



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PRELIMINARY ECOLOGICAL APPRAISAL

WOODLANDS

Project name: Woodlands, Forden, Welshpool, Powys, SY21 8NP

Grid Reference: SO22389963

Date: 14/10/2022

Prepared by: Phillipa Stirling BSc MSc ACIEEM

Reviewed by: William Prestwood BSc Director

Requested by: Roger Parry and Partners

Contents

1	INTRODUCTION	2
1.1	BACKGROUND TO DEVELOPMENT.....	2
1.2	SCOPE OF SURVEY.....	2
1.3	KEY PRINCIPLES	2
2	SITE DESCRIPTION	3
2.1	LOCATION, LANDSCAPE, AND BACKGROUND.....	3
3	SURVEY METHODOLOGY	3
3.1	DESK STUDY.....	3
3.2	SITE SURVEY	3
3.3	PERSONNEL	4
3.4	CONSTRAINTS.....	4
4	SURVEY RESULTS.....	4
4.1	DESK STUDY.....	4
4.2	HABITATS ON SITE.....	5
4.3	ADJACENT HABITATS.....	6
4.4	PROTECTED SPECIES.....	6
5	POTENTIAL ECOLOGICAL IMPACT	7
5.1	HABITAT ASSESSMENT	7
5.2	PROTECTED SPECIES ASSESSMENT	7
6	AVOIDANCE, MITIGATION AND ENHANCEMENT	8
6.1	HABITAT MITIGATION	8
6.2	PROTECTED SPECIES MITIGATION	8
6.3	ECOLOGICAL ENHANCEMENT	8
7	SUMMARY.....	9
8	REFERENCES.....	10
	FIGURE 1 LOCATION. 1:50,000.....	11
	FIGURE 2 AERIAL PHOTOGRAPH & INDICATIVE BOUNDARY	12
	FIGURE 3 PROPOSED SITE PLAN	13
	APPENDIX 1 PHOTOGRAPHS	14

1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the installation of ground mounted solar panels on an arable field at Woodlands farm, Forden.

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 site is located just off the B4388 between Forden and Montgomery in Powys. The immediate landscape is dominated by arable fields with some native hedgerow and small areas of remnant woodland. The River Camlad flows near to the south boundary of the field and there is an electrical sub-station positioned within the field adjacent.

The proposals will include the installation of ground-mounted solar panels over half of the existing arable field. There are electrical wires running over the field with several pylons in the surrounding area.

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 and NBN Atlas.

3.2 SITE SURVEY

A site visit was made on 01/09/2022. 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 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

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 within 1km of the site there were no statutorily designated sites. The search included Ramsar, SSSI, SAC, SPA, NNR and LNR. ¹

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.

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	0.5km	European Protected Species, Wildlife and Countryside Act 1981.
Hedgehog	0.7km	s.41 NERC
Birds		
Kingfisher Kestrel Redwing Fieldfare	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).

Arable

The site is part of a larger arable field. The whole field has been drilled with a grassland mixture and the sward is very open with frequent bare patches. The field is ploughed regularly. Species recorded within the field during the survey include: meadow foxtail, cock's foot, perennial ryegrass, white clover, ribwort plantain, broad leaved dock, dandelion, spear thistle and red-leg.

Tall ruderal

Areas around the edge of the field form arable margins with a denser vegetation and the following species: rosebay willow herb, hogweed, cow parsley, creeping thistle, common nettle and cock's foot.

Hedgerow & trees

The north hedgerow runs along the roadside and consists of: hawthorn, sycamore, field maple, blackthorn, dog rose and Guelder rose. Cow parsley and cleavers are frequent at ground level and bramble is also present. There are also four mature poplar and one ash tree in the length of hedge.

The east hedgerow is mostly made up of hawthorn which has grown to form a tall screen in places. Dog rose and bramble are also frequent.

The south boundary consists of hawthorn and blackthorn with a ditch along the base. The ditch was dry at the time of the survey but appears to carry water during wetter months.

The west hedgerow consists of hawthorn, blackthorn, hazel, elder and one mature oak tree.

There is a single in-field oak tree to the south of the proposed development boundary. The tree possesses several potential roosting features including loose bark and rot holes. The tree appears to be stunted, likely a result of ploughing the soil around the base.

4.3 ADJACENT HABITATS

Arable

Adjacent fields are also arable with some temporary seeded grassland.

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 arable field does not provide any suitable roosting sites for bat species. The in-field oak tree and mature oak in the west boundary possess a few small potential roosting features. Based on Table 4.1 of the Bat Conservation Trust survey guidelines, the trees would be classified as providing 'low' suitability as a bat roost.

