



Bats & Trees Survey Report



Project: Bishop Hedley Catholic School

Instructed by: Wilmott Dixon Construction Ltd

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1. Introduction

The client is looking to undertake a range of construction work within the grounds of Bishop Hedley Catholic High School. Planning permission is being sought for the reconfiguration of the school buildings and grounds. The plans seek a phased demolition of the school buildings, with the buildings to the north of Gwaunfarren Road being demolished first and a new school building complex created in the grounds. Pupils and staff will then be relocated to the new building in the northern half of the site. Once relocated new sports pitches and car parking facilities will be created to the south of Gwaunfarren Road.

A Preliminary Ecological Assessment (PEA) of all land within the development boundary was completed by Ecological Services Ltd in July 2022. The PEA report highlighted a number of ecological considerations that would be required should development plans for the site progress. One consideration was the use of the site by bat species and recommendations were made for bat surveys of any trees with potential roost features for bats.

An Arboricultural Impact Assessment (AIA) has been undertaken by Arboricultural Technician Services Ltd. A report has been issued to the design team based on the final development proposals. Based on the February AIA the development proposals will require the loss of a thirty two trees, seven groups of trees and three lengths/sections of hedgerow.

Ecological Services Ltd were instructed to undertake bat surveys on trees proposed for removal to inform the proposed development at site. Advice on surveying trees for bat use can be found in the BCT Survey Guidelines 2016 (2nd Edition). The trees covered within this report are based on the conclusions of the AIA report.

1.1 Site Description

The proposed development site comprises a number of school buildings which form Bishop Hedley Catholic High School. The school is dissected by Gwaunfarren Road and has a northern and southern half linked via an underground walk way. The site is generally sloping downwards from north to south with flat plateaus created across the site for the buildings and recreational areas etc.

The northern half of the site has an access road along the western edge from Galon Uchaf Road into the site. The southern half of the site has an access road from the northern boundary of Gwaunfarren Road into the site. Habitats across the proposed development site include scrub, mature trees, buildings, tarmac and paved hardstanding, amenity grassland, species poor semi improved grassland and tall ruderal vegetation.

The proposed development site sits to the north east of the town of Merthyr Tydfil. Allotments are present to the north east and Galon Uchaf Park is present to the north west. Residential properties are present to the east, south and west of the school.

1.2 Survey Constraints

No survey constraints were experienced during the ground based visual assessment of trees proposed for removal to facilitate adequate access into the development site boundary. The survey visit was undertaken when no leaves were present on the trees and visibility around each tree was possible.

1.3 Surveyor Experience

Aislinn Harris is a full member of Chartered Institute of Ecology and Environmental Management (CIEEM). Aislinn is an ecologist with 12 year's experience undertaking a wide range of flora and fauna surveys. All survey work is undertaken following JNCC Phase 1 Survey Guidelines and CIEEM Guidelines for Preliminary Ecological Appraisal (2nd Ed 2018). Aislinn is a licensed bat worker with a current NRW survey licence (S089732/1), licensed dormouse ecologist (S089729/1) and licensed great crested newt ecologist (S089731/1).

Lee Gregory has been undertaking Ornithological surveys and species protection for 35 years, Lee is a fully trained A Permit Bird Ringer for the British Trust for Ornithology with several schedule 1 species permits, Lee has worked as Assistant Warden of Fair Isle and Dungeness Bird Observatories, Lee's ecological surveys cover a wide spectrum of taxa including; Botany, Mammals, Entomology, Reptiles and Amphibians.

1.4 Legislation

All British bats are a European protected species and are protected under the Conservation of Habitats and Species Regulations 2017. In summary, they are protected from:

- Deliberate capture, killing and injuring,
- Deliberate disturbance of a breeding site or resting place,
- Damage or destruction of a breeding site or resting place.

Schedule 5 of The Wildlife and Countryside Act (1981) also protects all species of British bat and their roosting locations. British bats are protected from intentional or reckless disturbance and or obstruction of their roosting places. Barbastelle, Bechstein's, Noctule, Brown Long-eared, Common Pipistrelle, Soprano Pipistrelle, Greater Horseshoe and Lesser Horseshoe Bats are also listed in section 7 of the Environment (Wales) Act 2016 which makes them a key species to sustain and improve biodiversity.

2. Ground Based Visual Roost Assessment of Trees

An assessment of trees for their potential bat roosting use should start with a Ground Based Visual Roost Assessment (GBVRA) of the tree. The aim of a GBVRA is to assess the tree for features which bats could use from the ground level. The surveyor is looking for any cavity, gap or crack in the tree which bats could use for roosting purposes.

All trees proposed for removal or to be affected by the development proposals were subject to a GBVRA. Whilst many trees will remain their structure may be affected and subject to tree surgery inadvertently affecting bat roost locations. Therefore for the purposes of this section of the report all trees are subject to the same level of survey work.

