



GWERSYLLT COMMUNITY PRIMARY, DODDS LANE, GWERSYLLT, LL11 4NT PRELIMINARY ECOLOGICAL APPRAISAL AND PRELIMINARY BAT ROOST ASSESSMENT AND NESTING BIRD SURVEY

DATE	ECOLOGIST	APPROVED	VERSION	COMMENTS
27/02/2018	Sophie Johnson	Tim Yardley	V1	Original

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1.0 Introduction

- 1.1 Enfys Ecology Limited were commissioned by TACP on behalf of Read Construction, to undertake a Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment and nesting bird survey of Gwersyllt Community Primary School.
- 1.2 The proposed project works include an extension to the main school building, and the demolition of the Dodds Lane Student Centre building to the southeast of the site.
- 1.3 Enfys Ecology were requested to carry out ecological surveys comprising a Preliminary Ecological Assessment (Phase 1 habitat survey) of the areas surrounding the proposed works, and a protected species survey of the site to include a bat roost assessment of the affected buildings. This also included a desk study examining local ecological records held for the area by Cofnod, the ecological record centre for the North Wales region.
- 1.4 *Phase 1 Habitat Survey (Preliminary Ecological Assessment)*
The aim of the habitat survey was to gain baseline ecological data on the species and habitats present on the site, identify any possible ecological constraints to potential development arising from the site or surrounding area, and recommend suitable general mitigation and/or compensation strategies for these issues were the site is to be developed, as appropriate.
- 1.5 *Bat Survey (Preliminary Bat Roost Assessment)*
Initial visual surveys were undertaken to determine whether proposed works to the buildings would affect protected species: specifically bats and nesting birds, which frequently roost in buildings, including both occupied and derelict structures.
- 1.6 The survey work to inform this report was carried out on 15th February and 28th February 2018 (see section 3). This report is valid for a period of two years from this period in accordance with best practice.

2.0 Site Description

- 2.1 The survey area comprised the grounds of Gwersyllt School, Gwersyllt, Wrexham, and associated buildings. It includes areas of hard standing, small woodland area, two playing field/amenity grassland areas, several raised beds, artificially surfaced sports pitch, and several broadleaved trees.
- 2.2 There are four buildings - three of which are marked for proposed alteration/demolition. Building 1 - Gwersyllt Community Primary School (SJ32148 53192), which is to undertake a series of alterations/additions, building 2 (marked in red) (SJ3216 53160), which was already partly demolished when the survey was undertaken, building 3 (SJ 32185313) which was not surveyed and building 4 (SJ32291 53043) - Dodds Lane Student Centre, which is marked for complete demolition. (See Figures 2.1 and 2.2, below.) The Dodds Lane centre is not part of the Gwersyllt School, but does share the site, the two areas are linked by a footpath along the northern edge of the field.

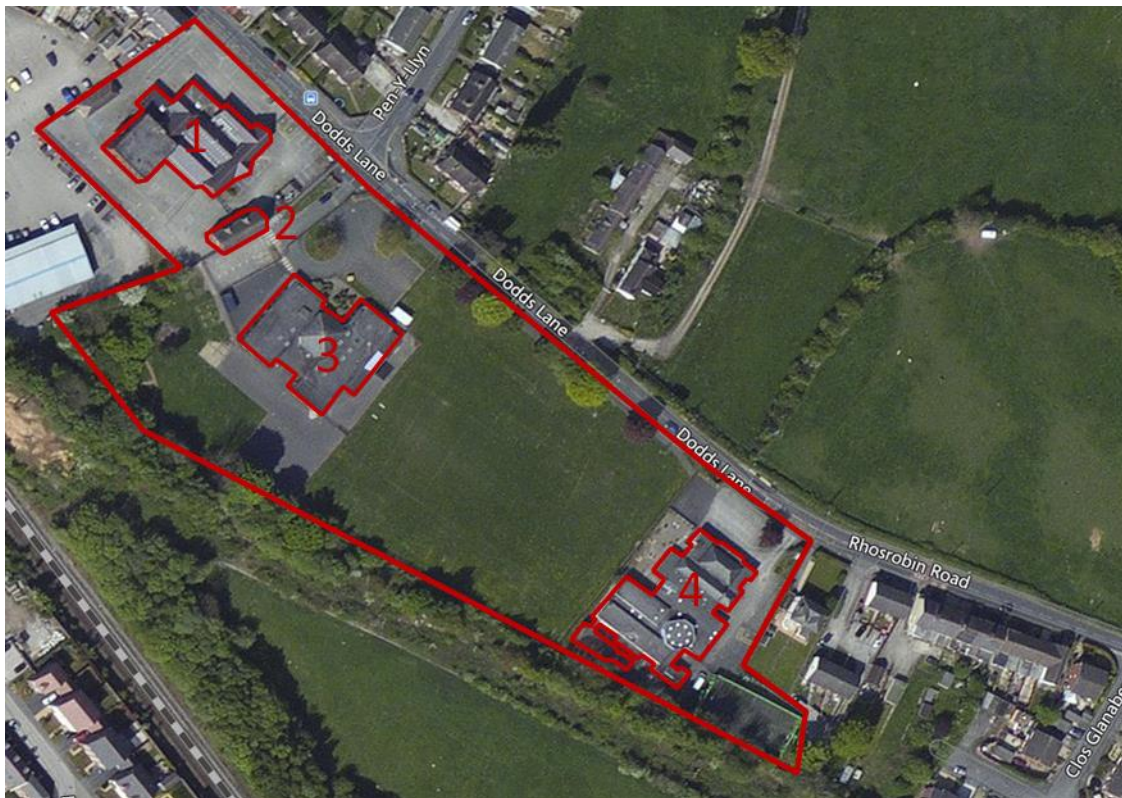


FIGURE 2.1. AERIAL VIEW OF SURVEY AREA.
IMAGE © BING 2018



FIGURE 2.2. AERIAL VIEW OF SURVEY AND SURROUNDING AREA.
IMAGE © BING 2018

- 2.3 The survey area is located within a moderately built up area on the outskirts of Wrexham, comprising of commercial and residential properties to the immediate north and west and some agricultural land to the east and south. There are also some ancient semi natural woodland areas to the north and east, with the closest 449m away, and a designated wildlife site 251m to the north. The southern line of the survey area is bordered by a disused railway line, which is lined with trees and scrub. There is also an active railway line (Wrexham to Bidston route) to the south west of the survey area, with the closest point approx. 30m from the western site boundary. There is some street lighting along the road forming the northern boundary of the site.

3.0 Methodology

3.1 Preliminary Bat Roost Assessment (PRA)

- 3.1.1 A preliminary bat roost assessment of each building was carried out on 15th February 2018 by ecologists Tim Yardley (accredited agent on licence 77581:OTH:CSAB:2017) and Sophie Johnson.

