

Salopian Consultancy Ltd

Ecological Appraisal

(Incorporating an Extended Phase 1 Survey, Preliminary Roost Assessment and Habitat Suitability Index)

Project: Land at Poole Meadow Farm, Beamish Lane, Albrighton, WV73AG

Prepared by D. Williams MSc, BSc, RFS Cert, AA PTI

On Behalf of: Mr K. Miles

Foreword

Salopian Consultancy Ltd is an Arboricultural/Ecological consultancy, which provide inputs to guide developers and architects during the planning process. Salopian Consultancy Ltd provides advice during the design stage, liaison with local planning authorities and assists with technical advice pre, during and post construction phases.

Core services include BS5837:2012 tree surveys, condition assessments, mortgage applications and forestry management. In addition, Salopian Consultancy Ltd have in house ecological expertise enabling them to perform a range of Phase 1 and Phase 2 ecological surveys.

Report Revision Record

	Draft	Final Version
Report Reference	SC:213	SC:213
Project	Poole Meadow	Poole Meadow
Author	D.Williams	
Proof Read	R.Parry	
Issue Date	31.08.2018	04.09.2018

This report has been prepared for the sole use of the client. The content of this report remains the intellectual property of Salopian Consultancy Ltd, Permission from the author must be obtained prior to reproduction of any material including plans and appendices, either wholly or in part.

Contents

Executive Summary	1
Section 1 Extended Phase 1 survey and design implications	2
Introduction	3
Appreciation of the proposal	3
Site location and context	3
Scope of study	4
Limitations	4
Planning policy & design recommendations	4
Section 2: Survey findings and recommendations	7
Desk study	8
Habitat suitability index	10
Habitats and current management	11
Preliminary roost assessment	12
Species impact assessment	13
Enhancements	15
Section 3: Conclusions	17

Appendices

Appendix 1	Survey methodology
-------------------	--------------------

Plans

Plan 1	Phase 1 habitat map
Plan 2	Proposed site layout

Executive summary

Brief of the study and context of development

This report has been prepared to identify the key ecological constraints to inform the planning application for the conversion a brick agricultural building into four residential units. The focus of the study is to inform the design/construction of the proposal so that significant ecological impacts are avoided or minimised as far as possible.

Survey methods

A desk study of historic ecological records and a Phase 1 Habitat survey were performed to assess the site`s potential to support protected species. The study was extended to include a Preliminary Roost Assessment (PRA) and Habitat Suitability Index (HSI) of ponds within 250m of the site.

Findings and recommendations

The proposal will require the conversion of a brick agricultural building currently used to house machinery into four residential units. With existing highway access arrangement in place, the proposal will be restricted to the conversion of this building only.

The agricultural building is not deemed to provide suitable opportunities for protected species (notably roosting bats) given the construction methodologies and materials used. Evidence of nesting birds were noted within the agricultural building. Building works should be scheduled between September and February, outside of the nesting season or after a pre-commencement check by an Ecologist.

A single pond was identified during the desk study “Beamish Pool” located 120m south of the application area. The pool is heavily shaded by the adjacent woodland canopy which has stifled the development of macrophytes within the margin of the pond. A habitat suitability index indicated that the pond provides an ‘average suitability’ for breeding amphibians notable for great crested newt (*Triturus cristatus*). No historical records of great crested newts were identified during the desk study, the works proposed will not results in the loss or modification of any suitable terrestrial habitat. Further Phase 2 protected species are not deemed necessary to inform the application.

Further surveys and ecological enhancements

No evidence of other protected species were identified on site. The proposal has the opportunity to provide enhancements for protected species through the installation of both bird and bat boxes upon mature broadleaved trees within the woodland to the south and new hedgerow planting to depict the curtilage of the development.

Section 1: Extended Phase 1 survey and design implications

This section briefly sets out the scope of the Extended Phase 1 survey, details of the survey methodology is included in **Appendix 1**.

The data obtained from this survey is presented in a Phase 1 habitat map (**Plan 1**) illustrating habitats recorded, along with further details of the dominant plant species present per habitat type.

Relevant statutory legislation and national planning policy guidance in relation to protected species and habitats have been highlighted, with initial design recommendations provided.

