train climbers using battens against a wall or fence, to provide possible roosting sites.
- Create a sheltered corner by using any combination of walls, fences, hedges or woodland edge at two angles.

Scented herbs

Chives, Borage, Lemon balm, Marjoram, Mint - many varieties

Night scented flowers for the border (in approximate order of flowering)

Bedding Plants

Nottingham catchfly	<i>Silene nutans</i>
Night-scented catchfly	<i>S. noctiflora</i>
Bladder campion	<i>S. vulgaris</i>
Night-scented stock	<i>Matthiola bicornis</i>
Sweet rocket	<i>Hesperis matronalis</i>
Evening primrose	<i>Oenothera biennis</i>
Tobacco plant	<i>Nicotiana affinis</i>
Cherry pie	<i>Heliotropium x hybridum</i>
Soapwort	<i>Saponaria officinalis</i>

Climbers

European honeysuckle	<i>Lonicera caprifolium</i>	July-November
Italian honeysuckle	<i>L. etrusca superba</i>	July-August
Japanese honeysuckle	<i>L. japonica halliana</i>	August-October
Honeysuckle (native)	<i>L. periclymenum...</i>	July-August
White jasmine	<i>Jasminum officinale</i>	
Dogrose	<i>Rosa canina</i>	
Sweetbriar	<i>R. rubiginosa</i>	
Fieldrose	<i>R. arvensis</i>	
Ivy	<i>Hedera helix</i>	
Bramble - many species		

Large trees, small trees and shrubs

Oak	<i>Quercus robur</i> & <i>Q. petraea</i>
Ash	<i>Fraxinus excelsior</i>
Silver birch	<i>Betula pendula</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Alder	<i>Alnus glutinosa</i>
Goat willow	<i>Salix caprea</i>
Guelder rose	<i>Viburnum opulus</i>
Hazel	<i>Coryllus avellana</i>
Blackthorn	<i>Prunus spinosa</i>
Elder	<i>Sambucus nigra</i>
Buddleia davidii	

Rock plants for walls

Ivy-leaved toadflax	<i>Cymbalaria muralis</i>
Wall pennywort	<i>Umbilicus rupestris</i>

Appendix 4e: Plants and Habitats to Attract Birds

Plants to Feed Birds.

Many shrubs, climbers, trees, garden and 'wild' plants provide food, directly or indirectly, through berries, seeds or the insects they attract.

Berry or fruit bearing trees and shrubs will attract members of the Thrush family, Blackbird, Fieldfare, Mistle and song Thrush, Redwing and Robin. Also Starlings and, in some winters, Waxwing and even some Warblers, e.g., Blackcaps who eat berries in the early autumn before they migrate. Unless mentioned, the berries attract all the above birds plus others as specified.

Shrubs with Berries.

- Aronia arbutifolia (Red Chokeberry) : bright red fruits
- Berberis: most forms have black/purple berries, especially loved by Blackbirds.
- Callicarpa 'Profusion': bright violet coloured berries.
- Cornus (Dogwood): blue tinted white berries (not C.Mas).
- Cotoneaster : prolific red, orange or yellow berries - birds often choose red first, through orange to yellow last. (Note berries are poisonous to humans).
- Euonymus europaeus (spindleberry: large bright red fruits which open to emit orange red seeds.(Note berries are poisonous to humans).
- Ilex (Holy): red, orange or yellow berries - red berries preferred (need partner to fruit).(Note berries are poisonous to humans).
- Mahonia: decorative black berries.
- Rosa rugosa : large red hips, particularly attractive to Greenfinches which pick out the seeds.
- Sambucus (Elder): red or black berries - over 32 species reported eating them, especially Blackcap and, occasionally, Collar Doves.
- Viburnum opulus (Guelder Rose) : translucent berries
- Viscum album (Mistletoe): familiar white globular berries of this parasite that grows in trees, especially apple, are a good food source for Blackbirds.

Climbers with Berries.

- Chaenomeles (Flowering Quince/Cydonia): Autumn Quinces.
- Hedera (Ivy) : shiny black berries
- Lonicera (Honeysuckle: red or black berries attract Thrushes plus Bullfinches and Marsh and Willow Tits. (Note berries are poisonous to humans).
- Pyracantha (Firethorn) :red, orange or yellow berries - choose red for the birds to eat before Christmas usually with orange or yellow to follow in a hard winter.
- Clematis vitalba (Old Man's Beard): seed heads are enjoyed by many birds.

Trees with Berries or Fruits.

- *Crataegus monogyna* (Hawthorn : red berries.
- *Malus* (Crab Apple: red fruited varieties are best for birds.
- *Prunus* (Cherries): fruits quickly picked off.
- *Sorbus aucuparia* (Mountain Ash/Rowan) :red, orange or pink flushed white berries. The darker the fruits the more attractive they are to birds. Occasionally bring Spotted Flycatchers to the garden.
- *Taxus* (Yew): sparse red berries attract a wide range of birds. Attractive also to Badgers.(Note berries are poisonous to humans).