- 3.1.2 Building and potential roost assessments were carried out following the guidelines set by the Bat Conservation Trust, 'Bat Surveys – Good Practice Guidelines, Collins, 2016'. Photographic evidence was taken where necessary.
- 3.1.3 All affected buildings were assessed for any signs of bats and nesting birds, which include droppings, feeding remains, and other indicative marks, in addition to features which may be of potential use to bats; such as crevices, cracks, holes and any potential access points into the buildings. High-powered torches were used to inspect any identified features and an endoscope was used to investigate any gaps or crevices, where appropriate. Both the interior and exterior of the buildings were examined.
- 3.1.4 *Limitations*

Building 1 (see numbers on figure 2.1 above)

The main school building was inspected internally and externally, although it was not possible to fully access all of the roof spaces due to the presence of a suspended ceiling. The only way to access the large roof space of this section was through ceiling tiles covered with fibre insulation. This was done from various rooms at various points, but it was not possible to investigate the whole area as the ceiling would not support the weight of a surveyor. The flat roofed section also has a suspended ceiling and while all areas were observed from a distance it was not possible to access the entire area for close inspection.

A scaffold platform will be required to assess the roof space above the main hall due to the height. Although it does not appear that the proposed extension will directly tie in to this space. Access could not be gained to the spaces above the rooms on the west side of the hall.

Building 2

Immediately south of the main school, demolition of building 2 was already in progress, with the top half of the building already demolished. This may well have had potential, though what remains is not suitable and presumably the demolition will be complete before the activity season.

Building 4

This building was initially inspected externally only as access could not be gained for an internal survey. This was re-visited on the 28th February by Lucy Boyett (accredited agent on licence 77581:OTH:CSAB:2017) and Rebecca Lloyd for an internal survey. The northern most pitched section was inaccessible due to the height of the loft hatch. The southernmost, pitched section was approx. 1m in height with collar ties along the length of the roof at approx. 0.5m, which meant it was not possible to pass along the space to inspect it fully. This roof space was inspected from two points where the access hatches were located.

Bats are a difficult group to survey, and as bats are highly mobile animals it is possible that they could move into a after the survey has occurred. Therefore, it cannot be guaranteed that bats will not move into the buildings following the survey.

3.2 *Phase 1 Habitat Survey*

3.2.1 A survey of the site was conducted by an experienced ecologist walking over the site. The habitats present were classified into a series of categories according to the standard methodology (JNCC 2010). Notes were taken on the habitats and their suitability for protected species, and target notes were used to record any habitats or features of particular note. A list of the floral species observed was recorded. As standard a search for suitable habitat for, (or where feasible evidence of) protected species was carried out, including amphibians (including great crested newt *Triturus cristatus*), bats, and reptiles. Evidence of badgers (*Meles meles*) including setts, dung pits, hairs, footprints, and scratching posts or trees was investigated. Trees with suitable features for roosting bats, including knot holes and other crevices, hollow trunks and dense ivy (*Hedera helix*) coverage were checked for. The phase 1 habitat survey was conducted on the 15th February 2018, by ecologists Tim Yardley and Sophie Johnson.

3.2.2 *Limitations*

Conditions were not ideal for identification purposes due to the time of year, with some flora in its very early stages of growth, and some annual species likely not present due to the time of year, however from the habitats present. The results of this survey include only the species encountered on this particular day in February 2018. Species that use the site infrequently or at different times of the year may not have been recorded; the absence of species from the results does not indicate the species' definite absence from the area. Descriptions of plant species concentrate on the most obvious and abundant species present as determinant of habitats present. Where possible an attempt has been made to list all species present, but this is not exhaustive. Any rare or notable protected or invasive species are identified.

3.3 *Desk study*

3.3.1 The desk study comprised consultation with Cofnod, the local records centre for North Wales, to determine the presence of statutory and non-statutory sites for nature conservation, and records of protected, notable, or Biodiversity Action Plan (BAP) species and habitats from within and around the site of the proposed development (to a distance of 1km from the site). The records were used to inform the surveys and recommendations, and provide context for evaluating the species and habitats found during the survey.

4.0 Building Description

4.1 *Building 1*

- 4.1.1 The main school building dates from the early 20th century and has a complex structure with multiple pitched roofs, including an extensive flat roofed area to the rear (north). A large extension to the west, also with a flat roof, has two storeys, otherwise the building is single storey. The central part of the building, the mail hall, has a pitched roof running northwest to southeast, and several smaller roofs run perpendicular to this.



PICTURE 1. SOUTH ELEVATION OF BUILDING 1 (WHERE EXTENSION WILL TIE IN).



PICTURE 2. NORTHWEST SIDE OF BUILDING 1, INCLUDING TALL TWO STOREY EXTENSION.

- 4.1.2 Internally the ground floor area is divided into several rooms by painted brick walls, with access to the roof space via the suspended ceiling tiles only.

4.2 *Building 2*

- 4.2.1 This building was brick built, however it had been demolished above the ground floor ceiling height and was therefore not surveyed.



PICTURES 3 AND 4. BUILDING 2, PARTLY DEMOLISHED.

4.3 *Building 3*

4.3.1 This is a brick built, flat roofed classroom block, which is not to be affected by the proposed works and was therefore not surveyed.

4.4 *Building 4 – Dodds Lane Student Centre*

4.4.1 Building 4 is mainly flat roofed, with two small pitched roof sections facing north east. Most of the building is rendered and pebble-dashed over brick, however the rear (south-western) 40% (approx.) of the building has been constructed from wood and corrugated metal sheeting, possibly prefabricated, all sections had felted flat roofs, bar two small raised sections with pitched slate roofs, and a raised metal roof.

4.4.2 Internally the ground floor area is divided into several rooms, with suspended ceiling tiles above, immediately below the flat roofs. There was limited access to the pitched roof spaces via two hatches.



PICTURES 5 AND 6. THE DODD'S LANE STUDENT CENTRE BUILDING. NOTE RENDERED BRICK AND PREFABRICATED METAL CONSTRUCTION.

5.0 Desk Study

5.1 *Designated nature conservation sites*

- 5.1.1 No statutory nature conservation sites are found within 1km of the survey area boundary.
- 5.1.2 There are three non-statutory Local Wildlife Sites (LWS) within 1km of the site, the closest is Woodlands and Fishpond Wood, 251m to the north (Figure 5.1).
- 5.1.3 There are eight ancient semi natural woodland sites found within 1km of the survey boundary, the closest of which approx. 449m to the northeast of the site.



FIGURE 5.1. CENTROID OF SURVEY AREA (RED) OVERLAID WITH LOCAL WILDLIFE SITES (BROWN), AND ANCIENT WOODLANDS (YELLOW). IMAGE TAKEN FROM COFNOD DATA SEARCH. IMAGE © COFNOD 2018.

- 5.1.4 Other designated sites within 1km of the survey area include regionally important geodiversity sites, scheduled ancient monument sites and four listed buildings, which are not designated for ecological concerns.

5.2 *Protected and notable species*

- 5.2.1 In total, Cofnod held 651 records of legally protected, notable or UK Biodiversity Action Plan (UKBAP) species within 1km of the site, including 90 different species. The records included

45 bird species, 3 mammals (*Pipistrellus* bats, and one unknown bat species), 3 reptile, 5 amphibian, 2 Hymenoptera (2 bee species), 3 “other invertebrates” and 23 plant species.

5.2.2 The majority of records were over 250m, with few species recorded close to the site. There were no records of flora or fauna from within the survey area itself.