Introduction

- 1.1 This report plans, and associated appendices have been prepared on behalf of Mr K. Miles 'the client', to meet those requirements of an Extended Phase 1 Survey at Land at Poole Meadow Farm, hereafter referred to as 'The Site'. The Site is centred on approximate Ordnance Survey Grid Reference SJ 8312 0436.
- 1.2 The survey was performed on the 27th August 2018 by Douglas Williams, Salopian Consultancy Ltd.'s Principal Ecologist. Doug is an experienced Ecologist/Arboriculturist who holds an MSc in Biological Recording, protected species licences for both bats and great crested newts, and memberships with the Chartered Institute of Ecology and Environmental Management and the Arboricultural Association.

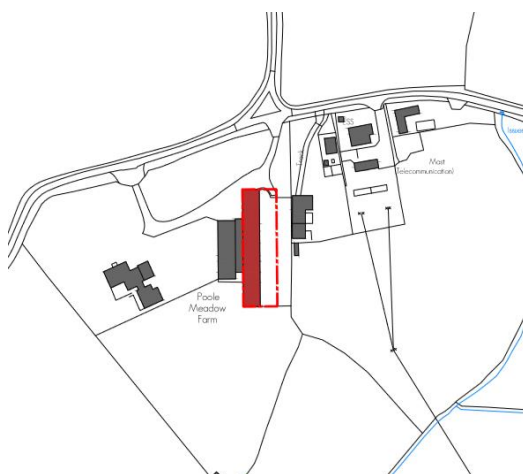
Appreciation of the proposal

- 1.3 An initial assessment of the proposal identifies that planning permission is sought for the conversion of an existing brick agricultural building into four separate residential units.

Site location and context

- 1.4 The site is located approximately 1.2 km east of Albrighton and accessed from Beamish Lane. The application area falls within the curtilage of Poole Meadow Farm, encompassing an existing agricultural building and concrete pad/access track. Situated within a rural setting, the site is bound to the south and west by shortly grazed pasture and amenity grassland; to the north; the site meets Beamish Lane (beyond which lies land of arable nature) and to the east by further horse grazed pasture and a neighbouring yard/workshop.

Figure 1: Site location plan provided by Berrys



Scope of the study

1.5 The primary focus of the study is to;

- Meet the validation requirements of Shropshire Council by presenting the findings of an Extended Phase 1 Survey in a clear and concise manner.
- Include the content set by the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines¹, for ecological appraisals.
- Classify and map those habitat types within and immediately adjacent to the application area.
- Identify both habitats and species constraints pertinent to the development proposal.
- Detail European Protected Species Mitigation licensing (EPSML) requirements, Reasonable Avoidance Measures (RAMS) and mitigation measures where required.
- Identify opportunities for the proposal to provide enhancements to the ecological resource on site.

Limitations

1.6 The survey was not considered to be limited by seasonal or climatic factors and was undertaken within a suitable time of the year given the habitats and species likely to be present.

Planning policy & design recommendations

Statutory legislation

1.7 A range of EU and UK legislation offers statutory protection to species and habitats which Local Planning Authorities have a duty to consider whilst determining planning applications. The following EU directives are relevant to protected species, habitats, and designated sites;

- The EC Habitats Directive (92/43/EEC)
- The Birds Directive (79/409/EEC) and
- EU Water Framework Directive (2000/60/EC)

1.8 Much of the EU legislation overleaf is transposed into domestic legislation with respect to protected species and habitats, including;

¹ Chartered Institute of Ecology and Environmental Management., (2015). *Guidelines for Ecological Report Writing* Appendix A.

- The Conservation of Species and Habitats Regulations 2010 (as amended)
- The Wildlife and Countryside Act 1981 (as amended)
- The Protection of Badgers Act 1992
- The Natural Environment and Rural Communities Act 2006
- The Countryside and Rights of Way Act 2000

1.9 The Association of Local Government Ecologist (ALGE) provides a summary of the criteria and thresholds² to determine when an Ecological survey should be performed. Many Local Planning Authorities have adopted this guidance to ensure that the correct information is presented, when considering the impacts upon biodiversity during the planning process.

National and local planning policy

1.10 Natural habitats and the species they support provide a range of ecosystem services that have considerable financial, cultural, and recreational benefits. National planning policy recognises that proposals where the primary objective is to conserve or enhance biodiversity should be permitted; and that opportunities to incorporate biodiversity into developments should be encouraged³.

