



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PRELIMINARY ECOLOGICAL APPRAISAL

THE GAER

Project name: The Gaer, Forden, Welshpool, Powys, SY21 8NR

Grid Reference: SO20819976

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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the construction of a calf shed at The Gaer.

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

The Gaer is located between Montgomery and Welshpool in Powys, Wales. The site is approximately 3.6 miles south-east of the village of Berriew and 1.4 miles south-west of the village named Forden.

The immediate surrounding landscape consists of arable fields that are lined with hedgerows, a small broadleaved woodland to the north and the River Severn runs approximately 0.6km to the west of the site.

The proposed calf shed will be located on a modified grassland field, where there is a section of crushed stone and a small mixed woodland area on the boundary of the field. It will be placed adjacent to existing large cattle shed.

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 05/11/2024. 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 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

3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist. Natural Resources Wales bat licence number: S094220-1 and GCN licence number: S090921/1.

And Charlotte Skinner MSc: Assistant Ecologist.

3.4 CONSTRAINTS

Breeding birds would not have been present at the time of the survey, but previous nesting and appropriate nesting sites would have been apparent.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that there are no designated statutory sites within 1km of the site. 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
Mammals		
Otter	0.7km	European Protected Species, Wildlife and Countryside Act 1981.
Daubenton's bat	0.7km	European Protected Species, Wildlife and Countryside Act 1981.
Birds		
Bewick's swan Brambling Fieldfare Green sandpiper Greenshank Kestrel Kingfisher Redwing Whooper swan	0.5-1km	Wildlife and Countryside Act 1981.

4.2 HABITATS ON SITE

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

Modified grassland

The proposed cattle shed is located on a section of a modified grassland field, where the following species were identified: Perennial rye grass, creeping buttercup, Canadian fleabane, broadleaved dock, spear thistle, dandelion, nettle, Cock's foot and common bent. Within the grassland is a shallow basin area which could have been a former pond

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.

due to the presence of adjacent crack willow trees. This basin is dry and shallow, now dominated by nettles and bare earth.

Artificial, unvegetated/unsealed surface

An area of crushed stone, where a section has been recently excavated where there is a large mound on the southern boundary. At the time of the survey, there were numerous individual calf hutches on the crushed stone area.

4.3 ADJACENT HABITATS

Pond

The pond within the woodland was severely polluted containing run off from the adjacent farmyard, where there is a pipe within the pond.

Individual trees

- T1: Mature Oak tree,
- T2: Mature Oak tree,
- T3: Early mature Oak tree within the roadside hedgerow,
- T4: Mature Ash tree within the roadside hedgerow.
- T5: A dead standing tree,
- T6: Crack Willow tree,
- T7: Crack Willow tree.,
- T8: Mature Ash tree.



Developed land/sealed surface

To the south/east of the site there are numerous agricultural barns on a concrete yard area, in addition to slurry beds and silage pits/tanks.

Native hedgerow

A roadside hedgerow that runs along the north-eastern boundary of the site containing the following species: blackthorn, field maple, hazel and hawthorn. Bramble is also present, and the ground flora is dominated by modified grassland species.

There is a ditch that runs along the hedgerow, with sludge and slurry from the adjacent pond.

Woodland

There is a small woodland area in the south-eastern corner of the field, which contained six ash trees and a small beech tree. The ground flora was dominated by nettle and bramble. Within this woodland area was the small pond referred to earlier.

Ruderal/ephemeral

A bank of nettles and bramble between the dried pond and the woodland area.

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. No further survey work is required in regard to this species.

Bats

There are no buildings within the site area and the surrounding buildings are modern single skin agricultural barns with no potential roosting features. There are numerous individual trees surrounding the proposed calf shed which do have potential roosting features in the form of cracks and crevices within the tree structure:

T1: Mature oak tree adjacent to the site, with 'low' potential as a bat roosting site.

T2: Mature oak tree adjacent to the site with 'high' potential as a bat roosting site as there were numerous cracks and crevices within the tree.

T3: Early mature oak tree which had no potential roosting features, therefore was assessed as having 'negligible' potential.

T4: Ash tree, no potential roosting features, therefore was assessed as providing 'negligible' potential.

T5: A dead standing tree with numerous potential roosting features, therefore it was assessed as providing 'high' potential as a bat roosting site.

Both of the crack willow trees were assessed as providing 'negligible' potential as a bat roosting site (T6, T7) in addition to the adjacent ash tree (T8).

Breeding birds

The adjacent woodland area and roadside hedgerow provides opportunities for generalist bird species. The modified grassland does not provide a suitable habitat for ground nesting birds.