5.2.3 A summary of the key records is presented in Table 5.1, overleaf and the full results of the consultation with Cofnod are included in Appendix C, a separate document supplied with this report.

5.3 *Protected and notable fauna*

5.3.1 The closest record was a *Pipistrellus* bat, 114m to the east of the site centroid (36m from the front elevation of Building 4/Dodds Lane Student Centre), in the garden of a residential property.

5.3.2 There were several records of great crested newt (*Triturus cristatus*) within 1km of the site centroid, which were predominantly located to the south of the survey area. The closest GCN record was 179m to the south east recorded in 2006 and two further records to the north east recorded in 1992.

5.3.3 The closest terrestrial mammal was a hedgehog (*Erinaceus europaeus*) recorded 255m to the north in a residential garden.

5.3.4 The closest badger record was approx. 399m from the site, of a dead adult and a further record approx. 647m from site (recorded at a 1km grid square level, therefore the actual distance may be closer or further).

5.3.5 There were several records of bird species, with the closest a Kestrel (*Falco tinnunculus*) 243m southwest of the site centroid.

5.4 *Protected and notable or invasive flora*

5.4.1 Cofnod held records of 16 plant species (including flowering plants and moss) from within 1km of the proposed development. All were recorded over 300m from the site. The closest records were giant hogweed (*Heracleum mantegazzianum*), 329m (2014), bluebell (*Hyacinthoides non-scripta*), common club-rush (*Schoenoplectus lacustris*), and narrow-fruited watercress (*Rorippa microphylla*), at 410m (2015).

5.4.2 Six invasive non-native species were recorded in 9 areas within, or just beyond (1025m) the 1km search area. The closest record was giant hogweed (*Heracleum mantegazzianum*), at 329m. Cherry laurel (*Prunus laurocerasus*) and Himalayan cotoneaster (*Cotoneaster simonsii*) were recorded at a 1km square level, 848m and 953m respectively from the site.

Table 5.1: Summary of protected and notable species within 1km of the survey area. (See appendix C for further details).

This table summarises the most relevant species to the proposed development (i.e. closest to site, most likely to be affected and most protected) for which records were returned. The full desk study data is given in appendix C. Records pre 1997 are typically omitted from the table unless interesting or relevant.

Species Group	Species	Designation	Details
Amphibians	Common Frog (<i>Rana temporaria</i>)	Bern, HDir, WCA5, LBAP[ANG, CON, FLI]	2 records, 1 record 315m from site (2006) and another 762m (2002)
	Common Toad (<i>Bufo bufo</i>)	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY]	The only recent (within 10 years) record is more than 1km away
	Great Crested Newt (<i>Triturus cristatus</i>)	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, SNP, WRE]	27 records in total. The closest 179m from site (2006).
	Palmate Newt (<i>Lissotriton helveticus</i>)	Bern, WCA5, LBAP[ANG, CON, DEN, FLI]	3 records, the closest 389m (2017). The remaining records are 533m and 800m away (2014)
	Smooth Newt (<i>Lissotriton vulgaris</i>)	Bern, WCA5, LBAP[CON, DEN, FLI]	8 records, the closest 2 records were 315m from site (between 2002 and 2017). Remaining records are 345m – 874m away, between 1996 and 2017.
Birds	Barn owl (<i>Tyto alba</i>)	Bern, CITES, WBA, WCA1.1, WCA9, LBAP[ANG, CON, DEN, FLI, GWY, SNP, WRE]	1 record, 579m away (2009)
	Black headed gull (<i>Chroicocephalus ridibundus</i>)	BDir2.2, S7, UKBA, WBR, LBAP[GWY]	7 records, closest at 479m away (2009-2010), 3 records within 1km (2009-2015), and 3 records beyond 1km (2007-2015).

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Species Group	Species	Designation	Details
	Kestrel (<i>Falco tinnunculus</i>)	Bern, CITES, S7, UKBA, WBR, LBAP[ANG, CON, DEN, FLI, GWY]	1 record 243m away (2008) (4 other kestrel records exist at the 1km grid square level)
	Other birds	Bern, UKBA, WBA, LBAP, BAP, S7, UKBA, UKBR, WCA1.1, BDir2.2, BDir2.1	28 species with varying protection status are recorded at 1km grid square level 479m-1389m from the site between 2005 and 2016. These include, dunnoek, house sparrow, lesser black-backed gull, mallard, ring necked parakeet, song thrush, brambling, cormorant, garden warbler, kingfisher, lesser redpoll, redwing, tree sparrow, woodcock, common gull, dipper, grasshopper warbler, house martin, reed bunting, willow warbler, cuckoo, mandarin duck, meadow pipit, oystercatcher, Canada goose, green sandpiper, green woodpecker, lapwing. 8 other species are recorded between 2008 & 2016, including swift, herring gull, skylark, goldcrest, long-tailed tit, starling, bullfinch and coal tit are recorded at between 495m-531m away. 1 record of swallow is recorded at 955m away.
Insects	Harlequin ladybird (<i>Harmonia axyridis</i>)	INNS	2 records at 848m (2009), and 953m (2010)
	<i>Oxytelus fulvipes</i>	RD2(UK)NA	1 record, 410m away (2004)
	<i>Plateumaris rustica</i>	RD2(UK)NB, RD2(UK)S	1 record, 410m away (2015)

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Species Group	Species	Designation	Details
	Four-spotted furrow bee (<i>Lasioglossum quadrinotatum</i>)	RD2(UK)NA	1 record, 773m away (2004)
	Large yellow-face bee <i>Hylaeus (Prosopis) signatus</i>	RD2(UK)NB	1 record, 773m away (2004)
Mammals	Badger (<i>Meles meles</i>)	Bern, PBA, LBAP[CON, DEN, FLI, WRE]	5 records, the closest is 399m away (dead) (2009), then 647m (sett) and 967m (dead) (2007), 2 records are over 1km (2002). All records of badger setts and have been recorded at 1km grid square level.
	Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	Bern, Bonn, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	3 records, 811m away (1982), 2 1389m away (2012-13)
	Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, DEN, FLI, GWY, SNP]	1 record 1389m away (2012-13)
	Pipistrelle species (<i>Pipistrellus</i>)	EPS, WCA5, LBAP[ANG, DEN, FLI, SNP]	2 records, 114m and 686m away (2003)
	Unknown bat <i>Chiroptera</i>	EPS, S7, WCA5, LBAP[ANG, DEN, FLI, SNP]	1 record 603m away (1994)
	Hedgehog (<i>Erinaceus europaeus</i>)	Bern, S7, LBAP[ANG, CON, FLI, GWY]	9 records between 2012 and 2016. The closest at 255m (2016) and furthest at 1389m
	American mink (<i>Neovison vison</i>)	INNS, WCA9	Over 1km away

