

Report Title	Proposed Rear Vehicle Access to 2 Vale Prospect, Chapel Street, Acrefair, Wrexham – Badger Survey and Preliminary Roost Assessment
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The evaluation and assessment provided in this report is specific to the iteration of the proposal detailed in *Section 1*. It would no longer be valid should the layout be changed in anyway, should the report be used for a different proposal at the same site or should it be used a maximum of 12 months after the date of issue.

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Figure 1 – Badger Survey Target Notes

Figure 2 – Location of Trees Inspected for PRA

1 INTRODUCTION

1.1 Project Background

1.1.1 Marches Ecology was commissioned by Mr D. Williams to undertake a Badger Survey and Preliminary Roost Assessment (PRA) of land to the rear of 2 Vale Prospect, Chapel Street, Acrefair, Wrexham (approximate OS Grid Ref. SJ 278 433). This report is provided as supporting information to a planning application for the creation of a new vehicle access off Bethania Road including a parking area.

1.1.2 This survey report has four principal aims:

- to identify whether Badgers (*Meles meles*) use the site and if so whether any setts are present;
- to assess the potential value of the trees present for roosting bats;
- to detail further surveys that may be required; and
- to identify potential development constraints relating to ecology and outline potential mitigation measures where possible.

1.1.3 This report was produced by Tom Knight of Marches Ecology. Tom Knight is an ecologist with over eighteen years of consultancy experience and has undertaken similar surveys on a wide range of sites. His relevant academic qualifications and professional memberships are as follows:

- Chartered Environmentalist (Society for the Environment).
- Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM).
- PgDip Conservation Management.
- BSc (Hons) Environmental Studies.
- C&G Biological Surveying.

1.2 The Proposal

1.2.1 The proposal concerns the formation of a new vehicle access point off Bethania Road to the rear of 2 Vale Prospect. An associated parking area would be constructed. The drive and parking area would be surfaced with compacted stone. The proposed development is shown on an A.C.Craig Associates plan entitled '*Site Location Map and Block Plan*', ref. 1392/17-01, dated May 2017. This plan shows the area which relates to the planning application (red line boundary) as well as other land within the applicant's control (blue line boundary). The proposed development site (red line boundary) extends to approximately 0.05 hectares.

1.2.2 No further detailed information regarding the proposed development has been provided.

1.3 Planning Policy

Introduction

- 1.3.1 This section provides a brief summary of key national and local planning policies. It is not a comprehensive review of all such planning policy, the intention being to identify those considered to be of most relevance to ecology and provide context for the proposal.

Wales

Planning Policy Wales

- 1.3.2 Planning Policy Wales (PPW) sets out national land use planning policies (Welsh Government 2016). Chapter 5 is of particular relevance and is entitled 'Conserving and Improving Natural Heritage and the Coast'. With specific reference to development proposals the following key statements are made:
- *'Biodiversity and landscape considerations must be taken into account in determining individual applications and contributing to the implementation of specific projects. The effect of a development proposal on the wildlife or landscape of any area can be a material consideration'.*
 - *'When considering any development proposal... local planning authorities should consider environmental impact, so as to avoid, wherever possible, adverse effects on the environment'.*
- 1.3.3 Chapter 5 further covers statutory designations, protected species and specific habitats/ areas. National policy statements are listed at the end of the Chapter and cross-referenced to paragraphs.
- Technical Advice Note 5*
- 1.3.4 PPW is supplemented by a series of Technical Advice Notes (TAN). TAN 5 covers 'Nature Conservation and Planning' (Welsh Government 2009). It provides advice to local planning authorities on how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. It includes chapters covering the key principles of planning for nature conservation; the preparation and review of development plans; nature conservation in development control procedures; the conservation of internationally and nationally designated sites, habitats and local sites; and the conservation of protected and priority habitats and species.
- 1.3.5 In paragraph 2.4 it states that *'...when deciding planning applications that may affect nature conservation, local planning authorities should:*
- *pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long term perspective (PPW 2.2.1¹);*
 - *contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment (PPW 2.3.2);*
 - *promote the conservation and enhancement of statutorily designated areas and undeveloped coast (PPW 2.3.2);*

¹ References to the relevant part of PPW.

- *ensure that appropriate weight is attached to designated sites of international, national and local importance (PPW 5.3.2);*
- *protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans (PPW 5.2);*
- *ensure that all material considerations are taken into account and decisions are informed by adequate information about the potential effects of development on nature conservation (PPW paragraphs 5.5.1 and 5.5.2);*
- *ensure that the range and population of protected species is sustained (PPW 5.2.3, 5.5.11 and 5.5.12);*
- *adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered (PPW 5.2.2, 5.2.7 and 5.5.2).*

Wrexham

- 1.3.6 Local planning authorities will consider biodiversity/ nature conservation issues in accordance with adopted policies and plans. The following are considered of particular relevance to the proposal.