2.1 Survey Methodology

Each tree was initially subject to a GBVRA on the 22nd February 2023. This is an optimal time of year to undertake such surveys as the leaf cover is at its minimum so features high up within the tree can be seen.

The surveyors stood at the base of each tree and visually inspected it using close focusing binoculars. Where dense understory prevented close access around a tree, the best vantage spots possible were gained. The tree was categorised into negligible, low, moderate or high bat roost potential based on the features observed. An extract of Table 4.1 from the BCT Good Practice Survey Guidelines is given below on how trees should be categorised.

Suitability	Description of Roosting Features
Negligible	Negligible habitat features on site likely to be used by bats
Low	A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation value.
High	A structure or tree with one or more potential roost sites that are obviously suitable by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.2 Survey Results

A table is provided in Appendix 1 of this report which shows all trees proposed to be affected by the development works. Details of potential roost features (PRFs) are provided within the

table. Photographs of trees and tree groups surveyed of each specific feature are provided in Appendix 2 of this report. In summary the trees and tree groups are categorised as below:

- **Negligible Potential Trees** - T1, T2, T3, T4, T5, T6, T14, T16, T17, T18, T19, T21, T25(already felled), T26, T27, T32, T33, T34, T35, T36, T38, T40, T41, T45, T48, T55, T56, T64, T67, T68
- **Negligible Potential Tree Groups** - G15, G50 (already felled), G62
- **Low Potential Trees** - T11
- **Low Potential Tree Groups** - G10, G20, G47, G57
- **Moderate Potential Trees** - T7
- **Moderate Potential Tree Groups** - 0

Trees and Tree Groups - T1, T2, T3, T4, T5, T6, T14, T16, T17, T18, T19, T21, T25(already felled), T26, T27, T32, T33, T34, T35, T36, T38, T40, T41, T45, T48, T55, T56, T64, T67, T68, G15, G50 (already felled) and G62 had no features suitable for bat roosting use.

Trees and Tree Groups - T11, G10, G20, G47 and G57 had one visible PRF. Photos of the these trees are provided in Appendix 2.

Tree T7 a large mature multi stemmed Ash tree was scored moderate for Potential roost features. The lower trunk has thick interwoven Ivy stems and higher up a very dense covering of bushy Ivy which could hide PRFs not visible from the ground. One west facing large broken bough at approximately 5m height was still attached and reached the ground, near its base a large crack and lifted bark was visible which could potentially provide a roost site for at least one Bat. There is one other north facing broken branch but this did not contain any PRF visible from the ground. Photos of T7 are provided in Appendix 2.

2.3 Survey Recommendations

The moderate potential tree T7 will require additional bat survey work prior to felling.

Low potential trees and tree groups T11, G10, G20, G47 and G57 can be removed following a precautionary methodology as discussed in section 3 of this report.

All negligible potential trees and tree groups can be removed without further consideration to bat roosting use.

3. Emergence Surveys

A request was made from the Local Planning Authority for additional bat survey work of T7. T7 is an Ash tree showing signs of Ash die back disease and deemed unsafe for aerial inspections. Following BCT survey guidance the next step in tree surveys for bat use would be for an aerial inspection of suitable roosting features to be completed during the winter months. As the tree is unsafe for aerial inspections to be completed, bat activity surveys were undertaken instead.

Tree 7 within the site boundary was assessed as having moderate potential for bat roosting use and therefore additional bat survey work was recommended prior to felling. Two emergence surveys have been undertaken on the tree. The surveys were carried out during the maternity season and adhered to current best practice guidelines. The surveyors used were experienced bat counters who have undergone sufficient training in basic bat ecology and bat activity. All sound analysis was undertaken by Richard Watkins.

First Emergence Survey on the 3rd August 2023

- Sunset: 21:00
- Weather: Dry and calm with approximately 45% cloud cover
- Temperature: 12 degrees celsius
- Surveyors: Kieran Meek and Richard Watkins

No bats were observed emerging from Tree 7.

Second Emergence Survey on the 28th August 2023

- Sunset: 20:09
- Weather: Dry and calm with approximately 10% cloud cover
- Temperature: 12 degrees celsius
- Surveyors: Lloyd James and Kieran Turner

No bats were observed emerging from Tree 7.

The best viewing conditions were obtained. Two Echo-meter Touch 2 Pro bat detectors were present to acoustically record any bat calls. Two Canon XA 30 cameras with record features were also used alongside additional infrared spotlights. These were positioned with the surveyors.

Species of Bats Recorded in the Area:	
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>

During both of the emergence surveys, a very low number of bat calls were recorded and no bats emerged from Tree 7. A small number of Common and Soprano Pipistrelles were observed foraging along the tree-line.