1.11 The National Planning Policy Framework (NPPF) 2012. Paragraph 119 of the NPPF does not accept the 'presumption in favour of sustainable development' in cases where an 'assessment under the Birds or Habitats Directives is being considered, planned or determined'. New development should therefore seek to retain those species/habitats afforded statutory protection.

1.12 Where this is not possible, sufficient mitigation must be incorporated into the proposal as stated in paragraph 118 of the NPPF, capable of supporting the application of an EPSL. A license application of this sort would require data achieved from Phase 2 protected species surveys.

1.13 Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and decision making throughout the public sector, which should be seeking to make a significant

² Association of Local Government Ecologist., (2007). *Template for Biodiversity and Geological Conservation*. Table 1.

³ Department for Communities and Local Government., (2012). *National Planing Policy Framework*. Para118.

contribution to the achievement of the commitments made by Government in its Biodiversity 2020 strategy.

- 1.14 Shropshire Council's Core Strategy CS6 and CS17 encourages development 'which conserves, enhances, connects, restores, or recreates natural assets'. These policies support proposals which contribute positively to the 'special character or local distinctiveness' where development affects biodiversity at a landscape scale.

Section 2: Survey findings and recommendations

This section presents a detailed appraisal of historical biological records. Referred to as the 'desk study', this part of the ecological assessment provides contextual information, such as the sites proximity to designated sites and the location of historical protected species records.

A Preliminary Roost Assessment of trees and structures, and a Habitat Suitability Index of waterbodies within 250m (where present/access permitted) has been performed for bats and great crested newts respectively.

An informed assessment has been made of the potential for the proposal to impact upon statutory and non-statutory designations of conservation concern.

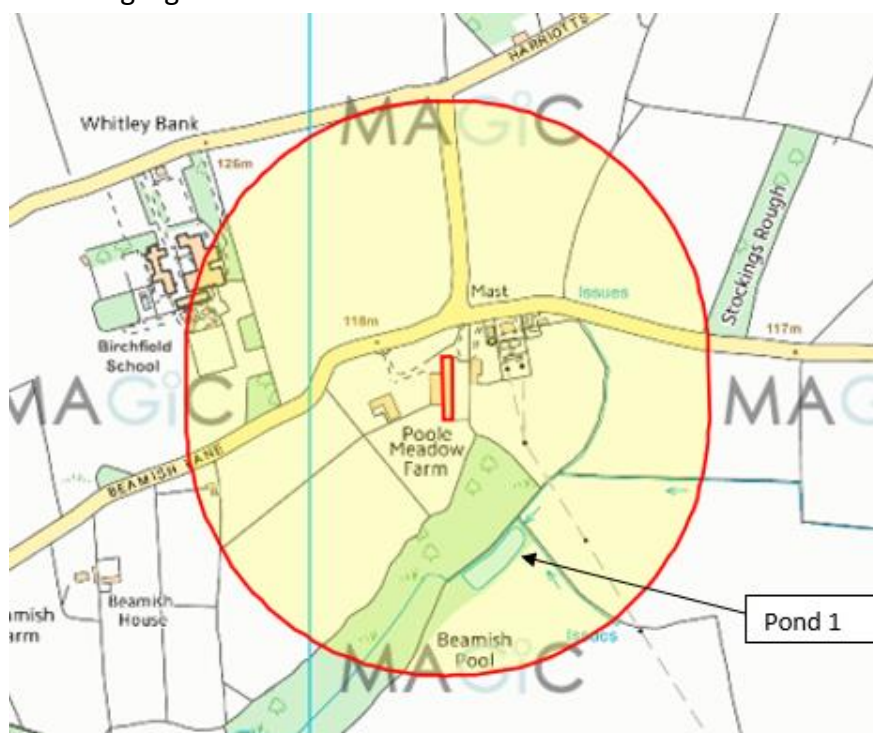
A species-specific impact assessment has been undertaken based on historical records, field signs and the suitability of habitats on site to support protected species.

Where appropriate and achievable, specialised construction measures and/or Reasonable Avoidance Measures (RAMS) have been recommended and discussed in detail within **Section 3** to mitigate the impacts raised upon habitats of importance/protected species.