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Species Group	Species	Designation	Details
Plants	Constricted feather moss (<i>Hygroamblystegium humile</i>)	RD1(Wales)VU, LBAP[DEN, FLI], LI[VC48, VC50, VC51]	1 record 398m away (1925)
	Himalayan Balsam (<i>Impatiens glandulifera</i>)	INNS	5 records, 2 under 1km away – 887m & 946m – 3 over 1km away
	Bluebell (<i>Hyacinthoides non-scripta</i>)	WCA8, LBAP[ANG, CON, FLI, SNP]	2 records within 1km – 410m (2015) & 953m (2014) away
	Other plants	LBAP[CON, GWY], LI[VC48, VC49, VC50, VC51] RD1(Wales)VU	5 species with varying protection status, from 410m-848m away, including brown sedge, charlock, common club-rush, narrow-fruited watercress (2014-15)
	Other plants	INNS, WCA9	6 species from 329m-953m away, including giant hogweed, cherry laurel, himalayan cotoneaster, Japanese knotweed, parrots feather and wall cotoneaster. (2008-14)
Reptiles	Adder (<i>Vipera berus</i>)	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	1 record, 468m away (1993)
	Common lizard (<i>Zootoca vivipara</i>)	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	2 records, 281m (2010) & 468m away (1993)
	Grass snake (<i>Natrix Helvetica</i>)	Bern, S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	1 record, 468m away (1993)

PBA: Protection of Badgers Act

WCA: Wildlife and Countryside Act 1981

BDir: Birds Directive

HDir: Habitats Directive

BAP: Biodiversity Action Plan

LBAP: Local Biodiversity Action Plan

EPS: European protected species

Bern, Bonn: Bern and Bonn Conventions

CMS: Convention on Migratory Species

CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora

NNS: Non-native Species

INNS - Invasive Non-native Species

Li: Locally Important within the listed area

RD1(Wales): Red Data Book listing for Wales based on IUCN guidelines

RD2(UK): Red Data Book listing for the UK not based on IUCN guidelines

6.0 Survey Results

6.1 Preliminary Roost Assessment (Bats) (PRA)

6.1.1 Building 1 – main school building - External.

The building is of Brick construction, with slate pitched roofs, and flat roof areas. There are many slipped and/or missing slates in the pitched roofs, revealing potential entry gaps here, but the eaves are generally well sealed

The area of the building which will be most affected by the proposed works is the south-eastern front elevation, where the extension is proposed. The roofs here are in generally good condition, with few gaps, (notably better than some other parts of the building). There were some lifted slates, with slight gaps. The ridge tiles were intact, but there are vents in some tiles (possibly meshed). The Soffits were generally intact all along this section, a ventilation gap running along the base of the soffit boxes is sealed with a mesh insect screen.



PICTURE 7. SOUTH ELEVATION OF BUILDING 1.



PICTURE 8. VENTS ON THE SOUTHWEST GABLE, BUILDING 1.

The pitched roof on this south-eastern elevation runs from gable ends to the southwest-northeast, with a small sub pitch, with a gable end projecting to the southeast. There was a small gap at the northern gable end where mortar has fallen out under the end of the slates. Large vents at all gable ends appeared to be meshed behind the events and sealed, though how well sealed these are inside is not known except where obvious holes are present (see below). There are also a few small gaps in the brickwork, though these are probably shallow.

The central gable end (hereafter Mid-gable) is sealed, with all, windows, soffits and fittings sealed, but the mesh covering the large vent has peeled back, revealing a gap. There are also many gaps where mortar has fallen out from under the roof tiles at the gable.



PICTURE 9. THE SOUTHERN GABLE. THE ARROW INDICATES GAPS WHERE MORTAR HAS FALLEN FROM UNDER SLATES.



PICTURE 10. GAPS AROUND CHIMNEY FLASHING.

The southern gable has a vent window sealed with mesh. The mortar appeared intact and the eaves were sealed, but a possible tiny gap was present in the brickwork high on the left pitch, this is probably shallow, but wasn't fully visible.

The remainder of the building was generally well sealed; the eaves and flat roofs had no obvious gaps (except where noted below), the windows, doors and fittings were all intact. The flat roofs all appeared intact, however the pitched roofs did have several gaps, including numerous slipped or slightly raised scales and ventilation gaps in the ridge tiles.

There were some isolated significant gaps and holes in the structure however; these included a large gap in the roof on the northeast side where a metal boiler flue passes through the roof, as the lead flashing is slightly raised, and in poor condition.

On the northwest side of the building there was an open vent with no mesh, and also lots of mortar gaps at the gable. There were also some small gaps between two layers of fascia board leaving the soffit boxes open at base and potentially useable by bats.

To the west is a large two story flat roofed brick extension. The roof was completely sealed but there is a large gap in the soffit on the western side where a panel is broken.

On the south western side there was one other large gap under the lead flashing on a small tower. As on other areas of the roof there are some gaps under slates, and vents on the ridge tiles. There was a large gap along the entire south-western eaves between the brick wall and the soffit board above.



PICTURE 11. THE WESTERN TWO STOREY EXTENSION.



PICTURE 12. NORTHERN SIDE OF BUILDING 1.

6.1.2 *Building 1 – main school building - internal*

On the eastern side is a small basement boiler room. This was mainly lined with exposed brick, with various pipes, tanks and equipment. Louvered doors provide potential access for bats. There are some crevices above the internal brick wall which are probably sealed, but these could not be fully accessed.



PICTURES 13 AND 14. LOFT SPACE INTERIOR, PITCHED ROOFS ON THE SOUTHWEST OF BUILDING 1.

The majority of the building is single storey, with high open roof frames, divided from the teaching space below by suspended ceiling tiles. These roof spaces were large with an open frame and many timber beams. In places it appeared that there might have been a ceiling and an upper floor in the past. The roof is lined with bitumen felt that appears to be intact, though this could only be assessed at a distance by looking through various ceiling tiles. The ceiling of the main hall had a very high ceiling so this roof space could not be assessed.

The flat roofed two storey extension has a similar suspended ceiling, which was only spaced about 50cm from the concrete underside of the roof. These roofs were all totally sealed with no potential bat access.



PICTURES 15 AND 16. INSIDE THE SPACE UNDER THE FLAT ROOFS, BUILDING 1.

6.1.3 *Building 2 – South of the main school*

Unfortunately, demolition was already in progress, with the top half of the building already demolished. This may well have had potential, though what remains is not suitable and presumably the demolition will be complete before the activity season.

6.1.4 *Building 3*

Building 3 is a brick building with largely flat roofs. Appearing to be well sealed at the eaves, it has very few features useable by bats. This building will not be affected by the proposed works, and so only the exterior was assessed. The only significant features were some minor gaps in the brickwork that appeared to be shallow, and some small gaps in the slates on the small pitched roof section.



PICTURE 17. BUILDING 3.



PICTURE 18. THE PARTLY DEMOLISHED BUILDING 2.

6.1.5 *Building 4 – Dodd's Lane Student Centre - Exterior.*

This building is in two parts, the front (north-eastern) part towards the road, which was rendered brick and a predominantly corrugated metal section to the rear. The front elevation by the road appears well sealed, with low potential for bat entry.



PICTURES 19 AND 20. BUILDING 4, RENDERED SECTIONS ON THE NORTH EAST AND SOUTH EAST SIDES OF THE BUILDING



PICTURES 21 AND 22. BUILDING 4, PREFABRICATED CORRUGATED SHEETS AND WOOD TO THE SOUTH.