Wrexham Unitary Development Plan

- 1.3.7 The Wrexham Unitary Development Plan (UDP) was adopted in February 2005. It will be replaced (currently scheduled for adoption in 2018) by the Local Development Plan. The UDP '*...provides a framework for local decision making and the reconciliation of development and conservation interests...*'.

Relevant strategic and general development policies include:

- *Policy PS2. Development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment.*
- *Policy PS11. Encouragement will be given to proposals which improve the biodiversity value of sites and to the establishment of local nature reserves where the nature conservation and landscape interest of the land will be protected and enhanced.*
- *Policy GDP1f). Ensure the safety and amenity of the public and safeguard the environment from the adverse effects of pollution of water, land or air, hazards from industry and quarrying, and associated noise, odour or vibration arising from development.*
- *Policy GDP1h). Safeguard sites and areas of nature conservation and wildlife interest, and to provide new habitats where there is an unavoidable loss of existing habitats and areas of wildlife interest.*

Section 5 of the UDP concerns 'Environment and Conservation'. The relevant policies listed are as follows:

- *Policy EC4. Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or*

significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.

- *Policy EC6. Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.*
- *Policy EC13. Development which would result in an unacceptable adverse impact on the water environment due to additional surface water run-off will not be permitted.*

Local Planning Guidance

1.3.8 Wrexham County Borough Council (WCBC) has produced a series of supplementary planning guidance documents which set out detailed advice on the way in which Development Plan policies will be applied. Supplementary planning guidance is a material consideration in the determination of planning applications for development. The following Local Planning Guidance (LPG) notes are of particular relevance:

- LPG 17 Trees and Development. Adopted September 2000, Updated December 2012. Provides further advice in relation to UDP policy EC4.
- LPG 32 Biodiversity and Development. Adopted March 2011. Provides further advice in relation to UDP policies PS2, PS11, EC4 and EC6. Of particular importance, it details the requirements for ecological survey and reporting.

1.3.9 The Wrexham Biodiversity Action Plan (WBAP) is also listed as supplementary planning guidance on the WCBC website. However, this reference is out-of-date, the WBAP has been archived and is no longer available.

1.4 Legislation

Introduction

1.4.1 This sub-section provides a brief summary of key legislation relevant to ecology/ nature conservation and the proposal. It should not be considered a comprehensive review and is not meant to be so. It is provided here for information only and is not intended to replace specialised legal advice. It does not replace the text of the legislation, but summarises the salient points. Further information on how this legislation affects the protection of particular species is provided in *Appendix 1*.

The Conservation of Habitats and Species Regulations 2010, as amended (The Regulations)

1.4.2 Transposes the *EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora 1992* into UK law. The Regulations provide for the protection of sites in the UK that support habitats and species of European importance (e.g. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs)). The Regulations also provide full protection for certain species which are frequently referred to as European Protected Species (EPS). EPS of potential relevance to the site include bats.

The Wildlife and Countryside Act 1981, as amended (WCA)

- 1.4.3 The WCA strengthened protection for nature conservation sites of at least national importance, and provides varying levels of protection for a number of species within the UK. This protection may include prohibition of some or all of: killing, injuring, disturbing, taking, sale/barter or possession of species and also protection of breeding/ sheltering places. The following species/ species groups that receive some level of protection under the WCA and are of potential relevance to the proposal include Badger (*Meles meles*) and bats. The WCA also prohibits the spread of certain non-native invasive species.

The Countryside and Rights of Way Act 2000 (The CRoW Act)

- 1.4.4 The CRoW Act includes legislation in relation to the Biodiversity Action Plan; more stringent management, protection and consenting measures for SSSIs; greater penalties for wildlife crime; and greater protection for species listed in the WCA. Some of this legislation was superseded by the NERC Act.

The Natural Environment and Rural Communities Act 2006 (The NERC Act)

- 1.4.5 *Sections 40 to 42* of the NERC Act replace *Section 74* of the CRoW Act. *Section 40* of the NERC Act extends to all public authorities (including local planning authorities) the existing *Section 74* duty to have regard to biodiversity as far as is consistent with the proper exercise of their functions. In addition, *Sections 41* (England) and *42* (Wales) provide a list of species and habitats of principal importance for conservation of biological diversity. Government has a statutory duty to promote steps “to further the conservation” of habitats and species listed in *Sections 41* and *42*.

