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ECOLOGICAL IMPACT ASSESSMENT REPORT

LLANFABON AND LLANCAEACH JUNIOR SCHOOL AMALGAMATION

CAERPHILLY COUNTY BOROUGH COUNCIL

DOCUMENT REF: WWE22087 ECIA DRAFT | 17/10/2022

Client:	Caerphilly County Borough Council
Site/Job:	Llanfabon and Llancaeach Junior School Amalgamation
Report title:	Ecological Impact Assessment Report
Report reference:	WWE22087 EcIA DRAFT

Grid Reference:	ST 11043 95342
Survey date(s):	Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA): 09/06/22. Dusk emergence surveys: 26/07/2022, 10/08/2022.
Surveyed by:	Maddie Anderson, Jenny O'Neill, Amy Williams Schwartz, Jack McCormack.

VERSIONING AND QUALITY ASSURANCE

Status	Date	Author(s)	Reviewed by	Approved by
Draft	17/10/2022	Maddie Anderson Assistant Ecologist	Peter Hacker ACIEEM Senior Ecologist	P. Hacker

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The evidence which we have prepared and provided is true and has been prepared and provided in accordance with the guidance of The Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

SUMMARY

Purpose	• Wildwood Ecology was commissioned by Caerphilly County Borough Council (the client) to undertake an Ecological Impact Assessment (EcIA) for Llanfabon and Llancaeach Junior School Amalgamation. • The site is the subject of a planning application to amalgamate two schools, the existing infants already on site and the existing junior school on a different site to form a primary school.
Methodology	• A PRA was undertaken consisting of a desk study and field survey undertaken in June 2022 following best practice in line with the Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edn (Collins 2016). • A PEA was undertaken consisting of a desk study and field survey undertaken in June 2022 following the Chartered Institute of Ecology and Environmental Management (CIEEM) Preliminary Ecological Appraisal (2013) guidelines and standard Phase 1 Habitat Survey protocol (JNCC, 2010). • Two dusk bat surveys were undertaken in July and August 2022, following best practice in line with the Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edn (Collins 2016).
Key issues	• During the PRA, the main school building was found to have moderate suitability for bats, and the nursery building was found to have only low suitability for bats. • No bats emerged from the main school building, or nursery building during the dusk emergence surveys. • There were moderate levels of foraging and commuting activity by common and soprano pipistrelles around the site. The hedgerow and vegetation to the south and west were being used by foraging and commuting bats during the surveys. Bats were also observed foraging/commuting by the woodland area to the north. • Birds are known to nest within the ventilation holes under the extended roof at the main entrance to the school building.
Recommendations	• Since no bats, or signs of bats were observed within the main school building and nursery, a European Protected Species Licence (EPSL) for bats will not be required. However, if, in the unlikely event that a bat is found during the works, all works must cease, and an EPSL for bats must be obtained in order for the works to be legally undertaken. • Works should be undertaken in daylight hours only to avoid light disturbance on nocturnal species such as bats and hedgehogs. • If new lighting is installed, a lighting plan demonstrating consideration for bats with dark flight lines maintained and any exterior lighting proposed post-development would not have detrimental effect on commuting bats along nearby habitat. Introduced external lighting on the new build extension should not fragment bat foraging/commuting corridors by light spilling over onto the hedgerow to the south and west of the site (see section 5 for suggestions on how to achieve this). • A bat box should be installed either on the building, or on a suitable tree within the site to enhance roosting opportunities for bats within the local area. • A bird box should be installed as compensation on a suitable tree within the site. • Precautionary working methods during any vegetation clearance should be followed to avoid adverse impacts upon hedgehogs, reptiles, and amphibians (see section 5 for details of working methods).

Conclusions	
	• Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed development to proceed and for there to be no long-term impacts upon the key protected species present at the site. • This ecological report will remain valid for a period of 18 months from the date of the last survey – i.e. until February 2024.

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1 INTRODUCTION

1.1 Wildwood Ecology was commissioned by Caerphilly County Borough Council (the client) to undertake an Ecological Impact Assessment (EcIA) at Llanfabon and Llancaeach Junior School Amalgamation (the site) centred at grid reference ST 11043 95342.

1.2 A PEA/PRA for bats and nesting birds was undertaken at the site on the 09/06/2022. This found the main school building affected by the development to have moderate bat roost suitability, and the nursery building to have low bat roost suitability. Further bat activity surveys (x2 surveys on the main school building and 1x survey on the nursery building) were therefore recommended. The dusk emergence surveys were undertaken on the 26/07/2022 and 10/08/2022.

Site description

1.3 The site lies to the south-west of Nelson, a village in the county borough of Caerphilly.

1.4 The aerial image of the site (Figure 1) shows the site to consist of buildings, hardstanding, grassland, and scattered trees.

1.5 The wider site consists of the built-up village of Nelson, which is surrounded by a mosaic of grassland fields and tree lines.

Figure 1 – Aerial image of the site (red line shows the site boundary). Image used under licence (©2021 Google). Imagery date 20/07/2021.