Trees with Seed Cones.

- *Alnus glutinosa* (Alder), and *Betula* (Birch): seeds from cones enjoyed by Goldfinches, Greenfinches, Redpolls, Siskins and Tits.
- *Pinus sylvestris* (Scots pine) : pine cones from which Crossbills and Great Spotted Woodpeckers prise seed.

Trees with Blossom.

- Although not always welcome, Bullfinches strip the buds of fruit trees in late winter and early spring.

Garden Plants.

- *Crocus*: yellow and orange flowers are attractive to Sparrows because they contain yellow pigment carotene to brighten up their plumage for the breeding season.
- *Echinops ritro* (Globe Thistle: seed heads are eaten by Goldfinches and flower heads attract insects.
- *Helianthus* (Sunflower: seed heads are eaten by Greenfinches. The nectar attracts a wide range of insects.
- *Lavandula* (Lavender): flowers going to seed are attractive to Goldfinches.
- *Primula* (Polyanthus/Primrose): yellow and orange flowers are attractive to Sparrows.

Wild Plants.

You can provide a haven for wild plants to exist in their own right recreating a wild meadow to attract insects which, in turn, attract birds and other wildlife. We sell nursery grown 'wild' plants throughout the year so that you can go wild in a corner of your garden.

- Betony.
- Bird's Foot Trefoil.
- Common Poppy - seeds are favourite food of Finches.
- Field Scabious.
- Greater Knapweed.
- Meadow Cranesbill.
- Musk Mallow.
- Ox Eye Daisy.
- Oxlip.
- Primrose.
- Rough Hawkbit.
- Self Heal.
- Teasel - seed heads are a favourite food of Goldfinches.
- Wild Strawberry

The Lawn.

This is one of the principal sources of food for birds who enjoy feeding on insects including:-Ants eaten by Green Woodpeckers; Leatherjackets by Starlings; Snails by Song thrushes; Slugs by Toads and Worms by Blackbirds, Robins and Thrushes.

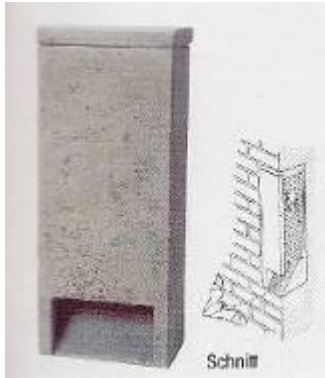
Cover and Protection.

By surrounding your garden by thick and often prickly hedging and dotting suitable shrubs around, you can provide safe nesting havens that are protected from marauding cats and even the unwelcome attention of unfriendly humans.

The most successful shrubs and trees for this purpose include:-

- Conifers especially chamaecyparis, Taxus (Yew) and Thuja Placata.
- Crataegus.
- Eleagnus.
- Hedera (Ivy) up a tree.
- Ligustrum (Privet) especially for Blackbirds.
- Lonicera (Honeysuckle).
- Pittosporum.
- Salix caprea (Weeping Kilmarnock Willow).

Appendix 5: Bat Boxes and Bat Brick Specifications to Provide Bat Habitat on Buildings



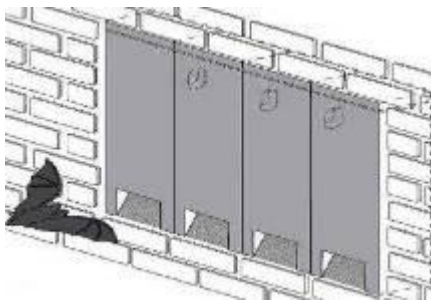
Schwegler 1FR can be installed within brick masonry just leaving the entrance and can be rendered over.



Ibstock Enclosed Bat Box B is designed specifically for the pipistrelle bat.



Schwegler W1 integral Summer & Winter Bat Box.



Schwegler 2FR Bat Tube is the same design as the 1FR but with holes in the sides. Multiple tubes to be placed next to each other to form a much larger roost.



Schwegler 27 wall can be installed within brick masonry. It can be rendered over.



Schwegler 1FQ wall-mounted bat box.



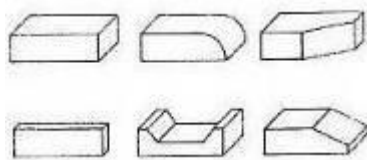
Schwegler 1FE Bat Access Panel can be surface-mounted or integrated. The open back enables bats access through exterior walls.



Ibstock Bat Box with Engraved Motif C is designed specifically for the pipistrelle bat and is available in all brick colours.



Ibstock Free Access Bat Box allows bats to access the cavity wall of the building.



Modified bricks for creating bat access points. A standard brick is shown top left. Purpose made bat bricks can also be used.



Norfolk Bat Brick allows bats to access the cavity wall of the building. The slits are the perfect size for Natterer's bat, Daubenton's bat, Brandt's bat and Brown long-eared.



Marshall's Bat Access Brick (Also available in stone) allows bats access into the cavity wall of the building.