Environment (Wales) Act 2016

- 1.4.6 The Environment Act enhances and replaces the current NERC Act (*Section 40*) duty to require all public authorities, when carrying out their functions in Wales, to seek to ‘maintain and enhance biodiversity’ where it is within the proper exercise of their functions. In doing so, public authorities must also seek to ‘promote the resilience of ecosystems’. *Section 7* of the Environment Act provides a list of the living organisms and habitats of principal importance for the purpose of maintaining and enhancing biodiversity in Wales. This list replaces that previously provided in *Section 42* of the NERC Act.

The Protection of Badgers Act 1992 (The Badgers Act)

- 1.4.7 The Badgers Act provides for the protection of Badgers and their setts. This legal protection is provided for welfare rather than the conservation value of the species.

2 METHODOLOGY

2.1 Field Survey

Introduction

- 2.1.1 The Badger Survey and Preliminary Bat Roost Assessment (PRA) were carried out on 31st August 2017 by Tom Knight of Marches Ecology. The survey focussed on land within the site boundary (henceforth referred to as the 'survey site', refer to *Figure 1*). Immediately adjacent habitat was considered where deemed appropriate and viewed from the survey site boundary where possible. The weather during the survey was sunny with white cloud, light rain showers later and a light breeze.

Badger Survey

- 2.1.2 All evidence of Badger activity was recorded; foraging signs, tree scratching, paths, footprints, breaches/ hairs on fencing, latrines and setts (Harris *et al.*, 1989). This evidence was recorded as Target Notes which are provided in *Section 5*, with the location shown on *Figure 1*. The status and level of activity at any recorded sett was determined in accordance with the standard published descriptions and criteria (Harris *et al.*, 1994).

Preliminary Roost Assessment

- 2.1.3 The survey followed the guidance for a Preliminary 'ground level' Roost Assessment of trees in accordance with best practice guidelines (Collins 2016). The exterior of each tree within the survey site was inspected from ground level to identify the presence of any features that bats could use for roosting – Potential Roost Features (PRF), as well as any evidence of the actual presence of bats, *e.g.* droppings and or staining below a PRF. This assessment was recorded as Target Notes which are tabulated in *Section 5*, with the location of the trees shown on *Figure 2*. The categorisation of roosting potential follows that provided in *Table 4.1, p35* (Collins 2016). The trees were inspected with the aid of a high-powered torch where necessary and close-focussing binoculars.

2.2 Survey Constraints

- 2.2.1 The following may be considered survey constraints:
- Preliminary ground level assessments of trees are best carried out in winter (approximately December to March) when the foliage is absent. It was difficult to view all parts of most of the trees within the survey site from all sides, and both close to and further away, due to the uneven ground, dense shrub layer/ re-growth in some places, dense *Hedera helix* (Ivy) on most trees and due to the foliage.
 - The site boundary was not physically defined on the northeast or southwest boundaries and consequently it was difficult to determine whether some trees were located within the site or not.
 - Dense scrub/ vegetation may have obscured signs of Badger activity in some parts of the site. Access was also difficult in some places due to uneven ground/ steep slopes.
 - No background data search has been undertaken to inform the survey and this report.
 - Access permission was not provided to private land beyond the survey site boundary.

3 BASELINE ECOLOGICAL CONDITIONS

3.1 Badger Survey

- 3.1.1 No setts were recorded within the survey site. Opportunities for sett excavation within the survey site are provided by the sloping ground throughout the site. The site is essentially an embanked strip of ground with slopes on both the northeast, southwest and northwest sides. The scrub/ woodland also provides dense vegetative cover.



- 3.1.2 No evidence of Badger activity was recorded within the survey site. An old animal path was recorded at *Target Note 1 (Figure 1)* which is located just inside or just outside the survey site². No evidence to confirm use by Badgers was recorded along this path and no evidence of recent use by other animals was recorded. A further breach beneath a fence with associated animal path was recorded at *Target Note 2*. No evidence to confirm use by Badgers was recorded at this breach or along the path. This breach is approximately 64 m to the east/ northeast of the survey site boundary.

3.2 Preliminary Roost Assessment

- 3.2.1 The location of the trees inspected from ground level during the PRA is shown on *Figure 2*. The Target Notes (numbered 1 to 13) are tabulated in *Section 5* and shown on *Figure 2*.
- 3.2.2 The trees at *Target Notes 7 and 10* are within the survey site and were categorised as being of low roost potential. The *Acer pseudoplatanus* (Sycamore) tree at *Target Note 7* had one stem of low roost potential and a further three of negligible roost potential. In accordance with Collins (2016) 'A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential' has been assigned to the 'low roost potential' category. In practice, on this site, and at this time of year, where PRFs have not been identified this is more likely to indicate that the assessment was inconclusive.

