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PRELIMINARY ECOLOGICAL APPRAISAL

SPRINGHILL FARM

Project name: Springhill Farm, Springhill Farm Road, Oswestry,
Wrexham, SY10 7ZN

Grid Reference: SJ21043458

Date: 10/04/2023

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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the construction of a detached residential dwelling at Springhill Farm, Oswestry.

Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

1.2 SCOPE OF SURVEY

The survey is primarily designed to:

- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.
- Identify opportunities for the enhancement of habitats and biodiversity features on site.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

Springhill Farm is located approximately 8.5km north west of Oswestry, between Tregeiriog and Cragnant just over the Welsh border. Springhill Farm is an equestrian centre providing tuition and livery. The farm lies in an elevated position between extensive areas of commercial plantation woodland and intensively grazed agricultural grassland.

The proposals will include the removal of some smaller outbuildings and the construction of a residential dwelling with new driveway access from an existing yard.

3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap, Data Map Wales and NBN Atlas.

3.2 SITE SURVEY

A site visit was made on 06/04/2023. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Badger
- Bats
- Breeding birds
- Great Crested Newt

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger

An area within 50 metres of the site was closely searched for the following signs of badger activity:

- Setts,

- Tracks and footprints,
- Latrines,
- Snuffle holes.

Bats

The objective of the survey was to find and record any signs of use by bats, for example:

- Droppings, sometimes in concentrations below roost sites,
- Feeding signs such as butterfly and moth wings,
- Staining of timber, brickwork around access points.

The general structure of the building was assessed for its potential to provide bats with roosting opportunities. The site was assessed in terms of its suitability to support bat species. Hedgerow habitat and nearby potential habitat were assessed and recorded and potential impacts from the proposals considered.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newt

A desk study and a ground search were conducted to search for any areas of open water within 250 metres. Waterbodies were then assessed based on the Habitat Suitability Index for great crested newts (Oldham et al., 2000 and ARG UK, 2010).

3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist. Natural Resources Wales bat licence number: S091037-1 and GCN licence number: S089109-1.

3.4 CONSTRAINTS

There were no constraints to the survey being carried out.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that within 2km of the site there were the following designations:

Name	Designation	Distance from site
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Pandy Quarries	SSSI	1.5km
River Dee and Bala Lake	SSSI SAC	1.5km
Caemor Wood	Ancient Woodland Site of Unknown origin	0.4km
Coed Cae-Deicws	Restored Ancient Woodland Site Plantation on Ancient Woodland Site	2km
Coed Penlan	Ancient Semi Natural Woodland Restored Ancient Woodland Site	2km
The search included Ramsar, SSSI, SAC, SPA, LWS, NNR and LNR. ¹		

Results from the desk study revealed that within a 1km radius of the proposed development site the following protected species have been recorded:

Species	Distance	Protection
Birds		
Kestrel Crossbill	0.5km	Wildlife and Countryside Act 1981.
Amphibians		
Great crested newt*	0.7km	Wildlife and Countryside Act 1981.
*The record for GCN is from 2020, an unconfirmed source from a pond approximately 700m south of the site. Description of activity from the recording may indicate an incorrect ID- animals described as fleetingly appearing at the surface of the pond which tends to suggest a fish record instead. GCN are only active in ponds at night time, spending the daytime sheltering/foraging in suitable terrestrial habitat.		

4.2 HABITATS ON SITE

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010).

Ephemeral/short perennial

The main habitat on site is best described under ephemeral/short perennial: short, patchy plant associations typical of derelict urban sites... shallow stony soil. The vegetation typically lacks a clear dominant species but consists of a mixture of low-growing plants.

¹ SSSI: Site of Special Scientific Interest, SAC: Special Area of Conservation, SPA: Special Protection Area, LWS: Local Wildlife Site NNR: National Nature Reserve, LNR: Local Nature Reserve.

Species recorded on site include: creeping buttercup, broad leaved dock, common nettle, creeping thistle, ribwort plantain. There some intermittent patches of annual meadow grass. The area is grazed by chickens and goats. Bare earth and rubble are visible throughout the site.