Breeding birds

The arable field offers very limited opportunities for breeding birds due to the regular management of the land, including ploughing.

Great Crested Newt

There is a single pond mapped at 200m distance from the site within a densely wooded area. The area dries out through the year and was therefore not considered as a suitable aquatic habitat for GCN.

No other ponds were identified within 250m of the proposed development site and therefore no further survey work is required with regard to this species.

5 POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

The proposals will see an area of arable land covered with ground mounted solar panels. The areas beneath the solar panels will revert to grassland and in the long-term, the reduction in intensive agricultural activities will be beneficial to the local ecological environment.

The proposals will not result in any changes to the hedgerows at the boundaries of the site nor the mature in-field oak tree.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

The survey revealed no signs of use by badger and there are no historic records of badger at the site. The proposals will have no impact on this species.

Bats

The proposals will have no impact upon hedgerows or mature trees on the site and therefore no impact upon potential roosting sites or foraging/commuting habitat.

Breeding birds

The field site does not provide suitable nesting sites for breeding birds and the change of land cover will have no direct impact upon them.

Great crested newt

There are no records of GCN within 1km of the site and the surrounding arable land provides poor terrestrial habitat for this species. A single woodland pond is located 200m from the site but dries out through the year.

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 proposals will have no impact upon GCN, potential terrestrial or aquatic habitats which might be in use by the species. No further survey work or mitigation is required.

6 AVOIDANCE, MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

The proposals will not result in the loss or damage of protected or priority habitats and mitigation for the project is not required.

6.2 PROTECTED SPECIES MITIGATION

Breeding birds

As a precaution, a thorough ground and internal inspection should be completed prior to works commencing on site if works start between 1st March and 31st August (inclusive) in any given year. If breeding birds are found, an exclusion zone of 5 metres should be implemented and maintained until breeding is complete and the fledglings have left the nest.

If any hedgerow removal becomes necessary this will be carried out between September and February to avoid the nesting season.

6.3 ECOLOGICAL ENHANCEMENT

A wildlife box scheme will be adopted on site, using mature trees around the periphery, as follows:

- Two Woodcrete bat boxes will be installed into a mature tree. The boxes will be positioned near to one another, on the same tree, and sit at least 3m from the ground.
- Two Woodcrete bird boxes with 28mm opening will be installed into mature trees. The boxes will be at least 2.5m from the ground and the opening will face away from the prevailing wind.
- One owl box will be installed into the mature in-field oak tree, facing south.

7 SUMMARY

Planning permission will be sought for the installation of ground mounted solar panels on an arable field at Woodlands farm, Forden.

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 proposals will see an area of arable land covered with ground mounted solar panels. The areas beneath the solar panels will revert to grassland and in the long-term, the reduction in intensive agricultural activities will be beneficial to the local ecological environment.

The proposals will not result in any changes to the hedgerows at the boundaries of the site nor the mature in-field oak tree.

The survey revealed no signs of use by badger and there are no historic records of badger at the site. The proposals will have no impact on this species.

The proposals will have no impact upon hedgerows or mature trees on the site and therefore no impact upon potential roosting sites or foraging/commuting habitat.

The field site does not provide suitable nesting sites for breeding birds and the change of land cover will have no direct impact upon them.

The proposals will have no impact upon GCN, potential terrestrial or aquatic habitats which might be in use by the species. No further survey work or mitigation is required.