² No physical boundary delineates this side of the survey site.

- 3.2.3 Trees believed to be just outside the survey site at *Target Notes 1, 3, 9, 11, 12 and 13* were categorised as being of low roost potential. Actual PRFs were identified in the trees at *Target Notes 1, 3, 11 and 13*.



The fused stems at *Target Notes 1b and 1c* creating a crevice beneath the Ivy – a potential PRF.



The hole into a cavity in the stump at *Target Note 3* – a potential PRF.



The rot-hole in the Ash tree at *Target Note 11* – a potential PRF.



The rot-holes in the Goat Willow at *Target Note 13* – a potential PRF.



Typical dense Ivy cover (*Target Note 1*).

- 3.2.4 There are a number of young trees (*e.g. Target Notes 5 and 8*) throughout the site that are not listed in *Section 5*. These trees are of negligible roost potential. Similarly, there are a small number of semi-mature/ mature shrubs, particularly *Crataegus monogyna* (Hawthorn) throughout the site. Some of these are covered in dense Ivy (*e.g. Target Note 1*) and due to this are considered to be of low roost potential at most.
- 3.2.5 The semi-natural secondary broad-leaved woodland that characterises the survey site is likely to be of high potential value for foraging/ commuting bats. It is joined to a larger area of semi-natural woodland to the south and east. The eastern edge is adjacent to an area of currently unmanaged neutral grassland associated with Acrefair Sports and Social Club. The sheltered conditions provided by the woodland edges around this grassland may be of particular value for foraging bats. Immediately to the west of the survey site are residential gardens along Chapel Road and to the north along Bethania Road. These gardens are likely to provide foraging/ commuting habitat of moderate value. While dissected by minor roads (*e.g. Bethania Road*) there are further areas of broad-leaved woodland located to the north and west. Open countryside is located approximately 125 m to the north of the survey site and is typically comprised of hedge-lined pastures with small blocks of plantation woodland and waterbodies at Delph. The habitat in the wider area is likely to be of moderate to high potential value for foraging/ commuting bats.

4 EVALUATION AND RECOMMENDATIONS

4.1 Introduction

4.1.1 Brief details regarding the proposal are provided in *Section 1.2*. An assessment of ecological issues based on the information provided is detailed below and considers:

- further survey requirements; and
- potential development constraints and associated mitigation requirements.

These are dealt with in turn for Badgers and bats in the section below.

4.1.2 No further detailed information regarding the proposal has been provided. In the absence of such information potential impacts have been considered with reference to the plan provided only. Potential impacts/ reasonable avoidance/ mitigation/ enhancement measures detailed below may need further consideration once a detailed proposal has been produced.

4.2 Evaluation and Recommendations

Badgers

4.2.1 As a consequence of the legal protection afforded to Badgers and their setts, work that could disturb Badgers is illegal without a licence. The Countryside Council for Wales (now Natural Resources Wales) has produced guidelines (CCW 2011) on the types of activity that it considers should be licensed within certain distances of sett entrances. For example, using very heavy machinery (usually tracked vehicles) within 30 m of an entrance to an active Badger sett, lighter machinery (generally wheeled vehicles) within 20 m, and light work such as hand digging or scrub clearance within 10 m, may require a licence. In addition, CCW (2011) states that some activities (e.g. explosives or pile-driving) may cause disturbance at greater distances (usually 100 m) than those listed above.

4.2.2 No setts were recorded within the survey site though potential sett excavation opportunities are present. No evidence of Badger activity was recorded within the survey site. An animal path was recorded just inside/ outside the survey site but could not be confirmed as having been used by Badger. The survey site could potentially be used by Badgers.

4.2.3 If site clearance/ construction work is not implemented within 12 months of the Badger Survey then the site should be re-surveyed by a suitably qualified ecologist to check for any setts. No further mitigation measures are proposed.

Bats

Potential Roosting Features

4.2.4 Two trees located within the survey site (*Target Notes 7 and 10*) are categorised as being of low roost potential. Six further trees believed to be located just outside the survey site (*Target Notes 1, 3, 9, 11, 12 and 13*) are categorised as being of low roost potential. The location of these trees in relation to the possible footprint of the proposed works requires confirmation. The habitat both within the survey site and the surrounding area is of moderate to high potential value for commuting/ foraging bats. This increases the likelihood that PRFs may be used by roosting bats.

4.2.5 Based on the boundary of the proposal and the nature of the site topography it is assumed that the trees at *Target Notes 7 and 10* would be directly impacted along with a number of other trees/ shrubs categorised as providing negligible roost potential. Due to their proximity

to the survey site boundary and the possible extent of earth-works it is also possible that the trees at *Target Notes 1, 3, 9, 11, 12 and 13* may be directly impacted, but otherwise would be subject to indirect disturbance.