APPENDIX 6: Insect Box Specifications

A variety of insect boxes is recommended to encourage a diversity of insect species and encourage bats.

Wooden Insect House

A general insect habitat for beneficial insects in summer and, later in the year, over wintering ladybirds and lacewings. Locate in a sheltered place near nectar or pollen plants or by a pond. Durable and strong construction in acacia, oak or larch with no maintenance necessary. Dimensions: 22 × 13.5 × 13.5cm.



Woodcrete Insect House

An insect nest made from long-lasting, insulating, woodcrete, with holes of different sizes providing homes for a variety of beneficial insects such as bees and solitary wasps. Dimensions: 14 × 8 × 26cm; Weight: 3.65kg



Insect House with Inspection Tubes

This nesting and hibernation box for insects has a woodcrete exterior with a wooden front panel which can be removed for observation. Through the transparent tubes you can see the usually hidden lifecycle of many solitary types of bees and hymenoptera including egg-laying, development of larvae and sealing of brood chambers. Typical inhabitants are wild bees and thread-waisted wasps. All the species attracted to this box are harmless non-aggressive pollinating insects.

Dimensions: 33 × 21 × 51 cm; Weight: 7.1kg.



Appendix 7. Bird Box Specifications

Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.

2. Schwegler No 11 House Martin Nest (Code: 002097D)



It is increasingly difficult for swallows and house martins to find suitable nest-building material. The mud they do find, if any, is often poor quality. In addition, the walls of buildings are nowadays often very smooth. As a result, nests tend to fall down, sometimes with the nestlings inside. In many places, the vibration caused by heavy vehicles shakes the nests loose. This nest has been developed to enable House Martins to breed successfully on external facades without overhanging eaves and has proved highly successful.

3. Schwegler No 16 Swift Box (Code: 002087D)

The design of this box mimics bell tower louvres. It has a removable panel for easy inspection of the nest chamber.



4. 2H Robin Box (Code: 002015D)



This box is attractive to robins, pied wagtails, spotted flycatcher, wrens and black redstarts. Best sited on the walls of buildings with the entrance on one side.

5. Sparrow Terrace



House sparrows are gregarious and prefer to nest close to each other, so this woodcrete box provides room for three families under one roof. Made from long-lasting, breathable woodcrete. No maintenance required. Designed for fixing to walls (not suitable for fences or sheds due to the weight of the box). Available in choice of stone colour (pictured) or brown.

6. Schwegler 1B Bird Box

The most popular box for garden birds, the 1B appeals to a wide range of species, and is the official nest box of National Nest Box Week. The box can be nailed to the trunk of a tree, or hung from a branch. Woodcrete, 23cm high x 16cm diameter. Available in choice of four colours - brown, green, red or white. Available with 32mm entrance hole (standard) or with 26mm hole



7. Schwegler Built-in Multi-System Main Cavity Bird Box (Code: 002101D)



The multi-system has exchangeable front panels for kestrels, jackdaws or swifts. The system can be installed in all types of buildings, whether constructed of concrete, brick or timber. To meet the needs of various species of bird, different types of front panel are available for use with the main cavity. The main cavity is supplied without a front panel which should be ordered separately. **Positioning:** At heights of 5m or more on a sheltered external wall. **Suitable for:** Dependant on the type of front panel chosen. **Material:** Woodcrete **Height:**415mm **Width:** 445mm **Depth:**415mm **Weight:**2.8Kg

Appendix 8: Measures specifically for hedgehogs

Hedgehog boxes or domes; a variety of types are shown below:

Hedgehog homes



Hedgehog Dome with insulated base

for use as summer home and hibernation in winter



[Pic. 1]: SCHWEGLER
Hedgehog Dome with
Hedgehog family

Hedgehogs are a protected species.

They usually construct nesting places in hollow tree stumps, piles of wood, dense vegetation and piles of leaves, all of which are becoming harder to find.

They will readily occupy our Hedgehog Dome, which provides year round accommodation, including hibernation quarters. Hedgehogs are welcome visitors to gardens because their diet consists of Snails, Caterpillars, Millipedes, etc.



[Pic. 2]: Hedgehog Dome
(occupied)

Material: SCHWEGLER wood-concrete. Brown protective coating for a balanced temperature

Siting: Choose somewhere protected from wind and rain. Try and avoid placing the Dome where the animals have to cross a lawn because these are mainly damp at night.

Nesting material: Ideally fill with hay (supplied with the Dome) but alternatively use dry leaves and straw, as well as cut up newspaper and wood shavings.

Dimensions:

Interior: $\diamond$ 44 cm Height: 28 cm Entrance: 11 x 12 cm
Exterior: ca. $\diamond$ 50 cm

Colour: Classic Brown

Weight: ca. 17 kg

Detailed instructions are supplied.



[Pic. 3]: Hedgehog Dome

(incl. nesting material, ready to use)

Hedgehog Dome with insulated base

order no.: 00 390 / 4