Desk study

- 2.1 A review of OS maps and online mapping resources was undertaken to identify designations of conservation concern within 1km of the site and waterbodies within 250m. Species records held by Shropshire Ecological Data Network (SEDN) have been reviewed and those pertinent records within 1km of the site identified within the study.

Figure 2 Waterbodies within 250m from the site identified using www.magic.gov.co.uk



- 2.2 A review of Shropshire Ecological Networks (SEN) mapping system was also undertaken to identify non-statutory designations which form core areas or wildlife corridors illustrated in **Figure 3** overleaf as red and green respectively.

Figure 3: SEN components surrounding the site location (shown as a yellow rectangle), core areas are show as red and wildlife corridors in green.



Environmental networks

- 2.3 SEN is defined into a hierarchy of components discussed in Shropshire Councils Guidance Note 11: Environmental Networks. These components form areas of high biodiversity value (core areas depicted in red) and areas that act as connective ‘corridors and stepping stones’ between them (illustrated as green). The term connectivity refers to the movement of species between areas thereby aiding geneflow, recolonisation of habitats and bolstering of populations during fluctuations during meta population dynamics.

Statutory/non-Statutory designation within 1km

- 2.4 The site does not fall upon or directly adjacent to any statutory designations of conservation concern. Nor does it fall within or adjacent to any Local Wildlife Site (recognised as red ‘core’ areas) or other components of the SEN. Given the distance from those designations within 1km and the nature of the proposal, no negative impacts are envisaged upon the designations identified or species they support.

Waterbodies within 250m from the sites boundaries

- 2.5 A desk-based assessment identified a single waterbody within 250m from the site illustrated in **Figure 2**.

Habitats Suitability Index

- 2.6 A HSI was performed upon those waterbodies identified within 250m of the site boundary; to assess their potential to support breeding populations of amphibians.

Table 2 HSI scoring of suitable ponds within 250m of the application area.

Indices	Pond 1
SI1 - Location	1
SI2 - Pond area	0.9
SI3 - Pond drying	1
SI4 - Water quality	0.33
SI4 - Shade	0.2
SI6 - Fowl	0.67
SI7 - Fish	1
SI8 - Ponds	0.8
SI9 – Terrestrial habitat	1
SI10 - Macrophytes	0.5
HSI score	0.67
Suitability to support Great Crested Newts	Average Suitability

Local species records

- 2.7 During the desk study a total of 287 species records were reviewed the majority of which were attributable to botanical records within the Albrighton area. Few species records were revealed within the immediate vicinity of the site. No records of reptiles or amphibians were recorded within 1km of the site and mammalian records were limited to that of Rabbit (*Oryctolagus cuniculus*).

Habitats and current management

- 2.8 The application area is focused upon an existing brick agricultural building surrounded by sheep grazed pasture and hard standing. Common flowering species including dandelion (*Taraxacum officinale*), yarrow (*Achillea millefolium*), and spear thistle (*Cirsium vulgare*) were noted infrequently within surrounding improved grassland which is dominated by yorkshire fog (*Holcus lanatus*) and perennial ryegrass (*Lolium perenne*).
- 2.9 To the south of the site lies a mature woodland comprising of a diverse broad leaved mixed of aspen (*Populus tremula*), ash (*Fraxinus excelsior*), crack willow (*Salix fragilis*) and alder (*Alnus glutinosa*) with an understorey of elderberry (*Sambucus nigra*) and hawthorn (*Crataegus monogyna*). The ground flora comprises largely of nettle (*Urtica dioica*) and bramble (*Rubus fruticosus*). Compartments of herb robert (*Geranium robertianum*), red campion (*Silene dioica*) and wood avens (*Geum urbanum*) were noted infrequently where light penetrates through the woodland canopy.

Figure 6 Brick built agricultural building proposed for residential conversion.



Preliminary roost assessment – structures/trees

- 2.10 The brick agricultural building is constructed of a modern stretcher brick wall with pre-fabricated timber trusses, which are in good structural condition with no crevices/cavities provided by missing pointing, brick work or where timbers join.
- 2.11 The external roof structure is formed by corrugated roofing sheets, some of which are transparent and/or missing, as such the internal space within the building is illuminated during the day which is unsuitable for roosting bats
- 2.12 The building is currently used to store tractors and farm machinery, no evidence of roosting bats; such as droppings or feeding remains were noted during the inspection.

Figure 5 Brick building proposed for conversion into residential units.