- 4.2.6 Collins (2016) states that '*If no or low suitability PRFs for bats are found then further surveys are not necessary*'. Further qualification is offered in that '*If ground level surveys are inconclusive, and PRFs could be present at height, it may still be necessary to carry out further surveys*'. While a small number of low roost potential PRFs have been identified in trees outside the survey site most of the trees categorised as providing low roost potential were assigned as such because the PRA was inconclusive (e.g. parts of the tree were obscured by foliage, Ivy, etc).
- 4.2.7 It is recommended that a precautionary approach be adopted. All trees that may be impacted by the proposal, whether directly or indirectly, and that have been categorised as providing low roost potential should be subject to a PRF inspection survey by a suitably licensed bat ecologist prior to any felling/ pruning work. The PRF inspection survey is likely to involve climbing each of the trees to inspect any PRFs in detail. While this inspection can be undertaken at any time of year ideally it would be scheduled for when most of the foliage has dropped. At this time it may be possible to confirm the presence/ absence of PRFs without needing to climb each tree. The identified PRFs would still need inspection. The climbing inspection survey would determine whether further precautionary measures are necessary during the felling/ pruning activities.
- 4.2.8 The felling of the trees with low roost potential would result in the loss of some potential roosting opportunities. Alternative roost features should be provided to offset this perceived loss. The findings of the climbing inspection survey would be used to determine the number of bat-boxes to be provided however it is suggested that at least three Schwegler 2F-DFP³ type boxes are provided on a retained tree. These bat-boxes should be installed either by, or under the direction of, a suitably qualified ecologist to ensure correct installation.

Foraging/ Commuting Habitat

- 4.2.9 It is assumed that more-or-less all of the woodland within the survey site would be lost due to the proposal. No information has currently been provided on any soft landscaping associated with the proposal. It is recommended that a small number of locally native trees (e.g. *Quercus robur* Pedunculate Oak) are planted where possible. A wide hedge comprising locally native woody species should also be planted along the northeast boundary of the survey site to maintain habitat connectivity. This hedge should be planted as a staggered, double row with five to six plants per metre. The species composition should include Hawthorn, *Ilex aquifolium* (Holly), *Prunus spinosa* (Blackthorn), *Corylus avellana* (Hazel), *Acer campestre* (Field-maple) and *Rosa canina* agg. (Dog-rose). Any planting should utilise native species of certified British origin and local provenance (Local Seed Zone 302⁴)

Lighting

- 4.2.10 It is not currently known whether any external lighting would be installed as part of the proposal. Such lighting could impact bats using adjacent habitat for foraging/ commuting and where they might use the proposed bat-boxes.

³ e.g. <http://www.nhbs.com/2f-schwegler-bat-box-with-double-front-panel>

⁴ [http://www.forestry.gov.uk/pdf/FRMGuidelinesRoPmap.pdf/\\$FILE/FRMGuidelinesRoPmap.pdf](http://www.forestry.gov.uk/pdf/FRMGuidelinesRoPmap.pdf/$FILE/FRMGuidelinesRoPmap.pdf)

- 4.2.11 Any external lighting at the proposed development site would follow guidance provided by The Bat Conservation Trust (2014) and Institution of Lighting Engineers (2011). Should any external lighting be proposed the layout and individual luminaire specifications will be designed in conjunction with, and approved by, a suitably qualified bat ecologist to avoid as far as is possible light spillage (both horizontal and vertical) to adjacent areas of habitat used by commuting/ foraging bats and also the proposed bat-boxes.

Birds

- 4.2.12 The destruction of any bird nests that are in use is illegal. All tree felling and shrub/ vegetation clearance should be completed outside the nesting period (March to August inclusive).

5 TARGET NOTES

Badger Survey

Target Note 1. An old animal path. No evidence of use by Badgers was recorded. No recent use by other animals was recorded.

Target Note 2. A breach beneath a fence with associated animal path well outside the survey site. No evidence of use by Badgers was recorded.