Buildings

Land to the north of the site is dominated by large steel framed buildings, an existing residential property and several converted barns.

There is a dis-used dog kennel and field shelter located in the northern portion of the proposed site. Both structures are single storey with block work walls. The kennels are covered with transparent corrugated sheets and the field shelter has a corrugated tin roof. Both structures are partly open at the elevations and are supported by concrete pads.

Hardstanding

A bare earth track runs along the north-east boundary of the plot and an existing concrete yard dominates the land to the north-west.

Individual trees

There are a small number of young ash trees (<10cm DBH) to the north of the existing field shelter.

Defunct hedge

A remnant defunct hedge runs along the south-west boundary of the proposed plot. Individual elder and hawthorn shrubs are present, in poor condition, with large gaps present within the length and from the base.

4.3 ADJACENT HABITATS

Improved grassland

The paddocks surrounding the site are intensely grazed, improved grassland.

Mixed plantation woodland

The north and west boundary of the farm are bordered by a corridor of mixed plantation woodland.

4.4 PROTECTED SPECIES

Badgers

There are no historical records of badger at the site and no field signs were found within the search area.

Bats

The dis-used dog kennel and field shelter on site were inspected for any signs of bat activity. The dog kennel is mostly light within due to the transparent roofing sheets and both structures are largely drafty. There are no enclosed lofts, cavities or voids present and no potential roosting features were identified. No evidence of bats was found within the buildings during the survey.

The rest of the site does not provide any potential roosting features and the adjacent steel framed barn provides 'negligible' potential as a roosting site.

Breeding birds

There are no suitable nesting sites present on the site. The defunct hedge provides very limited opportunities for breeding birds.

Great Crested Newt

According to OS maps there are two ponds present within 250m of the site. One pond is mapped at 35m south-east of the site but does not exist on the ground. The area is dry and vegetated year-round. A second pond is mapped at 175m south of the site but this area is also dry and vegetated with no water present at any time of the year.

There are no further ponds present within 250m of the site and therefore no further survey work with regards to GCN was carried out.

5 POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

Ephemeral/short perennial

An area of approximately 150m² of patchy ruderal vegetation will be lost to the project. The habitat provides negligible ecological value.

Buildings

The small dog kennel and outbuilding will be removed in order to facilitate development of the site. The buildings do not provide any value as a habitat.

Hardstanding

Existing areas of hardstanding will be re-purposed or lost due to the new dwelling. This habitat type does not provide any ecological value.

Individual trees

It is likely that some or all of the young ash trees will be removed to facilitate the development. The ash trees are less than 10cm DBH and provide limited value as a habitat.

Defunct hedge

The defunct hedge is in poor condition, with many of the individual trees dying or in serious decline. The roots and base of the hedge have been trampled and the vegetative cover is limited. The hedge will be removed in order to facilitate development and a replacement, species-rich native hedge will be planted on site once works are complete.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

The proposals will have no impact upon badger, their setts or foraging areas.

Bats

The buildings on and adjacent to the site provide 'negligible' potential as a roosting site for bat species. There are no valuable habitat features on site which provide suitable foraging/commuting habitat and overall, the proposal will have no impact upon bat species.

Breeding birds

The site offers very limited opportunities for breeding birds and the proposals are unlikely to have any impact. Precautionary measures will be adopted to remove any residual risk.

Great crested newt

There are no ponds present within 250m of the site. The two which are mapped to the south-west and south do not exist on the ground. There is a single record of GCN from approximately 700m south. However, the description of the record may indicate an incorrect ID.

Furthermore, studies have demonstrated that 95% of all summer refuges of GCN fall within 63m of their summer breeding pond (Jehle, 2000). Subsequent studies also found

that capture rates of GCN were at their highest within 50m of a breeding site with a significant reduction in capture rates beyond 100m (Cresswell and Whitworth, 2004).

The existing habitats on site provide negligible terrestrial opportunities for GCN and the current use as a grazing area for chickens and goats would perturb any amphibians from using the land.