Figure 6 Internally the building is well illuminated.



Species impact assessment

Birds

Assessment of habitat suitability

- 2.13 No nests were identified internally however large quantities of bird dropping typical of Pigeon (*Columba livia*) were noted in several areas indicating recent use.

Impacts & recommendations

- 2.14 Internal works should fall between September and February, outside of the bird nesting season or immediately after a pre-commencement check by suitably qualified personnel.

Bats

Assessment of habitat suitability

- 2.15 The building does not provide suitable external features likely to be used by roosting bats. Internally the building is well illuminated during the day due to transparent roofing sheets which makes it unsuitable for roosting bats.

Impacts & recommendations

- 2.16 All proposed new lighting should be directed away from any vegetated boundary features, to retain dark corridors for commuting bats across the site. The foraging/commuting resource will thereby be protected by a sensitive lighting scheme, as per 'Bats and lighting in the UK, BCT, 2009'.

Great crested newts

Assessment of habitat suitability

- 2.17 A single waterbody is located 120m to the south of the site. The pond was shown to provide average suitability for great crested newts, predominately downgraded from good suitability due to the level of shading by the surrounding woodland which provides excellent terrestrial habitat for this species.
- 2.18 The site itself is not considered to provide suitable opportunities for great crested newts given the absence of suitable terrestrial and refugia. No amphibians were identified during a hand search by a licensed Ecologist whilst undertaking the

extended phase 1 survey nor are there any known historic records of this species within 1km of the site.

Impacts & recommendations

- 2.19 Given that the proposed works are restricted to an existing building no impacts upon this species are envisaged in connection to the proposal. Further Phase 2 surveys are therefore not deemed necessary on this basis.

Reptiles

Assessment of habitat suitability

- 2.20 The habitat on site is restricted to hard standing surrounded by grazed pasture. Homogenous habitats of this nature are unsuitable for species of reptiles and do not provide the necessary prey assemblage or refugia opportunities for these species.

Impacts & recommendations

- 2.21 Based on the unsuitability of habitats on and adjacent to the site this species is not deemed a constraint to development.

Badgers

Assessment of habitat suitability

- 2.22 The site and habitat in the local landscape (notably the woodland to the south) do provide some foraging resources and opportunities for sett creation.

Impacts & Recommendations

- 2.23 No evidence/fields signs of setts or scraps were identified within 30m of the site boundaries, this species is therefore not deemed a constraint to the proposal.
- 2.24 Given the mobile and dynamic nature of the species and records in the local area, if any excavation is discovered prior or during works an update survey completed by a competent ecologist should be performed to confirm the cause of the excavation before works continue.

Other Species

- 2.25 No evidence/habitats considered suitable to support other protected species such as dormice (*Muscardinus avellanarius*) or water vole (*Arvicola amphibious*) were identified on the site.

Enhancements

- 2.26 It is recommended that enhancements to the site for bats and nesting birds are provided through the erection of four 2F Schwegler bat box and four Schwegler 1B nest box those trees within the woodland to the south of the application are. Both should be erected at a minimum height of 3m in a south western orientation.
- 2.27 Any new hedgerow planting should be carried out in accordance with BS4428:1989, Code of practice for general landscape operations (excluding hard surfaces). Hedgerow shrubs shall either be notch planted or trench planted to prevent desiccation.
- 2.28 Where trench planted, trenches shall be dug to a minimum depth of 400mm and width of 600mm, with the plants put into the ground at the same depth at which they had been previously grown in the nursery. All plants need to be well heeled in after planting and watered in during dry weather

Table 4 Species composition of new hedgerow planting

Species	Composition
Hawthorn (<i>Crateagus monogyna</i>) & blackthorn (<i>Prunus spinosa</i>)	70%
Hazel (<i>Corylus avellana</i>), guelder rose (<i>Viburnum opulus</i>), dog rose (<i>Rosa canina</i>), field maple (<i>Acer campestre</i>), crab apple (<i>Malus sylvestris</i>), dogwood (<i>Cornus sanguine</i>), holly (<i>Ilex aquifolium</i>)	30%

- 2.29 Most hedging plants are supplied as bare root specimens; therefore, it is essential to ensure plant roots do not become desiccated. It is recommended plants are kept under a moist cloth or temporarily heeled in in bulk during planting. Hedges should be planted between November and February, while plants are still dormant. Planting should be avoided in very cold or wet weather to prevent frost damage or water logging of roots.