Preliminary Roost Assessment

Target Note	Grid Ref.	Approx. dbh ⁵	Species	Description
1				Outside survey site. Four main and one minor stems. The main stems are described at <i>Target Notes 1a-1d</i> . Low roost potential. There is an adjacent (to northeast) dead semi-mature <i>Crataegus monogyna</i> (Hawthorn) that is covered in dense <i>Hedera helix</i> (Ivy). Low roost potential.
1a	SJ27852 43334 (+/- 3 m)	0.3 m		Of the four main stems that at <i>Target Note 1a</i> is the smallest and curves out and approx. 3 m away from the original stool. Stem covered in dense Ivy. Not possible to see all sides of the tree due to dense shrub layer/ foliage. No PRFs visible. Low roost potential at most, probably negligible.
1b	SJ27854 43331 (+/- 8 m)	0.5 m	<i>Acer pseudoplatanus</i> (Sycamore)	Has fused with <i>Target Note 1c</i> from base to approx. 2.2 m height. The crevice created faces northeast/ north and southwest/ west on the opposite face. There does not appear to be any large cavities but small numbers of bats could roost beneath the Ivy covering this feature. No other PRFs visible. Dense Ivy coming away from the stem/ branches may provide limited opportunities. Much of the crown/ higher branches are obscured by foliage and Ivy. West face obscured by re-growth from base and foliage. Low roost potential.
1c		0.5 m		As above. West face obscured by stem at <i>Target Note 1d</i> plus re-growth from base. Low roost potential.
1d		0.4 m		Largely obscured by low re-growth from base and Ivy on trunk. Southern and western faces not visible. No PRFs visible. Low roost potential at most.
2	SJ27857 43331 (+/- 4 m)	0.2 m	Sycamore	Outside survey site. Single stem young tree. Covered in dense Ivy and as such most of the trunk is not visible. No PRFs visible. Due to size likely to be of Negligible roost potential . Old Wren (<i>Troglodytes troglodytes</i>) nest on the northeast side.
3	SJ27859 43330 (+/- 3 m)	0.2 m	Sycamore	Outside survey site. One main stem and two minor stems. There is a rot cavity in the stump where the tree has previously been felled. The cavity has a split down the east/ northeast side from approx. 0.3 m above ground level to top of stump at 1.2 m. This split is 0.15-0.2 m wide and provides access to cavity. The cavity is open at the top of the stump which would reduce its potential value. No other PRFs visible. Low roost potential.

⁵ Diameter at breast height.

Target Note	Grid Ref.	Approx. dbh ⁵	Species	Description
4	SJ 27865 43325 (+/- 4 m)	0.3 m	<i>Salix caprea</i> (Goat Willow)	Outside survey site. Multi-stemmed with two main stems. Dense Ivy covers the stems to approx. 3.5 m but it was possible to view beneath this Ivy. Small amounts of dead wood present in limbs. No PRFs visible. Negligible roost potential.
5	SJ 27857 43322 (+/- 3 m)	0.1/ 0.15 m	<i>Fraxinus excelsior</i> (Ash)	Two young trees typical of survey site. Some Ivy on trunks. No PRFs visible. Negligible roost potential.
6	SJ 27861 43318 (+/- 3 m)	0.1/ 0.4 m	Ash	One main stem and one minor stem. The main stem divides at approx. 2 m height. As with many of the trees within the survey site it exhibits evidence of past ad hoc management/ coppicing. Ivy covers part of the stems largely on the south and east sides though it was possible to see beneath this. The crown was largely visible; it contained small amounts of dead wood. No PRFs visible. Negligible roost potential.
7	SJ27861 43314 (+/- 3 m)		Sycamore	Four main stems. There appears to be a cavity beneath the root-plate on the north side, facing northwest. It is difficult to see how far this extends. Low roost potential.
7a		0.5 m		Stem divides at approx. 2.5 m. Some Ivy present but not dense. Some of the crown is obscured. No PRFs visible. Negligible roost potential.
7b		0.5 m		No Ivy present. No PRFs visible. Negligible roost potential.
7c		0.3 m		Very little Ivy present. No PRFs visible. Negligible roost potential.
7d		0.6 m		Dense Ivy covers stem obscuring most of it. Not able to see all parts of the stem. No PRFs visible. May be limited opportunities for individual bats beneath Ivy. Low roost potential at most.
8	Not taken	0.1-0.2 m	Sycamore Ash	Cluster of young trees (some older specimens but multi-stemmed with thin stems) largely covered in dense Ivy. No PRFs visible. Due to size likely to be of Negligible roost potential.
9	SJ 27861 43300 (+/- 3 m)	0.4 m	Ash	Semi-mature tree believed to be outside survey site. Some dense Ivy on the north and east sides though it was largely possible to view beneath this. It was difficult to view much of the south side. No PRFs visible. Low roost potential at most, probably negligible.
10	SJ27851 43295 (+/- 3 m)		Sycamore	Three main stems plus re-growth from base. Crown removed. Low roost potential.
10a		0.4 m		Covered in dense Ivy though most of the Ivy was up to 0.01-0.02 m thickness. It was difficult to view some parts of the stem particularly towards the top. The pruning cuts at the top do not appear to be old enough to have allowed the development of rot-holes. The Ivy does not appear to be dense enough to provide opportunities. No PRFs visible. Low roost potential at most, probably negligible.
10b		0.4 m		Similar to <i>Target Notes 10a</i> and <i>c</i> . May be limited opportunities for individual bats beneath Ivy. Not able to get close to base of tree as there is a large brash