There are gaps under the ridge tiles of the northern most hipped pitched roof section.

There is a basement located on the east side of the main building, the door to which is missing, which could provide a potential point of entry for bats. A locked gate prevented access for further inspection.



PICTURE 23. FLAT ROOFED SECTION OF BUILDING 4.



PICTURE 24. FLAT ROOFED SECTION OF BUILDING 4.

There are gaps around the fascia boards over almost the entire rear section of the building, which are probably shallow, leading only to a small crack behind the board, but in some places this may lead into a larger space behind the boards. There is a gap in the soffit board on the corner south west of the basement access. Other than this the building was well sealed, including the roofs, the only other notable gap where a large pipe extends out from the back of the main building which has a gap all the way around.

There are gaps all around under the fascia boards on the small buildings to the south west of the main building, but these are probably shallow.

There are two bird nest boxes on the building, one on the south western side and one midway along the east side.

6.1.6 *Building 4 - Dodd's Lane Student Centre - Internal*

On the southernmost hipped, pitched section, the slates lay directly on the rafters and were backed with lime mortar, which was largely intact with only small areas missing. There was a small amount of insulation in-between some of the ceiling joists. Towards the east of the roof there is a brick chimney stack, which was intact and an uncovered empty water tank. Very small light gaps were identified along the eaves here. No droppings or signs of bats were found within the areas inspected near to the access hatches.

6.3 *Habitat survey*

6.3.1 *Habitat types*

A Phase 1 Habitat map of the site is provided in Figure 6.1, overleaf. A description of the habitats including some species information and details of target notes from the map are provided below. Photographs of the site are included with the text. Appendix A contains a list of plant species recorded including scientific names.

6.3.2 *The following standard phase 1 habitat and feature types were recorded within and adjacent to the survey area (with their alphanumeric codes):*

- A1.1.1 - Semi natural broadleaved woodland
- A2.2 – Scattered Scrub
- A3.1 - Parkland/scattered trees (broadleaved)
- B6 – Species poor semi-improved grassland
- J1.2 - Amenity grassland
- J1.4 - Introduced shrub
- J2.4 - Fence
- J2.5 - wall
- J3.6 - Buildings

In addition, the non-standard phase 1 habitat type “*Hardstanding*” has been used to indicate parking and playground areas.

6.3.3 *Target notes.*

Table 6.2. Details of the target notes shown on Figure 6.1.

Target Number	Description	Picture
1	A large pile of brash, wood and rubble. This may contain hedgehogs, amphibians and other overwintering animals and should be left in place. If it must be removed this should be done by hand in appropriate conditions.	
2	Several raised beds here are dominated by common field speedwell. (See habitat descriptions for more information).	
3	This area has been planted with trees, broadleaved species including ash, beech, and oak and cherry, however they have been largely destroyed by mowing, and so is currently grassland.	

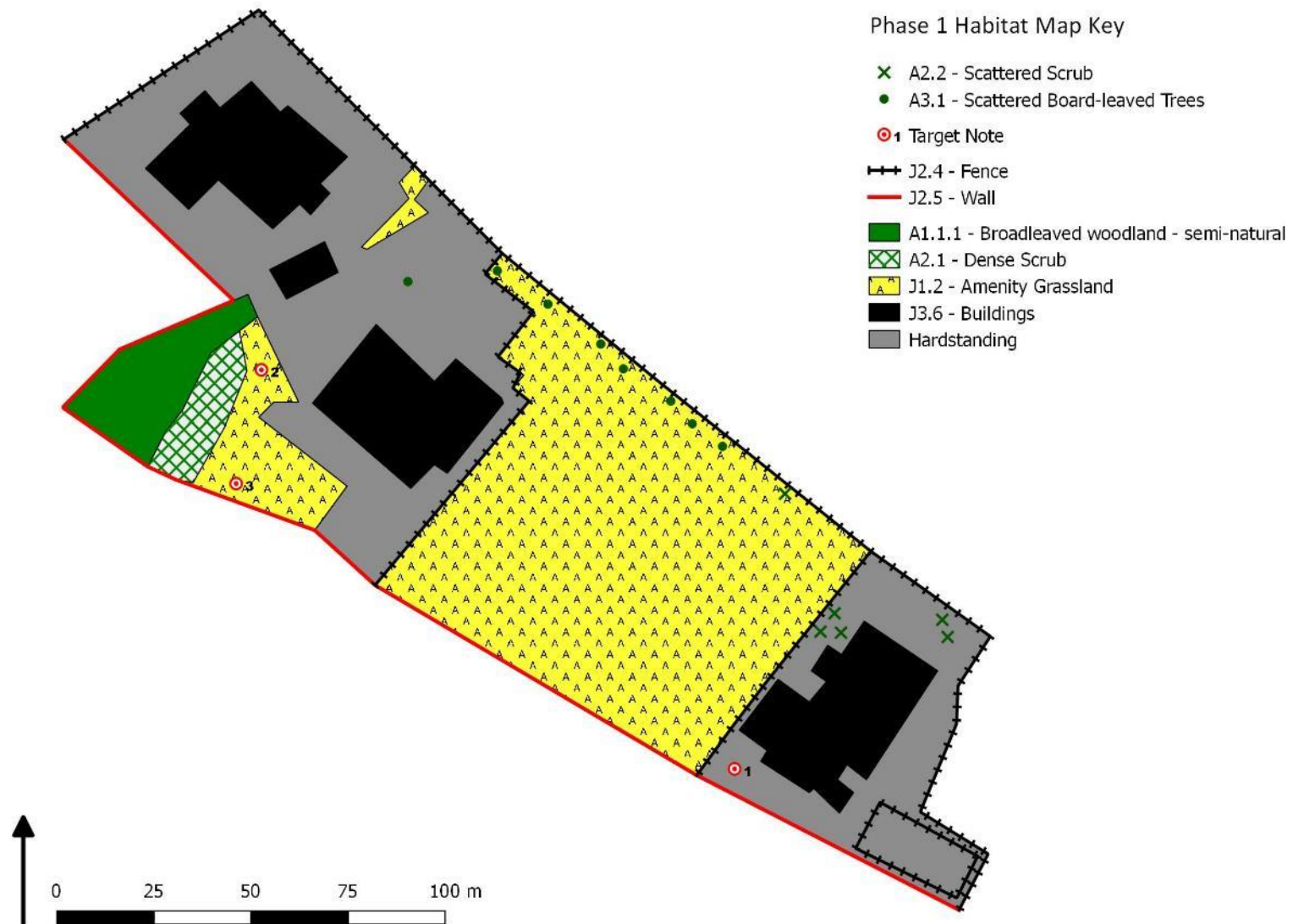


FIGURE 6.1. PHASE 1 HABITAT MAP OF THE GWERSYLLT SCHOOL SITE

6.4 *Flora and Habitat descriptions*

- 6.4.1 The majority of the site was either hardstanding (around the buildings) or amenity grassland; principally the large field in the centre of the site, but there are some smaller areas with more vegetation at the edges of the site, including a rough grassland garden area and small woodland in the west, and some landscaping around the buildings.
- 6.4.2 The main central field comprised short mown grassland (under 5cm over most of the area). The sward was relatively species poor; mostly grasses including cocks foot and perennial rye grass (others were probably present but were not identified due to the lack of seed heads and very short sward), with abundant mosses, ribwort plantain, dandelion and common daisy, creeping thistle, common ragwort were frequent, and meadow buttercup, chickweed, and a spurge species were occasional. The remains of umbellifers and curled dock were present on the margins. Daffodils had been planted in places around the margins, and very rarely, common dog violet was found on the edge of the grassland by the hardstanding.