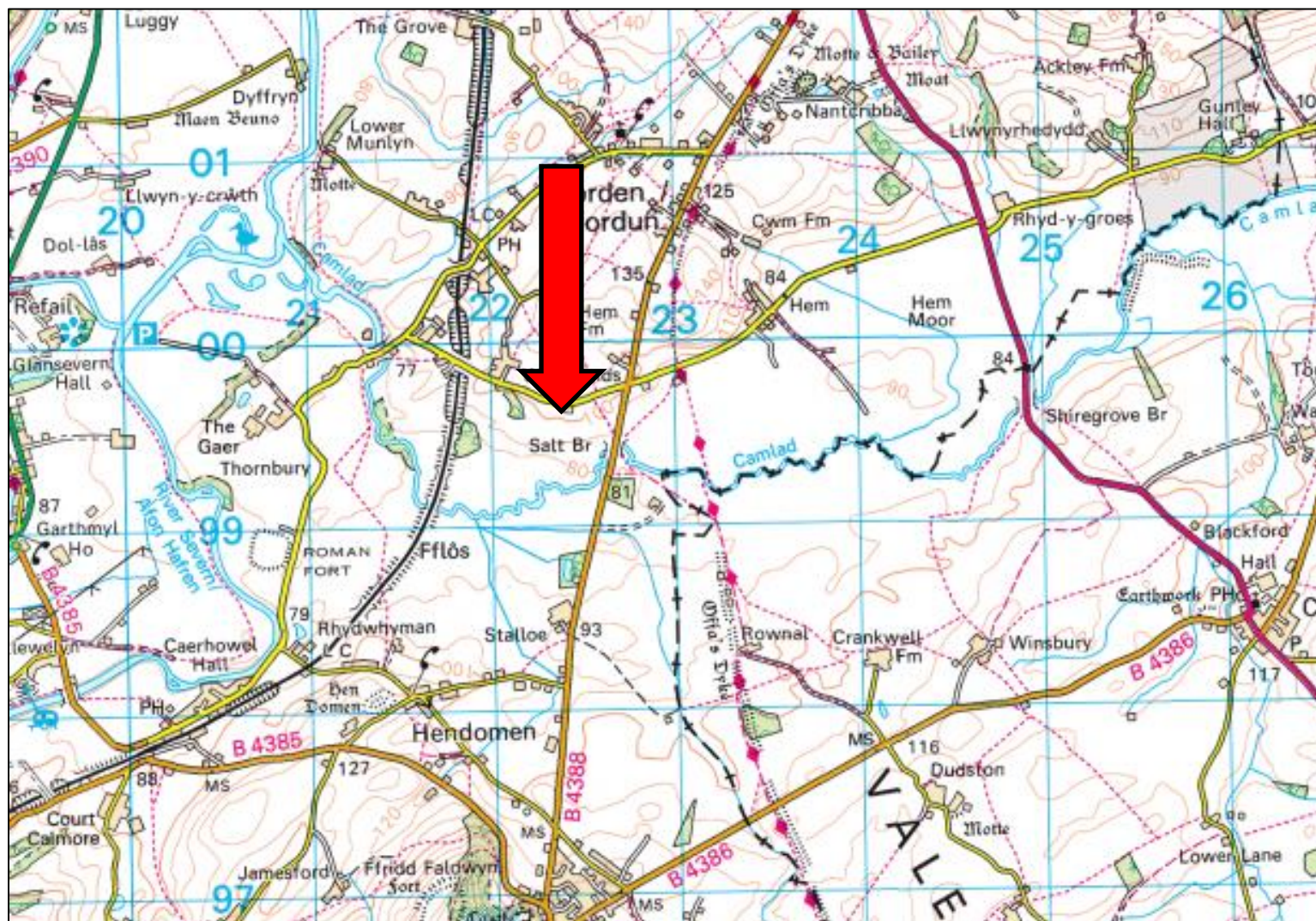
A wildlife box scheme will be adopted on site as follows:

- Two Woodcrete bat boxes,
- Two Woodcrete bird boxes,
- One owl box.

8 REFERENCES

- ARG UK (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom
- Bat Conservation Trust (2018) Bats and artificial lighting in the UK. *Bats and the Built Environment series*, Guidance Note 08/18. Institution of Lighting Professionals.
- CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
- GOV.UK. (2015) Badgers: surveys and mitigation for development projects. [online] Available at: [Accessed 29 October 2021].
- Harris, S., Creswell, P. and Jefferies, D. (1989) Surveying Badgers. 1st ed. London: The Mammal Society, pp.3-21.
- Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.
- JNCC (2010) Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.
- Mitchell-Jones, T. (2004) Bat mitigation guidelines. External Relations Team, English Nature.
- Natural England (2002) Badgers and Development. 1st ed. Peterborough: Natural England, pp.2- 12.
- Oldham 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.

FIGURE 1 LOCATION. 1:50,000



ARBOR VITAE
ECOLOGY • FORESTRY • LAND USE

FIGURE 2 AERIAL PHOTOGRAPH & INDICATIVE BOUNDARY



ARBOR VITAE
ECOLOGY • FORESTRY • LAND USE

FIGURE 3 PROPOSED SITE PLAN



ARBOR VITAE
ECOLOGY • FORESTRY • LAND USE

APPENDIX 1 PHOTOGRAPHS



The site.



Sward quality/density is low.



North boundary.



West boundary.



South boundary.



East boundary.



ARBOR VITAE
ECOLOGY • FORESTRY • LAND USE