Great Crested Newt

The pond within the woodland area does not provide any opportunities for great crested newts. It was severely polluted with close to no water. In addition, there are no historical records of great crested newts within 1km of the site.

5 POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

Modified Grassland

The proposed plans will result in the loss of 1830m² of modified grassland. This type of habitat is of limited ecological significance and this site has very limited botanical diversity. A native tree planting scheme will be adopted between the roadside hedgerow and the proposed calf shed to provide some compensation and enhancement.

Artificial, unvegetated/unsealed surface

The calf shed will cover an 130m² of crushed stone. The loss of this habitat is of no ecological significance and mitigation is not required.

Individual trees

The proposed plans will result in the loss of no individual trees.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

There were no signs of badger within the site or adjacent habitats, in addition there are no historical records of badger within 1km of the site. No mitigation is required in regard to this species.

Bats

T5 and T2 which are located near to the proposed calf shed were assessed as providing high potential as a bat roosting site. Due to the vicinity of individual trees that do provide potential as a bat roosting site, a Wildlife Sensitive Lighting scheme will be adopted. There are no habitats within the red line boundary that provide suitable roosting features for bat species, therefore, no further survey work is required.

Breeding birds

The proposed plans do not involve any woodland, hedgerow or vegetation removal; therefore the development is unlikely to impact breeding birds.

Great crested newt

The pond was assessed as not providing a suitable habitat for great crested newts due to the heavy pollution. In addition, there are no historical records of GCN within 1km of the site. No mitigation is required for this species.

6 AVOIDANCE, MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

A narrow woodland corridor will be planted between the new calf shed and the hedge along the road. This will link up to the small wood via the hedge at the south of the site and provide enhanced landscape connectivity in the long term.

Species to be planted will include oak, alder, field maple, hazel, and hawthorn.



6.2 PROTECTED SPECIES MITIGATION

Bats

Wildlife sensitive Lighting plan

- 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 or decorative lights to be installed on the site will be less than 3m from the ground and fitted with hoods to direct the light below the horizontal plane, at an angle of less than 70° from vertical, and shall not be fixed to, or directed at, bat boxes, gables or eaves.
- Security lighting will be set on motion sensors with short timers less than 1 minute and will be LED.
- External lighting 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 will be used internally where possible due to their sharp cut-off, lower intensity and dimming capability. The luminaires will always be mounted horizontally with an upward light ratio of 0%.

General Avoidance Measures

The following measures should be implemented to decrease the likelihood of killing/injuring small animals that are present locally:

- If piles of rubble, logs, bricks, other loose materials or other potential refuges are to be disturbed, this will be done by hand and carried out during the active season (March to October) when the weather is warm to allow animals to disperse naturally.
- The grassland areas will be kept short prior to and during construction to avoid creating attractive habitats for wildlife.
- All building materials, rubble, bricks and soil must be stored on raised platform (e.g. wooden pallets) to prevent their use as refuges by wildlife.
- Where possible, trenches will be opened and closed in the same day to prevent any wildlife becoming trapped. If it is necessary to leave a trench open overnight then it will be provided with a means of escape in the form of a shallow ramp.

- Any open pipework should be capped overnight. All open trenches and pipework will be inspected at the start of each working day to ensure no animal is trapped.
- Any common reptiles or amphibians discovered will be allowed to naturally disperse. Advice will be sought from an appropriately qualified and experienced ecologist if large numbers of common reptiles or amphibians are present.
- If a great crested newt is discovered at any stage then all work must immediately halt and an appropriately qualified and experienced ecologist and Natural Resources Wales will be contacted for advice.

6.3 ECOLOGICAL ENHANCEMENT

Upon completion of works at the site, the following wildlife features will be installed into nearby mature trees to provide opportunities for protected species on site:

- Two general purpose Woodcrete bat boxes, at least 3m from ground level and facing south or south-west.
- One Woodcrete open-fronted nest box to be installed at least 2.5m from ground level and facing away from the prevailing wind.

7 SUMMARY

Planning permission will be sought for the construction of a calf shed at The Gaer. 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.

The proposed plans will result in the loss of 1830m² of modified grassland. This type of habitat is of limited ecological significance with very limited botanical diversity. A native tree planting scheme will be adopted between the roadside hedgerow and the proposed calf shed due to the large area being lost. The calf shed will cover an 130m² of crushed stone. This loss of this habitat is of no ecological significance and mitigation is not required. The proposed plans will result in the loss of no individual trees.

There were no signs of badger within the site or adjacent habitats, in addition there are no historical records of badger within 1km of the site. No mitigation is required in regard to this species.