4. Conclusions and Recommendations

Survey work has been undertaken to establish the presence or likely absence of roosting bats within all trees and tree groups listed for removal at Bishop Hedley Catholic School. The proposed development works within the site boundary will result in the loss of trees and tree groups to make way for the demolition and erection of new school buildings and sports facilities. Based on the Arboricultural Impact Assessment dated 08th February 2023 it would appear that the following Hedgerows, Trees and Tree Groups will need removing to make way for the new buildings and sports facilities;

Hedgerows - H13, H30 and H31 were found to be negligible for roosting use by bats owing to that they are well manicured and appeared to be recently pruned. These Hedgerows can be removed with no further consideration to bat roosting.

Trees and tree groups - T1, T2, T3, T4, T5, T6, T14, T16, T17, T18, T19, T21, T25(already felled), T26, T27, T32, T33, T34, T35, T36, T38, T40, T41, T45, T48, T55, T56, T64, T67, T68, G15, G50(already felled) and G62 were found to have negligible potential for roosting use by bats. These trees and tree groups can be removed with no further consideration to bat roosting.

Trees and tree groups - T11, G10, G20, G47 and G57 were found to have low potential for roosting use by bats. These trees will be removed preferably in September/October to avoid maternity and hibernation seasons, under a precautionary soft fell methodology. This is where tree limbs are cut and left grounded overnight to allow any bats to make their way out.

Tree T7 was found to have moderate potential for roosting use by bats. Further consideration for bat use of T7 will be required as part of any future arboricultural works.

Whilst roosting use of moderate category trees by bats has not been confirmed, T7 contained features that bats could use. Given the transitory nature of bats the probability of finding them within a tree is limited unless year round surveys are undertaken. As a precaution, when trees with suitable bat roosting features are identified but roosting use is not confirmed mitigation measures are still required. **The below recommendations are made for T7:**

- Moderate bat roost trees must be felled during the Spring or Autumn when bats are least likely to be present. Spring is defined at March - April and Autumn is defined at September - October.
- All moderate bat roost trees must be felled in sections and lowered to the ground using ropes. The sections will then be inspected for the presence of bats using an endoscope by a licenced bat ecologist.

- If bats or evidence of bat use is found within any tree proposed for removal or reduction all work must cease. NRW will be contacted for advice on how to proceed. Their advice is likely to include that a development licence from NRW is sought prior to the trees being felled.

Reference List

- Bat Conservation Trust (2016) '*Bat surveys for Professional Ecologists; Good Practice Guidelines*' (2nd Edition)
- Henry Andrews (2018) '*Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals*'
- Arboriculture Technician Services Ltd. 'Project Reference – ArbTS_1492.1_ Bishop Hedley Catholic High School' (8th February 2023)

Appendix 1 – Trees Categorised into Low; Moderate or High Bat Potential

	Negligible Potential Trees
	Low potential Trees
	Moderate Potential Trees
	High Potential Trees

Ground-based Visual Assessment of Trees for Bat Roosting Potential

Tree No.	Species	PRF Height	PRF Aspect	PRF Type	Notes from site Visit
T1	Rowan	-	-	-	Medium sized Rowan, No PRF
T2	Norway Maple	-	-	-	Medium sized Norway Maple, No PRF
T3	Whitebeam spp	-	-	-	Medium sized Whitebeam, No PRF
T4	Norway Maple	-	-	-	Medium sized Norway Maple, No PRF
T5	Silver Birch	-	-	-	Medium sized Silver Birch, No PRF
T6	Copper Beech	-	-	-	Medium sized Copper Beech, No PRF
T7	Ash	5m	West Full surround	Broken dead limb still attached. Dense covering of Ivy	Large multi limbed Ash tree. Broken limb still attached, large crack and lifted bark. Ivy dense and bushy with thick interwoven stems Moderate PRF