Proposed development

1.6 The site is the subject of a planning application to amalgamate two schools (the existing infants already on site and the existing junior school on a different site) to form a primary school. The scheme involves the following: construction of a two-storey extension to house 7 classrooms plus ancillary support spaces; the existing twin demountable currently housing the nursery, to the south west of the site, is to be demolished; the existing infants school will be refurbished internally and will require some alterations to the roof to form the link corridor to the extension; and the area of waste/overgrown land to the north of the site will be developed into a car park, and during construction will likely be the site compound for the contractor.

Purpose of this report

1.7 This report aims where possible to provide sufficient information for the local planning authority to fully assess the potential ecological impacts of the proposed development, or alternatively, to identify what further information is required to fully inform the scheme.

1.8 The results of the EcIA have been used to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed development.

2 METHODOLOGY

Desk study

2.1 A biodiversity desk study was undertaken in relation to the site in June 2022. The sources consulted and the type of information obtained are summarised in Table 1.

Table 1 – Sources of biodiversity and ecological records.

Source	Information requested (search buffer from site centre/boundary)
South East Wales Biodiversity Records Centre (SEWBReC)	• Protected and priority species (2km) • Sites of local importance/designation (1km)
Multi-Agency Geographic Information for the Countryside (MAGIC)[1]	• International statutory designations (5km) • National statutory designations (2km)

2.2 The search buffers are considered to be sufficient to cover the potential zone of influence (ZoI[2]) of the proposed development.

2.3 The impact of the proposed development on the biological integrity of any nearby designated protected sites has been fully considered.

2.4 No previous survey information was available for the site itself.

Field surveys

PEA

2.5 A field survey was undertaken on 09 June 2022.

2.6 All habitats present within the site with the potential to support rare, protected, or otherwise notable species of flora or fauna (together with any direct signs) were noted.

2.7 In the context of this report, rare, protected, or otherwise notable species of flora or fauna were those considered to meet any of the following criteria:

- Species protected by legislation (see Appendix VI);
- UK Post 2010 UK Biodiversity Framework priority species or Local Biodiversity Action Plan (LBAP) species;
- Nationally rare or nationally scarce species;
- Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red or Amber Lists).

2.8 A PEA habitat map was drawn up incorporating target notes used to highlight features of particular ecological interest (see Appendix I).

2.9 The Wildlife and Countryside Act (1981) as amended, makes it an offence to release or allow to escape into the wild any animal, plant or micro-organism not ordinarily resident in the UK (as listed in Schedule 9 of the Act). Plant species listed in Schedule 9 were searched for during the survey. Examples include species such as Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*).

[1] http://magic.defra.gov.uk/MagicMap.aspx
[2] ZoI definition – 'the areas/resources that may be affected by the biophysical changes caused by activities associated with a project' (CIEEM, 2018).

PRA

2.10 A field survey was undertaken on 09 June 2022.

2.11 An assessment of the school building and nursery building was undertaken in accordance with the latest published best practice guidance (Collins, 2016).

2.12 The buildings were externally and internally inspected for bats and their signs with the aid of high-powered lamps and close-focussing binoculars.

2.13 The suitability of the buildings to accommodate bats was assessed, along with a systematic search for signs of bats (e.g. droppings, moth wings, scratch marks, staining, etc.) or actual bats that were present. Particular attention was paid to the roof areas, with searches for any crevices or gaps in walls, gaps between beams and joists, droppings stuck to the walls, floors or other surfaces, or feeding remains below beams, in addition to a number of other factors and signs indicative of a bat roost.

2.14 In addition, the buildings were classified according to its suitability for bats, based on the presence of features within the structure and / or landscape (see Table 2).

Table 2 – Summary of guidelines for assessing the potential suitability of proposed development sites for bats (from Collins 2016).

Suitability	Description of building, tree, or structure	Number of activity survey visits required[3]
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None
Low (nursery building)	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, potential roost sites not suitable for larger numbers or regular use (i.e. maternity or hibernation).	One
Moderate (main school building)	A structure or tree with one or more potential roost sites that could be used by bats, but unlikely to support a roost of high conservation status.	Two
High	A structure or tree with one or more potential roost sites obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time.	Three
Confirmed roost	Evidence of bats or use by bats found.	Minimum of two – to characterise the roost

Bat surveys (dusk emergence)

2.15 Two bat surveys (dusk emergence surveys – 26/07/2022 and 10/08/2022) were undertaken on the main school building with two surveyors.

2.16 One bat survey (dusk emergence survey – 26/07/2022) was undertaken on the nursery building with two surveyors.

2.17 The dusk emergence surveys commenced approximately 15 minutes before the time of local sunset (source www.sunrisesunsetmap.com) and continued for approximately 1.5 hours after sunset.