Target Note	Grid Ref.	Approx. dbh ⁵	Species	Description
				pile around 75% of it. No PRFs visible. Low roost potential at most, probably negligible.
10c		0.4 m		Similar to <i>Target Note 10a</i> . Dense Ivy particularly towards the top of the stem obscures the bark. No PRFs visible. Low roost potential at most, probably negligible.
11	SJ27850 43280 (+/- 3 m)	0.5 & 0.7 m	Ash	Believed to be approx. 5-7 m from survey site boundary. Divides at base into two main stems. The smaller stem leans approx. east. The west side is covered in dense Ivy extending into the canopy. Ivy is approx. 0.03-0.04 m thick and is coming away from trunk in places which may provide opportunities for individual bats. There is a small rot-hole where a branch has been removed approx. 5-6 m up stem but about 2.5-3 m off the ground. It is in the north side with access downwards from the north. It is approx. 0.05 m wide. It was not possible to see how large the cavity is but does not appear to be large. No evidence of use around hole. Not able to see beyond about 10 m up stem. No other PRFs visible. Low roost potential . The second stem is partly covered in Ivy though it is largely not dense. It was difficult to view much of the south side. The Ivy was again coming away from the trunk in places. No PRFs visible. Low roost potential .
12	SJ27865 43336 (+/- 3 m)	0.25 m	Goat Willow	Outside survey site. Cluster of mainly young trees covered in dense Ivy. Trunks not visible beneath Ivy. No PRFs visible. Low roost potential but based on species and size more likely to be negligible.
13	SJ 27868 43339 (+/- 3 m)	Up to 0.5 m	Goat Willow	Outside survey site. Multi-stem mature tree. Three large stems that divide at about 2-3 m height. The northern stem (0.3 m dbh) contains two small rot-holes at approx. 2.5 m and 2.8 m in the north side. The lower rot-hole faces straight out to the north while upper one is angled down. Both are roughly circular and approx. 0.02 m wide. Not possible to establish extent of cavity but it is believed that these two holes are joined. Some dark staining was noted around the upper hole but this was not conclusive. Cavity likely to be small. It also contains a small split in a main branch facing north/northwest at approx. 4 m height. The split is approx. 0.4 m long; it was not possible to see if it provided any crevices. No other PRFs visible. Low roost potential . Ivy to approx. 0.04 m thick is coming away from all three stems in places. The central stem (0.5 m dbh) contains a split with some rot visible. It could not be confirmed if there is a cavity present. It is located at approx. 1.5 m to at least 2.5/ 3 m height in the north face. There may also be a small cavity in a main branch where there is a tear wound at approx. 4-4.5 m height. It is approx. 0.3 m long but it was not possible to view it in detail. No other PRFs visible. Low roost potential . The southern stem (0.2 m dbh) has some sparse Ivy. No PRFs visible. Negligible roost potential .

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7 APPENDIX 1 - SPECIES-SPECIFIC LEGISLATION

7.1 Introduction

7.1.1 The species-specific legislation below is presented here due either to the actual or suspected/ possible presence of each species on the site or within the zone of influence and is therefore considered to be relevant for this study.

7.1.2 This sub-section provides a brief summary of key relevant species legislation. It should not be considered a comprehensive review and is not meant to be so. It is provided here for information only and is not intended to replace specialised legal advice. It does not replace the text of the legislation, but summarises the salient points.

7.2 Badger

7.2.1 The Badger is protected in Britain under the *Protection of Badgers Act 1992* and *Schedule 6 of the Wildlife and Countryside Act 1981* (as amended). The legislation affords protection to Badger and Badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