PICTURES 25 AND 26. THE CENTRAL (AMENITY GRASSLAND) FIELD.

- 6.4.3 The northern side of the field was lined with a row of large mature trees, including ash, beech, birch and ornamental maple. These appeared in generally good condition.
- 6.4.4 The southern boundary of the site is a large stone wall topped with a metal fence, behind which is broadleaved woodland (oak and ash, with a difficult to view ground flora appearing to be dominated by ivy and nettles, with many ferns) along a former railway. The trees, while outside the site, do overhang the central field, sometimes significantly. The wall had a significant covering of ivy in places, particularly in the southeast.
- 6.4.5 The area around the buildings (in both north and south of the site) is mostly hardstanding. To the north, around buildings 1 and 2, the ground was almost entirely intact hardstanding, with only limited vegetation including moss, groundsel, ragwort and thistles in a few cracks. Building 3 was surrounded by similar hardstanding with an outer ring of metal fences, vegetation was very limited. Building 4 (Dodd's lane) was also surrounded by hardstanding, however here there were a few areas of amenity grassland to the north, similar to the field, and some introduced shrubs to the south. The hardstanding contained vegetation around

the margins including greater stitchwort, curled dock, common nettle, plantain, daisy, ragwort, ivy, herb Robert, red fescue, common field speedwell, ground ivy and groundsel, all occasional. A small garden area on the northwest side of the building was mostly gravel, but contained shrubs including cotoneasters and buddleia, plus dogwood, and several birch saplings. There was also rosebay willowherb, curled dock, grasses, yarrow, umbellifers remains and creeping thistle. A large elm stands northeast of the building.



PICTURE 27. HARDSTANDING IN THE FAR SOUTHEAST. PICTURE 28. THE SMALL GRAVEL ‘GARDEN’, BUILDING 4.

- 6.4.6 The northwest corner of the site was the most vegetated. Here the suite includes a large open area of semi-improved grassland, several raised beds, and a small area of scrubby woodland, separated from the school by a secure metal fence.
- 6.4.7 The grassland area contained some benches and was clearly used as amenity, however a large part of the area had also been planted with small trees, in lines. Most of these however appear to have been damaged or killed by subsequent mowing, none were more than 1m tall, most under 50 cm, and with most side branches removed there was little more than a narrow single stem in many cases. Species included oak, birch, cherry and probably hazel and alder. Otherwise the grassland sward was similar to the larger field, but with red clover, and more abundant buttercup. Common bird’s foot trefoil was also occasionally present. The sward was longer than the field, but still generally under 10cm in length.



PICTURE 29. GARDEN AREA (AMENITY GRASSLAND) IN THE WEST OF THE SITE. PICTURE 30. THE SMALL WOODLAND IN THE WEST OF THE SITE.

6.4.8 Behind this was a small woodland and scrub area behind a fence. This was dominated by willows, with occasional larger oak and ash, but there were no large mature trees over a few metres in height. The ground flora was open and most of the ground visible, dominated by icy, nettle, with abundant lords and ladies, daffodils, snowdrops, and meadow buttercup. The central area was dominated by the tall remains of rosebay willowherb, nettles and umbellifers, and some bramble.



PICTURE 31. RAISED BEDS NEAR BUILDING 3.



PICTURE 28. HARDSTANDING AROUND BUILDING 1

6.4.9 Near to building 3, are several raised beds with wooden plank sides. These were all partly empty apart from low growing vegetation including common field speedwell, dominant in some beds plus, hedge mustard, fat hen, common mouse ear, dandelion, chickweed, ribwort plantain, nettles and thistles.

6.5 *Fauna*

6.5.1 *Amphibians*

There is no potential breeding habitat for amphibians within the surveyed area as there are no ponds or standing water. The area does have potential for foraging by amphibian species in the north-western grassland scrub and woodland, but the majority of the site is otherwise poor, being very short grassland or hardstanding. There is good connectivity to surrounding areas of woodland and grassland via the former railway line to the south. Amphibians are unlikely to be present in large numbers due to the lack of breeding habitat and the small area of suitable habitat available.

There are a few ponds within 500m of the site, notably two ponds about 300m to the south, and a large field pond 450m to the northeast. The suitability of these ponds is unknown, however amphibians breeding here may access the site as the connectivity is good. Amphibian species almost certainly visit the site, though as most of the area is marginally suitable they are probably restricted to the northwest.

6.5.2 *Badger*

No evidence of badger was found during the survey. The area is suitable for foraging by badgers, and well connected to a band of good habitat in the former railway. The site contains no suitable sett building habitat except for the woodland/scrub area. This is suitable, but small, and any sett here would have been seen. The ground cover was also sparse over most of the site.

6.5.3 *Bats*

There were several large trees along the northern side of the site, but none had any apparent features suitable for bat roosting, and were not covered by ivy or other climbing plants. The line of trees and the woodland to the south provide good potential foraging and flight lines, and bats likely visit the site to use these areas.

Bat features of the buildings are described in Section 6.1, above. No evidence of bats were found in any part of the buildings. Both buildings 1 and 4 have some suitable features and potential access points, suitable for use by small numbers of bats, but probably unsuitable for larger maternity or hibernation roosts. The loft space in building 1 is likely to be accessible. It is therefore possible that bats use features on these buildings, but probably not in large numbers.

6.5.4 *Nesting birds*

The trees and scrub were all very suitable for nesting bird species, and all the trees and scrub on site should be considered potential bird nesting habitat.

6.5.5 *Reptiles*

The survey area is not suitable for reptile species, as most of it has little to no cover. The north-western grassland area is marginally suitable, but small, and there are limited open basking areas. There are a few brash piles and other potential hibernacula on site, particularly in the south but these are small, temporary, and on hardstanding or short grass and so isolated from suitable foraging habitat. It is unlikely reptiles are present on site.

6.5.6 *Other protected species*

No evidence of other protected species (for example otter, water vole, hazel dormouse, pine marten) was found, and there are no records of these species on the area. The lack of water bodies within the site or surroundings makes the area unsuitable for water vole and otter.

7.0 Discussion and Evaluation

7.1 *Nature Conservation Sites*

The works to the site are unlikely to have an ecological impact on any statutory designated sites in the area, as there are none within 1km. There are local wildlife sites and ancient woodland sites, but none are within 100m, and are very unlikely to be affected by the proposed works.