- 2.30 The planted hedgerow can be protected from rodent damage with spiral tree guards which could be removed once the plants are well established (approx. 3-5 years).
- 2.31 To prevent weed competition, an area 1 metre across shall be cleared of vegetation in line with the new hedge. If properly applied and maintained, mulches are an effective at suppressing weeds. Weed control should be undertaken for the first 3 years of planting. Alternatively, mulch mats or chemical weed control may be used. The mulch shall be applied to a minimum depth of 100mm.

Section 3: Conclusion

The final section of this report provides a summary of the findings of the Extended Phase 1 Survey, and where applicable specific solutions to those impacts raised in **Section 2**.

Conclusion

- 3.1 The application area is focused upon a brick agricultural building situated within the curtilage of Poole Meadow farm. The proposal will involve the conversion of the building into four residential dwellings.
- 3.2 An HSI was performed upon Pond 1 located 120m to the south of the application area which was shown to provide an average suitability for great crested newts. The main body of the site itself is not considered to provide suitable opportunities for species of amphibians in terms of refuge, nor were any records of great crested newts identified within 1km of the site. Further Phase 2 surveys are not considered necessary on this basis.
- 3.3 A preliminary roost assessment was undertaken upon the building which is not considered to provide suitable roosting opportunities for bat(s) given the degree of illumination internally and lack of suitable crevice features externally. All new lighting should be directed away from the adjacent agricultural building and boundary vegetation to retain dark corridors for foraging and commuting bats.
- 3.4 Historic evidence of nesting birds were noted internally within the building, works should be timed to fall between September and February, outside of the bird nesting season or immediately after a pre-commencement check by suitably qualified personnel.
- 3.5 No evidence of other protected species were identified during the course of the study, therefore the proposal is not considered to be limited by any other ecological constraints.
- 3.6 The proposal has the potential to provide significant enhancements to the site as a ecological asset through new hedgerow planting, and erection of both bird and bat boxes upon mature tree within the woodland to the south.
- 3.7 The site should be maintained in its current context to ensure its suitability for protected species does not inadvertently increase prior to development.
- 3.8 Subject to the implementation of those recommendations set out within **Section 2** and **Section 3** of this report, no significant impacts upon protected species are considered likely to arise. In the event of a protected species being encountered during works; all works will halt, and further advice shall be sought from Salopian Consultancy Ltd.

- 3.9 The findings of this report are valid for up to two years from its date. In the event the development proposals/application area alters significantly a re-assessment of the likely impacts by a suitably experienced Ecologist will be required.

Appendix 1 Summary of Extended Phase 1 Habitat Survey

Desk Study

The desk study is an integral role in the ecological assessment. This desk-based study provides contextual information, such as the sites' proximity to designated sites and known records of protected species. This information is used to supplement the findings of the Extended Phase 1 Survey and used to inform the recommendations and conclusions in **Section 2 & 3**.

Shropshire Ecological Data Network

- Protected/UK BAP species records (1km)

MAGIC website⁴

- International statutory designations (1km)
- National statutory designations (1km)
- Waterbodies within 250m radius

Shropshire Environmental Network (SEN)⁵

- Review Core areas and wildlife corridors in immediate area
- Non-statutory designations (1km)
-

Extended Phase 1 Survey

The aim of the survey is to record and map the main habitat types and dominant plant species present, undertaken by an experienced ecologist holding appropriate protected species licences, and membership with Chartered Institute of Ecology and Environmental Management.

The survey does not aim to provide a complete floral and faunal inventory but seeks to identify field signs and/or habitats with the potential to support protected species. The need for further detailed Phase 2 Survey(s) were determined on this basis.

It should be noted that the absence of field signs does not necessarily confirm the presence of a protected species. Due diligence has been given to ensure that the ecological assessment

⁴ Multi-Agency Geographic Information for the Countryside website (www.magic.gov.uk/)

⁵ Shropshire Councils Guidance Note 11: Environmental Networks

has been undertaken within the optimal period for carrying out such a survey. In the event that a protected species or field signs of such species are discovered during works, further advice should be sought from Salopian Ecological Consultancy Ltd.