G10	Blackthorn, Hazel, Wild Cherry, Goat Willow, Crack Willow and Ash Group	-	Full surround	Bushy ivy cover on Wild Cherry Trees	Two Wild Cherry trees near north end of tree group at approx 800537C754 with bushy ivy on main trunks. Low PRF. Other trees in group quite young with no ivy or dead wood.
T11	Silver Maple	7m	East	Long split in limb where bark is regrowing around old wound.	Large spreading Silver Maple. Split in bark on east facing branch and blind knot hole.
T14	Whitebeam spp	-	-	-	Medium sized Whitebeam. No PRF
H13	Hawthorn, Hazel, Ash, Holly and Sycamore	-	-	-	Well pruned Hedge. No PRF
G15	Leyland Cypress Group	-	-	-	Tall Leyland Cypress group. No PRF
T16	Whitebeam spp	-	-	-	Medium sized Whitebeam. No PRF
T17	Whitebeam spp	-	-	-	Medium sized Whitebeam. No PRF
T18	Ash	-	-	-	Medium sized Ash. No PRF. Signs of Ash dieback
T19	Cypress spp	-	-	-	Tall Cypress. No PRF
G20	Hawthorn Group	-	Full surround	Dense ivy cover	Northern most Hawthorn in group with dense ivy cover with interwoven stems. Other Hawthorns no PRF
T21	Sycamore	-	-	-	Medium sized Sycamore, very sparse thin stemmed ivy. No PRF
T26	Ash	-	-	-	Already felled
T26	Goat Willow	-	-	-	Medium sized Goat Willow, very sparse thin stemmed ivy. No PRF
T27	Ash	-	-	-	Tall thin Ash. No PRF
H30	Hawthorn, Hazel, Ash, Holly and Sycamore Group	-	-	-	Well pruned hedge. No PRF
H31	Hawthorn, Hazel, Ash, Holly and Sycamore Group	-	-	-	Well pruned hedge. No PRF
T32	Ash	-	-	-	Medium sized Ash. No PRF
T33	Norway Maple	-	-	-	Small Norway Maple. No PRF
T34	Whitebeam spp	-	-	-	Medium sized Whitebeam. No PRF
T35	Norway Maple	-	-	-	Large Norway Maple. No PRF
T36	Norway Maple	-	-	-	Large Norway Maple. No PRF
T38	Whitebeam spp	-	-	-	Medium sized Whitebeam. No PRF
T40	Wild Cherry	-	-	-	Small Wild Cherry, some dead wood and peeling bark. No PRF
T41	Fruit Tree spp	-	-	-	Small Fruit Tree. broken branch. No PRF
T45	Cherry spp	-	-	-	Medium sized Cherry. No PRF

G47	Field Maple, Goat Willow and Common Lime Group	-	Full surround	Bushy Ivy cover on trunks	Medium sized tree group, sparse bushy Ivy cover. Low PRF
T48	Silver Birch	-	-	-	Medium sized Silver Birch, No PRF
G50	Goat Willow Group	-	-	-	Already felled
T55	Ash	-	-	-	Small Ash, No PRF
T56	Ash	-	-	-	Small Ash, No PRF
G57	ASH Group	-	Full Surround	Bushy Ivy cover on Ash trunks	Medium sized Ash group, sparse bushy Ivy cover. Low PRF
G62	Hawthorn, Sycamore and Swedish Whitebeam Group	-	-	-	Medium sized tree group, No PRF
T64	Whitebeam spp	-	-	-	Medium sized Whitebeam, No PRF
T67	Whitebeam spp	-	-	-	Medium sized Whitebeam, No PRF
T68	Oak spp	-	-	-	Small Oak spp, No PRF

Appendix 2 – Tree Photos



T7 Large multi limbed Ash tree. Viewing east



T7 Ivy dense and bushy with thick interwoven stems. Viewing east



T7 Ivy dense and bushy with thick interwoven stems. Viewing East



T7 West facing broken limb still attached with large crack and lifted bark.



G10 Blackthorn, Hazel, Wild Cherry, Goat Willow, Crack Willow and Ash group. Viewing north



G10 Blackthorn, Hazel, Wild Cherry, Goat Willow, Crack Willow and Ash group. Viewing north east



G10 Blackthorn, Hazel, Wild Cherry, Goat Willow, Crack Willow and Ash group. Viewing north



G10 Blackthorn, Hazel, Wild Cherry, Goat Willow, Crack Willow and Ash group. Viewing south



G10 two Wild Cherry trees near north end of tree group at approx SO05370754 with bushy ivy on main trunks. Viewing east



G10 two Wild Cherry trees near north end of tree group at approx SO05370754 with bushy ivy on main trunks. Viewing east



T11 Large spreading Silver Maple. Viewing north



T11 Slit in bark on east facing branch



G20 Northernmost Hawthorn in group with dense ivy cover with interwoven stems. Viewing east



G20 Northernmost Hawthorn in group with dense ivy cover with interwoven stems.



G47 Field Maple, Goat Willow and Common Lime Group. With sparse bushy ivy cover. Viewing north



G47 Field Maple, Goat Willow and Common Lime Group. With sparse bushy ivy cover. Viewing north



G47 Field Maple, Goat Willow and Common Lime Group. With sparse bushy Ivy cover. Viewing north



G47 Field Maple, Goat Willow and Common Lime Group. With sparse bushy Ivy cover. Viewing north west



G50 Goat Willow Group. All ready felled. Viewing south



G50 Goat Willow Group. All ready felled. Viewing north



G57 Medium sized Ash group, sparse bushy Ivy cover. Viewing south



G57 Medium sized Ash group, sparse bushy Ivy cover. Viewing south



G57 Medium sized Ash group, sparse bushy Ivy cover. Viewing south



G57 Medium sized Ash group, sparse bushy Ivy cover. Viewing south east