T5 and T2 which are located next to the proposed calf shed were assessed as providing high potential as a bat roosting site. Due to the vicinity of individual trees that do provide potential as a bat roosting site, a Wildlife Sensitive Lighting scheme will be adopted. There are no habitats within the red line boundary that provide suitable roosting features for bat species, therefore, no further survey work is required.

The proposed plans do not involve any woodland, hedgerow or vegetation removal; therefore, the development is unlikely to impact breeding birds.

The pond was assessed as not providing a suitable habitat for great crested newts due to the heavy pollution. In addition, there are no historical records of GCN within 1km of the site. No mitigation is required for this species

Upon completion of works at the site, the following wildlife features will be installed into mature tree or similar to provide opportunities for protected species on site:

- Two general purpose Woodcrete bat boxes,
- One Woodcrete open-fronted nest box.

8 REFERENCES

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FIGURE 1 LOCATION

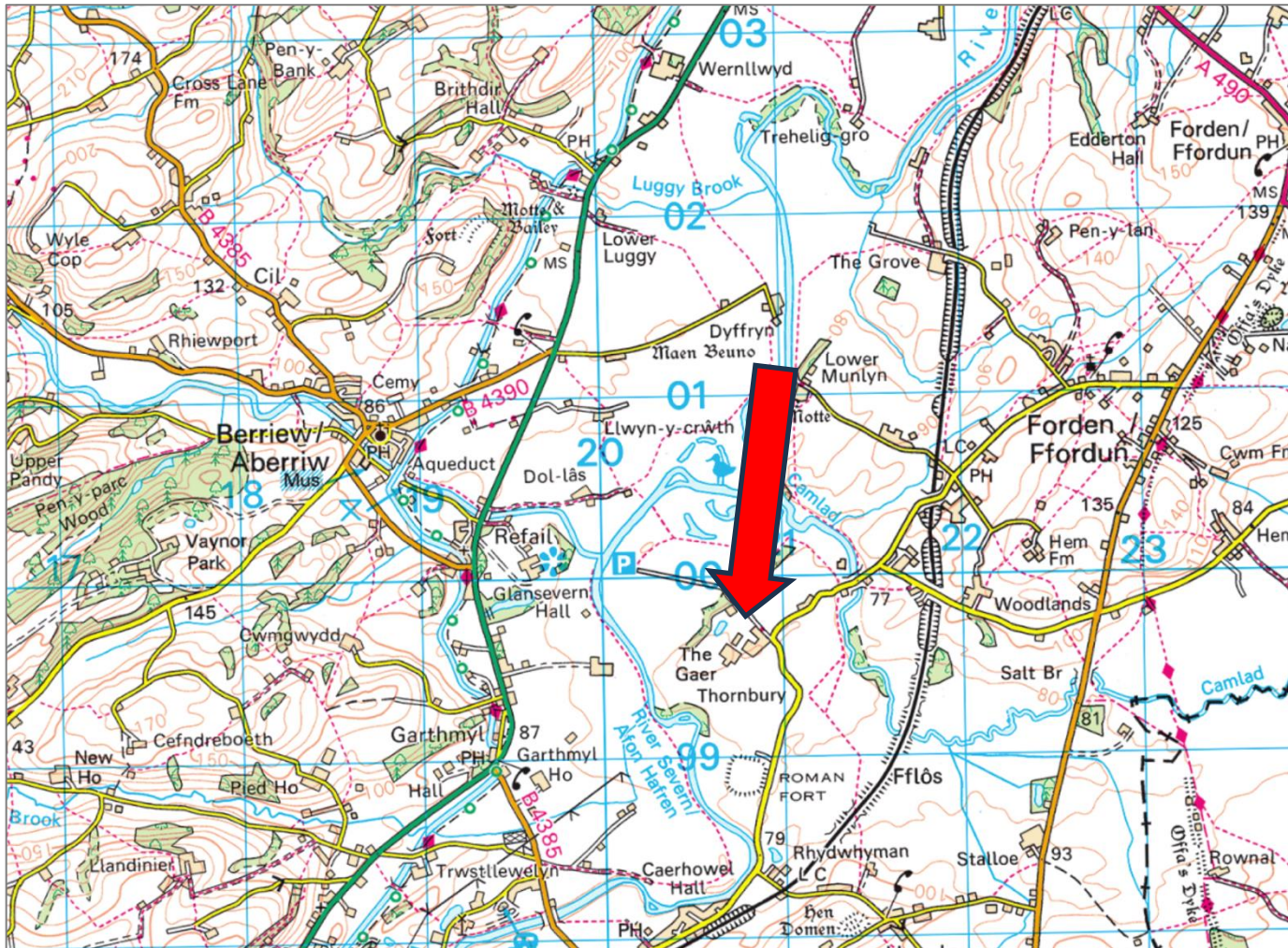


FIGURE 2 AERIAL PHOTOGRAPH

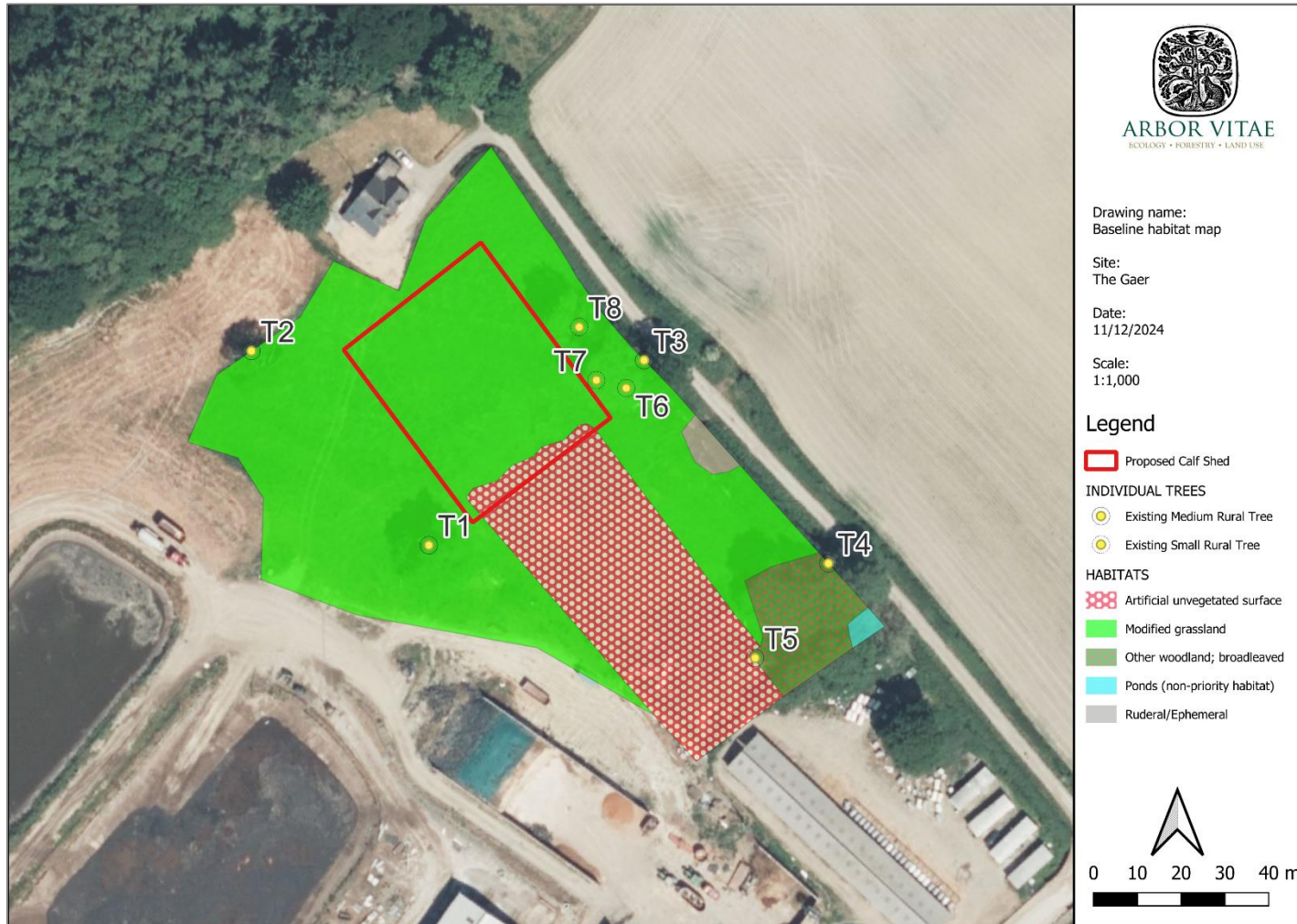


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FIGURE 3 PROPOSED PLANS (ILLUSTRATIVE PURPOSE ONLY)



FIGURE 4 BASELINE HABITAT MAP



APPENDIX 1 PHOTOGRAPHS



Crushed stone area.



Woodland area.



The pond within the wooded area



T2.



Crushed stone area and modified grassland.



Modified grassland and ruderal/ephemeral area.





T1.



Dried pond area.



Ditch along the hedgerow.



Road side hedgerow.



Roadside hedgerow and T3.



T5.