Species Surveys

Bat Roosting Assessment: Trees

An assessment of all suitable trees located on site was undertaken by a Natural England licensed bat worker to determine their potential to support roosting bats. This assessment was undertaken from ground level using binoculars and/or endoscopes.

All trees examined were categorised based on the number and types of features known to be suitable to support roosting bats, summarised in **6.2.4 of “Bat Surveys for Professional Ecologist: Good Practice Guidelines”⁶**. These features include but are not limited to;

- Cracks and splits in limbs,
- Cavities,
- Woodpecker holes,
- Loose bark thick-stemmed ivy.

Preliminary Bat Roost Assessment: Buildings

A daytime external assessment of all structures on site was undertaken to determine their potential to support roosting bats, including but not limited to;

- Cracks and crevices in brick work, timber joist/purlins.
- Slipped or missing roof and ridge tiles.
- Gaps between soffits and barge boards.

An internal assessment of all accessible loft voids was undertaken by a Natural England licensed bat worker for evidence of roosting bats such as droppings, feeding remains and urine staining within accessible areas.

Potential suitability of the structures are assessed by assigning a rating of low to high based on the number and type of external features considered suitable for roosting bats. The need for Phase 2 Emergence Surveys is decided on this basis.

⁶ Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologist: Good Practice Guidelines (3rd edn)* The Bat Conservation Trust, London

Great Crested Newts - Habitat Suitability Index (HSI) Assessment

A minimum of one Natural England licensed ecologist was present during each survey with the aid of an assistant surveyor to ensure complete visual coverage of those features identified as having bat roost potential.

Surveyors were equipped with Echo Meter Touch Pro bat detectors and recorded observations of the time, location, and activity of all bats seen or heard. These detectors allow identification of sonograms in the field and provide digital recordings to further aid species identification with computer software (Analog).

Bats were identified on the basis of their characteristic echolocation calls with reference to published bat call parameter data⁷. Species of *Myotis* and long-eared bats (*Plecotus* sp.) where recorded were identified to genus level based on the inherent difficulty in distinguishing between species solely from their echolocation calls.

Great Crested Newts - Habitat Suitability Index (HSI) Assessment

A desk based study was undertaken using OS maps and online mapping resources to identify waterbodies within 250m of the site's boundaries. These ponds (where accessible) were assessed for their potential to support great crested newts using the Habitat Suitability Index (HSI) developed by Oldham *et al.* (2000)⁸.

The assessment uses a scoring system based on ten factors such as water quality, presence of fish/waterfowl and quality of surrounding terrestrial habitat. Water bodies with higher scores are considered more likely to support great crested newts compared to those with low scores.

Table A1.2: Pond suitability for great crested newts determined using HSI scoring system

HSI Score	Pond suitability to support great crested newts
<0.5	Poor suitability
0.5 – 0.59	Below average suitability
0.6 – 0.69	Average suitability

⁷ Russ, J. (2012). *British Bat Calls: A Guide to Species Identification*. Pelagic Publishing, Exeter

⁸Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). *Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*)*. Herpetological Journal 10 (4), 143-155.

HSI Score	Pond suitability to support great crested newts
0.7 – 0.79	Good suitability
> 0.8	Excellent suitability

In addition to the HSI assessment a terrestrial hand search was undertaken to identify any amphibians seeking refuge beneath debris. This was completed by a great crested newt licence holder during the Extended Phase 1 Survey.

Reptiles

Terrestrial searches were undertaken during the Extended Phase 1 Survey for reptiles seeking refuge beneath debris, including log piles and brick/rubble where present.