The proposals will have no impact upon GCN and no further survey work is required. A Rapid Risk Assessment tool used for GCN mitigation licensing indicates that an offence would be highly unlikely given the circumstances.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.001
Individual great crested newts	No effect	0
		Maximum: 0.001
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

6 AVOIDANCE, MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

A short section of defunct hedgerow will be removed to facilitate the development on site. In order to replace this habitat on site, a species-rich native hedge will be planted along the new boundary of the site. A minimum of 30m of hedge will be included in site plant. Species to be planted are: hawthorn, hazel, field maple, oak, holly, elder and wild privet.

6.2 PROTECTED SPECIES MITIGATION

Bats

Given the rural location of the plans, a Wildlife Sensitive Lighting Plan will be adopted on site. All artificial lighting will be designed with nocturnal wildlife in mind. The following measures will be incorporated into lighting plans for the site:

- Hedgerows and key habitat features including mature trees on the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife.
- Security lighting will be set on motion sensors with short timers (<1 minute) and should be LED lighting.

- External lights will be hooded and directed toward the ground to reduce upward light spill.
- A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires should be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

Breeding birds

When hedgerow removal is necessary, a thorough inspection of the section of hedgerow will be carried out to check for breeding birds if works start between 1st March and 31st August (inclusive). If any evidence of nesting activity is found, a 5m buffer zone will be implemented and maintained until any young have fledged.

6.3 ECOLOGICAL ENHANCEMENT

In order to provide opportunities for a variety of wildlife, we recommend that a nest box scheme is adopted as follows:

- Two Woodcrete general purpose bat boxes, suitable for crevice-dwelling species will be installed into mature trees within the mixed plantation woodland to the north of the site. No lighting should be installed in the vicinity of the boxes. They will be at least 3m from the ground and face south or south west.
- Two Woodcrete open-fronted nest boxes will be installed into nearby mature trees.

7 SUMMARY

Planning permission will be sought for the construction of a detached residential dwelling at Springhill Farm, Oswestry. Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species. Key findings of the survey are:

- An area of approximately 150m² of patchy ruderal vegetation will be lost to the project. The habitat provides negligible ecological value.
- The small dog kennel and outbuilding will be removed in order to facilitate development of the site. The buildings do not provide any value as a habitat.
- Existing areas of hardstanding will be re-purposed or lost due to the new dwelling. This habitat type does not provide any ecological value.
- It is likely that some or all of the young ash trees will be removed to facilitate the development. The ash trees are less than 10cm DBH and provide limited value as a habitat.
- The defunct hedge is in poor condition, with many of the individual trees dying or in serious decline. The hedge will be removed in order to facilitate development and a replacement, species-rich native hedge will be planted on site once works are complete.
- The proposals will have no impact upon badger, their setts or foraging areas.
- The buildings on and adjacent to the site provide 'negligible' potential as a roosting site for bat species. There are no valuable habitat features on site which provide suitable foraging/commuting habitat and overall, the proposal will have no impact upon bat species. A Wildlife Sensitive Lighting Plan will be adopted on site given its rural location.
- The site offers very limited opportunities for breeding birds and the proposals are unlikely to have any impact. Precautionary measures will be adopted to remove any residual risk.
- There are no ponds present within 250m of the site. The two which are mapped to the south-west and south do not exist on the ground. There is a single record of GCN from approximately 700m south. However, the description of the record may indicate an incorrect ID. The proposals will have no impact upon GCN and no further survey work is required. A Rapid Risk Assessment tool used for GCN mitigation licensing indicates that an offence would be highly unlikely given the circumstances.
- In order to provide opportunities for a variety of wildlife, we recommend that a nest box scheme is adopted as follows: Two Woodcrete general purpose bat boxes and two Woodcrete open-fronted nest boxes.

8 REFERENCES

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FIGURE 1 LOCATION



FIGURE 2 AERIAL PHOTOGRAPH



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APPENDIX 1 PHOTOGRAPHS



Dog kennel and field shelter.



The field site.



Defunct hedge.



Kennel interior.



Yung ash, hardstanding and field shelter.



Field shelter interior.



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