7.2 *Habitats*

The site is entirely made up of common habitats including improved or amenity grassland and scrub. No rare or notable habitats are present within the survey area (based on the guidelines from the Institute of Ecology and Environmental Management (IEEM 2006), and no habitats are considered to be Habitats of Principal Biological Importance on Section 41 of the NERC Act 2006 or Priority Habitats on the national (UK BAP) lists, or Environment (Wales) act 2016. The majority of the site is relatively species poor semi-improved grassland, not an uncommon habitat in the region. The best woodland habitat is outside the site. There are some large trees on the northern side which are potential good habitat for nesting birds and bat foraging, these are not thought to be impacted by the proposed works.

7.3 *Species*

7.3.1 *Floral Species*

Floral diversity of the site was relatively poor in pure species richness terms, and the species present are all common in the region. None of the species recorded during the survey are protected by the Wildlife and Countryside Act 1981 (as amended) or considered rare nationally or locally. No invasive non-native plant species were found.

7.3.2 *Faunal Species (excluding bats)*

Amphibians

There is no breeding habitat and only limited areas of suitable foraging habitat on the site, so amphibians are unlikely to be present in large numbers, and not on most of the site. The main area they may be present is in the northwest. There are several ponds nearby and records of great crested newt within 200m of the site, so it is possible that this species and other amphibians are present.

From the plans seen, it does not appear that the proposed works (demolition of building 2, and 4, and the construction of a new building in the south of the site, plus an extension to building 1, will affect any of the suitable amphibian habitat on site. All the works are on the short grassland or hardstanding areas. The risk of these animals being encountered and

harm by the works is therefore low. It is unlikely that newts will be present in the works area.

On this basis, works may proceed in the proposed work areas without harming amphibian species, suitable Reasonable Avoidance Measures (RAMS) should however be implemented to prevent any harm to animals, in the very unlikely event any are present in the works area.

No further surveys are needed, however in the absence of surveys it cannot be ruled out that great crested newts are present in the scrub and rough grassland area in the west of the site, and no building works should be carried out here. If the plans are changed and works are required in the scrub and garden area then great crested newt surveys of the ponds, and further mitigation works are likely to be required.

Badger

No evidence of badger was found during the survey, and the area is suitable for foraging by badgers but not sett building. Badgers have been recorded in the area, and are very likely to visit the site, but are not resident. As such, they are unlikely to be affected by the works, and no significant habitat loss will result, so no further works are needed. RAMs as described above for amphibians as implemented will also serve to protect badgers.

Nesting birds

The trees and scrub were all very suitable for nesting bird species, and all the trees and scrub on site should be considered potential bird nesting habitat. As the site provides nesting habitat for birds, any tree or shrub removal required should ideally take place outside the bird breeding season, (March to September inclusive), if this is not possible, a thorough search for nesting birds should be conducted prior to any clearance) and if any nests are found or the area cannot be adequately searched all activity must stop until the birds have fledged or outside the nesting period.

No evidence of nesting was found in or on the buildings, and no further action is required in respect of this.

Other protected species

No evidence of other protected species (for example otter, water vole, hazel dormouse, pine marten) was found, and the site does not provide suitable habitat for these species. Reptiles are unlikely to be present, and will be protected by RAMS as implemented for amphibian species. No further action is needed.

7.3.3 Bats

The bat inspection surveys found few, but some potential bat roosting features in the buildings surveyed. None of the buildings has high potential and is likely to contain a major roost, or maternity or overwintering site, but some features which may be used by bats were found.

Buildings 2 and 3 were not fully assessed. Building 2 could not be entered as it had been partly demolished, and this process was ongoing. The bat potential of this building is therefore unknown. Building 3 will not be affected by the works, therefore it was not surveyed, however a brief walk around was conducted of the exterior, the exterior is well sealed, with flat roofs, and no major gaps or crevices were seen.

Building 1 is generally well sealed with few features, but does have some potential roosting features. The main area of the building which will be affected by the works is the south-eastern pitched roof. This area has several potential access points, including raised slates, ridge tiles, and vents high in the gable walls. The attic space in this gable could not be fully accessed due to the suspended ceiling. It is possible from the area that was viewed that the loft space is double height with a former ceiling on beams above the suspended ceiling. No evidence of bats was found. There is therefore a large open loft space, but the extent to which bats can access this space is unknown. The open spaces at the vents, under slates and ridge tiles may lead into this area. The loft may also be accessible from other parts of the roof.

The main roof above the hall, behind the south-eastern pitch could not be accessed due to height, a scaffolding platform would be required to reach it. The rest of the building also has a few potential entry points, including under the lead flashing on chimneys, the soffits are also accessible through some small gaps.

The overall potential for this building is therefore, on initial assessment, low. However, the potential of the large loft space could not be fully assessed due to the access issues. If this space were accessible (e.g. via the vents or via the slates or ridge tiles above), this area is potentially useable by a large roost, and might be considered moderate potential (Collins 2016). The remaining parts of the building to the north including the two storey and flat roof sections, are low potential.

Building 4 has several features, principally numerous gaps under the fascias around the rear of the non-brick section, plus a gap where a pipe enters the soffit box. There are also spaces behind the corrugated wall panels in places. There were also some gaps under the ridge tiles on a pitched roof section to the north, otherwise the building is well sealed. This building is rated as 'low' suitability for bats under the current bat survey good practice guidelines as "a structure [...] with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats." Bats may use the areas within the soffits and behind the cladding, but these areas are very exposed to temperature fluctuations throughout the day, and there are no large spaces or loft spaces, the building is unlikely to be used by anything more than the occasional bats on a transient basis.

Table 7.1 – Bat potential of buildings

Building number	Potential
1	Low/moderate
2	Unknown – partially demolished
3	Negligible
4	Low

- 7.3.4 While the potential of the building is assessed as low, the presence of bats in the buildings cannot be ruled out, as there are a few suitable features. Therefore the potential for bats to use the building cannot be classed as ‘negligible’ and so under the current survey good practice guidelines further survey work is required. Further survey work at this site would take the form of a minimum of one emergence survey, which should be carried out in appropriate conditions which should be carried out in appropriate conditions (i.e. during the bat activity season (May-August) 2018). See section 8. Below.

8.0 Recommendations

8.1 Buildings

- 8.1.1 As the potential suitability of the building is classed as low/moderate, and areas of the buildings could not be accessed (including behind soffit and fascia boards, as well as loft spaces), it is recommended that at least one bat activity survey (evening emergence or dawn re-entry) is carried out on both buildings 1 and 4. If no evidence of bats is found then bats are unlikely to be using the buildings and no further work is required.
- 8.1.2 If bats are found to be using the building (or trees within the grounds should these be affected by the works) for roosting, before any works can take place a licence for the works must be obtained from the species licensing body Natural Resources Wales (NRW). To obtain this, an application will need to be submitted to NRW along with a detailed method statement, with regards to mitigation and long term maintenance of the roost. The survey work will establish the exact usage of the roost by bats to support the application, and specific mitigation must be specified in order to mitigate for any loss or disturbance to bats and their habitat (in this case roosts) which may be caused by the proposed works.
- 8.1.3 In the unlikely event that bats are encountered during the works, all works to the building in which bats are found **must** cease immediately. A suitably licenced bat ecologist called and a licence from NRW must be obtained.
- 8.1.4 If works were to be conducted within bird nesting season (from March to September [inclusive]) then a thorough search for any nesting birds should take place immediately prior to the commencement of works. If any active nest is recorded then all works to that section of the building would have to cease until the chicks have fledged. It is an offence to

intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built with unlimited fines and/or imprisonment.