Nesting Birds

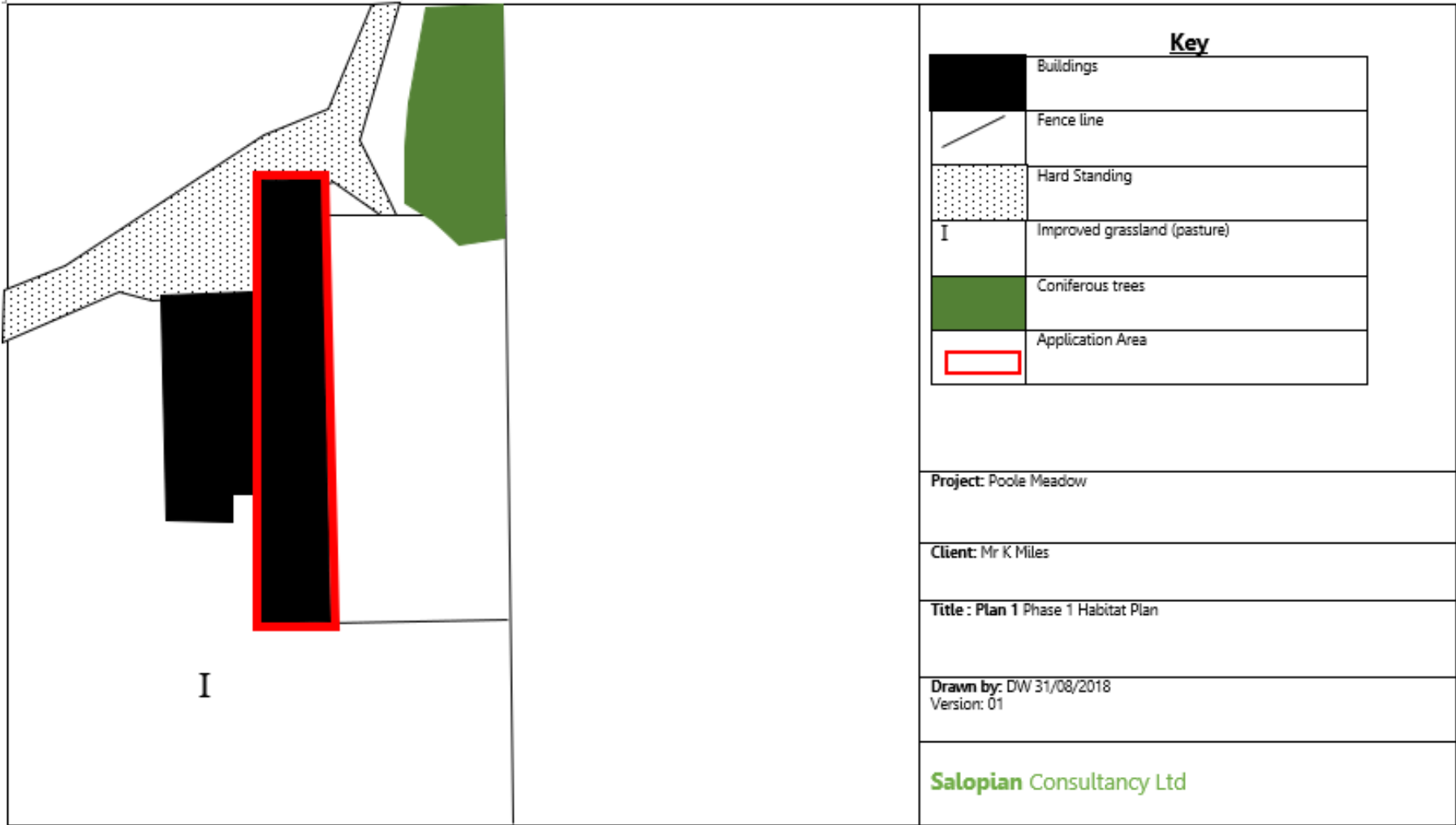
An assessment from the ground of all trees/ boundary vegetation located on or immediately adjacent to the site boundary was undertaken by an experienced ecologist, to identify the presence of habitat/features suitable for nesting birds.

Badgers



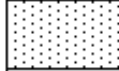
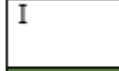


An experienced ecologist undertook a thorough site walkover to identify any evidence/field signs of badgers including setts, scrapings produced during foraging behaviour, latrines, paths and prints.

Where present, an assessment of excavations was made taking into account the shape of the entrance, quantity of spoil and presence of badger hair/claw marks. A classification of sett type is made (Main Sett, Annex, Subsidiary, Outlier) based on the level of activity, number of entrances and proximity to other Sett.

Plan 1 Extended Phase 1 habitat plan



Key

	Buildings
	Fence line
	Hard Standing
	Improved grassland (pasture)
	Coniferous trees
	Application Area

Project: Poole Meadow

Client: Mr K Miles

Title: Plan 1 Phase 1 Habitat Plan

Drawn by: DW 31/08/2018
Version: 01

Salopian Consultancy Ltd

Plan 2 Proposed Site Layout (not to scale)