7.3 Bats

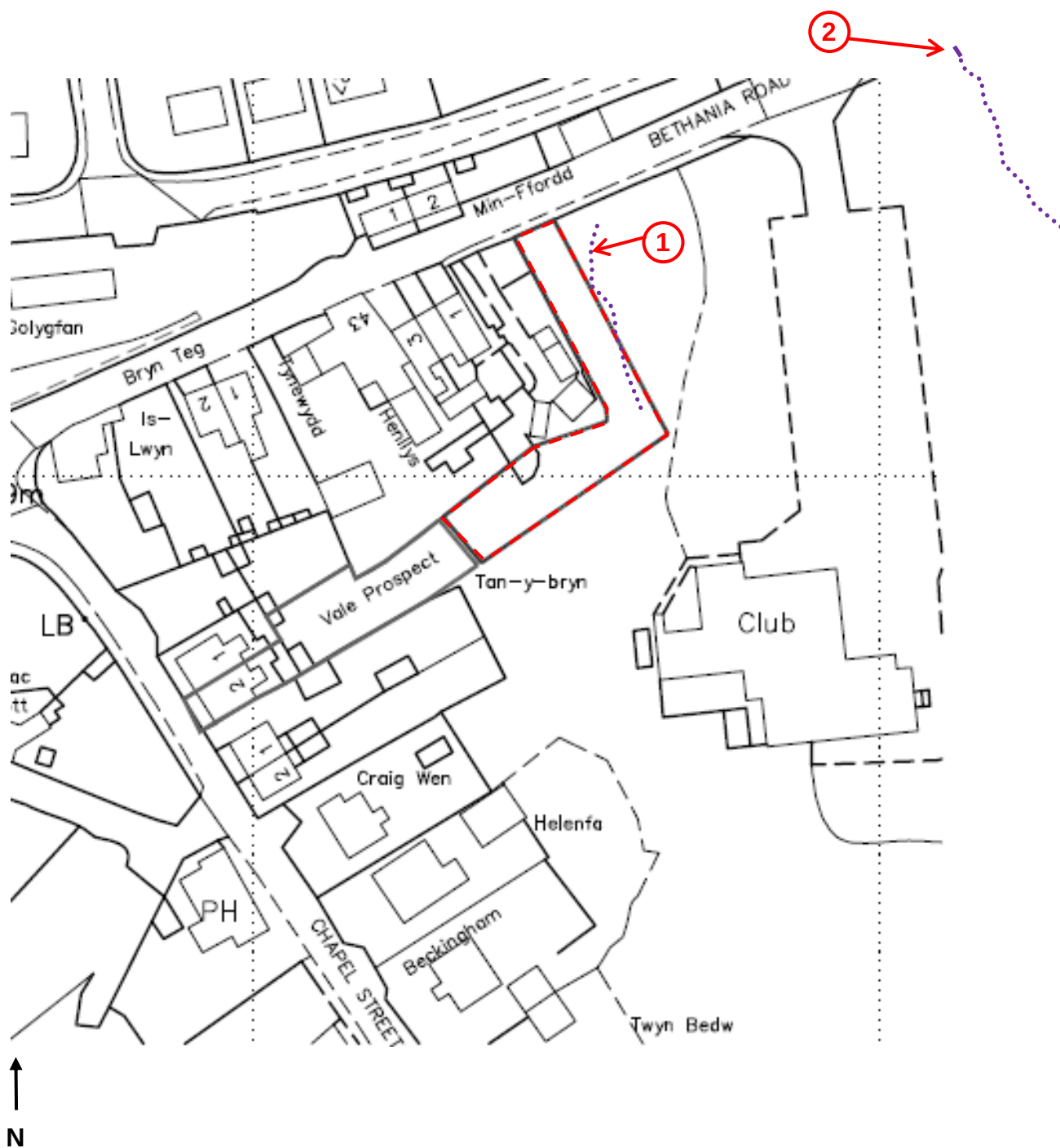
7.3.1 All species of British bat are listed on *Schedule 5 of the Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. They are also listed as European Protected Species on *Schedule 2 of The Conservation of Habitats and Species Regulations 2010* (as amended) which gives them full protection under *Regulation 40(1)*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the *CRoW Act 2000*).

7.3.2 Under the above legislation it is an offence to intentionally or recklessly:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

7.3.3 Several species of bat are included on *Section 7 of the Environment Act 2016*.

7.3.4 All species of British bat are also protected under *Schedule 6 of the Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.



Base mapping provided by an AC Craig Associates plan, drawing no. 1392/17-01.

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**C350 Proposed Rear Vehicle
Access to 2 Vale Prospect, Chapel
Street, Acrefair, Wrexham – Badger
Survey and Preliminary Roost
Assessment**

Figure 1 – Badger Survey Target Notes

Drawn by: ME
Checked by: TK
Date: 07.09.17

Key

- Animal path
- Animal breach
- ① Target Note
- - - Approximate boundary of survey site



Not to scale.

Base mapping provided by an AC Craig Associates plan, drawing no. 1392/17-01.

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**C350 Proposed Rear Vehicle
Access to 2 Vale Prospect, Chapel
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Survey and Preliminary Roost
Assessment**

**Figure 2 – Location of Trees Inspected for
PRA**

Drawn by: ME
Checked by: TK
Date: 19.09.17

Key

- Approximate location of tree
- ① Target Note
- - - Approximate boundary of survey site