8.2 *Grounds*

8.2.1 Specific measures, to deal with amphibians or reptiles on site for example, will depend on the proposed works. As we understand the current plans, it is not proposed to significantly affect the area of suitable amphibian habitat in the scrub and woodland to the northwest. If this changes, it is possible that great crested newt surveys will be required for the ponds within 500m of the site. This work can only be carried out during April-June.

8.2.2 Suitable Reasonable Avoidance Measures (RAMS) will be implemented to reduce the potential to impact to otters, reptiles, amphibians, nesting birds or other species that may be found on site. Suitable measures are set out in section 7.1.3.

8.2.3 A biosecurity risk assessment must be carried out and the recommendations implemented for the duration of the works.

8.2.4 *Reasonable avoidance measures*

The following measures should be implemented at all times during the works:

- Working areas should be kept to the minimum required
- If works are taking place in close proximity to trees a BS5837 survey may be required to ensure the trees, and the development is protected. Root zones may require fencing off to ensure the roots are not damaged.
- An ecologist will visit the site on the first day of works and provide a “tool box talk” to all site workers about the measures to be taken to avoid harming newts and other amphibians and carry out a search of the site. This will include pictures and information on identifying the specially protected great crested newt and other amphibians.
- The grassland areas are currently maintained at a very short sward height by a cutting regime. Management of the grassland should continue at the same intensity as before. This will ensure that the unfavourable habitat on site will remain as such.
- All work associated and logistical activities including material storage, vehicle access, parking etc. should ideally be restricted to a designated amenity area, which should be on a suitable hardstanding area, such as the area around building 1.
- To avoid creating refugia which may attract amphibians to the construction zone in warmer temperatures, any building materials (for example gravel) should be stored

on pallets, spaced timber, or otherwise elevated, or stored off site. Bagged materials should remain so until required for use.

- Should it be necessary to have any excavation left open these excavations should ideally be covered with plywood boards (or similar). The boards are to be bedded on sand to prevent small animals from taking shelter under exposed edges. If this is not possible, then these trenches must be thoroughly checked prior to back filling, or if leaving pits or trenches open is unavoidable, a suitable ramp (such as a plank or branch) must be provided to allow badgers, otters and other animals to escape the pit. Ramps could be created by grading the slope at the edges or using scaffold boards.
- Trenches must be checked each morning (by site operatives) prior to works commencing to ensure that amphibians/reptiles etc. are not present.
- At the end of works each day, the site should be inspected by a responsible individual to ensure that the above protocols are being complied with.
- Works should be avoided within 1 hour of dawn and dusk where possible. If works outside this time are needed, all lighting should be directional and be directed away from the woodland areas, i.e. onto the site from the perimeter.
- If at any point in the works great crested newts are encountered on site, works should stop immediately in the vicinity of the newt(s). A suitably licensed ecologist should be called from Enfys Ecology on 01352 755 472. A licensed ecologist will visit the site to remove the newt(s) to a safe location, and also check the site and assess whether further newts are likely to be discovered. They will advise on any other measures which should be taken before works can progress.
- If a common reptile or amphibian is found all works in the vicinity of the sighting must immediately cease, and the animal moved from the site into by hand (wearing gloves). If this is not possible then an ecologist must be called. The ecologist will review the situation and advise on further action.
- Any other animals seen must be allowed to leave the area on their own. If this is not possible e.g. the animal is injured or trapped then an ecologist must be called.

8.3 *Nesting Birds*

Any tree or shrub removal should be timed to avoid the bird breeding season, and any work to the buildings should also avoid the bird breeding season which runs from March to September (inclusive) to avoid damaging/disturbing any nests present. If it proves necessary to work during this season then a survey must be carried out prior to works starting to ensure

that no active nests will be affected. If active nests are found then work must be delayed until all chicks had fledged.

9.0 References and useful Information Sources

Bat Survey guidelines:

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

Institute of Ecology and Environmental Management (2006) Guidelines for Ecological Impact Assessment. IEEM.

JNCC (2010) Handbook for Phase 1 Habitat Survey: a technique for environmental audit. JNCC, Peterborough.

UK BAP 2007 Available: <http://jncc.defra.gov.uk/default.aspx?page=5705>

10.0 Appendices

APPENDIX A – PLANT SPECIES LIST (Not exhaustive)

English Name	Scientific Name
Ash	<i>Fraxinus excelsior</i>
Bracken	<i>Pteridium aquilinum</i>
Bramble	<i>Rubus fruticosus</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Brooklime	<i>Veronica beccabunga</i>
Buddleia	<i>Buddleja sp.</i>
Cherry species	<i>Prunus sp.</i>
Chickweed	<i>Stellaria media</i>
Cleavers/goosegrass	<i>Galium aparine</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common bird's foot trefoil	<i>Lotus corniculatus</i>
Common Daisy	<i>Bellis perennis</i>
Common dog violet	<i>Viola riviniana</i>
Common field Speedwell	<i>Veronica persica</i>
Common mouse-ear	<i>Cerastium fontanum</i>
Common nettle	<i>Urtica dioica</i>
Common Ragwort	<i>Jacobaea vulgaris</i>
Cotoneaster	<i>Cotoneaster sp.</i>
Creeping thistle	<i>Cirsium arvense</i>
Curled Dock	<i>Rumex crispus</i>
Dandelion	<i>Taraxacum officinale</i>
Fat hen	<i>Chenopodium album</i>
Goat Willow	<i>Salix caprea</i>
Greater Stitchwort	<i>Stellaria holostea</i>
Greater willowherb	<i>Epilobium hirsutum</i>
Grey Willow	<i>Salix cinerea</i>
Ground Ivy	<i>Glechoma hederacea</i>
Groundsel	<i>Senecio vulgaris</i>
Hawkweed complex	<i>Hieracium sp agg.</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Herb robert	<i>Geranium robertianum</i>
Hogweed	<i>Heracleum sphondylium</i>
Holly	<i>Ilex aquifolium</i>
Ivy	<i>Hedera helix</i>

Ivy leaved toadflax	<i>Cymbalaria muralis</i>
Maple	<i>Acer sp.</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow grass	<i>Poa Sp. Prob P. trivialis/P. annua</i>
Mosses	<i>Bryophyta</i>
Oak	<i>Quercus petrea</i>
Ornamental birch	<i>Betula sp.</i>
Perennial Rye-grass	<i>Lolium perenne</i>
Privet	<i>Lingustrum sp.</i>
Red Fescue	<i>Festuca rubra</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rosebay willowherb	<i>Chamerion angustifolium</i>
Silver birch	<i>Betula pendula</i>
Spurge	<i>Euphorbia Sp.</i>
Sweetgrass	<i>Glyceria sp.</i>
Sycamore	<i>Acer pseudoplatanus</i>
Water-cress	<i>Rorippa nasturtium-aquaticum</i>
Wych Elm	<i>Ulmus glabra</i>
Yarrow	<i>Achillea millefolium</i>