2.18 Surveyors were equipped with broadband bat detectors (Elekon BatScanner Stereo).

2.19 Note was made of all bat activity recorded including (where appropriate) roost access points, species, time of re-entry, direction of flight, behaviour (foraging or commuting) and use of landscape features. Minimal lighting was used during the surveys as this can alter the behaviour of the bats emerging from or entering a roost or foraging or commuting over a site.

[3] To provide confidence that bats are absent from the structure

Surveyor information

2.20 The surveys were led by Maddie Anderson, assisted by Amy Williams Schwartz, Jenny O'Neill, and Jack McCormack. See Table 3 for further information.

Table 3 – Surveyor information

Surveyor	Licences	Ecological experience
Amy Williams Schwartz PhD, MSc, B.Sc. (Hons), ACIEEM Ecologist	Bat GCN	Experienced in surveying for a wide range of protected species including great crested newt, reptiles, and bats within a consultancy and volunteer capacity. PhD thesis on wildlife/road interactions in the UK, and experienced in performing academic ecological research projects, as well as species identification.
Jenny O'Neill B.Sc. (Hons) Assistant Ecologist Qualifying CIEEM	-	Holds a 2:1 honours degree in Ecology. Has field experience through academic and professional training. Experience in undertaking protected species surveys including reptiles, bats, and hazel dormouse from 3 years of seasonal work.
Maddie Anderson M.Sc., B.Sc. (Hons) Assistant Ecologist	-	Holds a 2:1 honours degree in Biology and a Masters in Environmental Biology: Conservation & Resource Management. Experience in undertaking bat surveys and assisting in other protected species surveys gained through working with Wildwood Ecology.
Jack McCormack Seasonal Assistant Ecologist	-	Holds a 1st class honours degree in Zoology and a Masters of Research in Biosciences. Experience in undertaking bat surveys and assisting in other protected species surveys gained through working with Wildwood Ecology.

Limitations and assumptions

2.21 Many species of bat in the UK are crevice dwelling, and bats or signs of bats can be difficult to find within a building. In addition, there may be areas that are inaccessible to the surveyor.

2.22 Only the area of roof space to the west of the building could be observed due to suspended ceilings throughout the building. Internal access into the loft space was not possible. Only the loft space at the west elevation of the building was investigated during the PRA using a ladder and a torch.

2.23 No other limitations were encountered, or assumptions made, and it is considered that, with the access gained and recording undertaken, an accurate assessment of the site's ecological value was made.

3 RESULTS

Desk study

Designated sites (statutory)

3.1 There were no international statutory designations within 5km of the site and one national statutory designation within 2km (see Table 4). The closest statutory designated site, Nelson Bog, was approximately 700m northeast from site.

3.2 There are no protected areas (SSSIs or SACs) designated for their bat populations within 10km of the site.

Designated sites (non-statutory)

3.3 There were six international non-statutory designations within 1km of the site (see Table 4). The closest non-statutory designated site, Wern Woodland, was approximately 520m northeast from site.

Table 4 – Summary of designated sites in range of the site.

Site name	Designation	Description / key reason for designation	Distance & direction
Nelson Bog	Site of Special Scientific Interest (SSSI)	Nelson bog has two special features which are species-rich bog and swampland. As well as swamp and bog, Nelson bog has other habitats that contribute to the special wildlife interest including semi-natural broadleaved woodland, acid grassland, and scrub. The diversity of habitat in turn support a wide range of species.	700m NE
Wern Woodland, Nelson	Site of Importance for Nature Conservation (SINC)	This is an area of wet woodland where the canopy is mainly formed by willow and alder in the wet areas, with a few drier areas dominated by oak and hawthorn. The western part of the site includes an area of damp semi-improved grassland. The site contains other habitats consisting of semi-improved neutral grassland and scrub adjacent to a railway and cycle path. The site is likely to support a high diversity of invertebrates, foraging and roosting bats, and the woodland margins and grassland are likely to support reptiles.	520m NE
Cwm Afon Railway Line, West of Nelson	SINC	A disused railway embankment runs the whole length of the site, supporting semi-improved acid grassland with at least 12 indicator species, and localised patches of rocks and scrub. Other habitats included within the site consist of woodland, and species-rich marshy grassland/flush vegetation with at least seven indicator species. The site provides foraging habitat for bats, as well as roosting potential within some trees. Other species that utilise the site	620m W

		include reptiles, grassland fungi and invertebrates.	
Brooklands Marsh, North of Nelson	SINC	The qualifying feature of this site is semi-natural wet woodland (in an early stage of development). The stream and adjacent trees within the site are likely to be used by foraging and possibly roosting bat. The area may also provide resting sites for otters. The site most likely supports a high diversity of invertebrates due to the mix of habitat types, and the grassland area is likely to support reptiles.	880m N
Llancaiach-Fawr Meadows, Llancaiach	SINC	The Nant Caeach stream runs through a steep-sided woodland valley that forms the western boundary of the site. The woodland canopy comprises mainly oak and beech. The remainder of the site includes a mix of scrub and semi-improved neutral and acid grassland fields, formed partly over colliery spoil. The site is likely to support a high diversity of invertebrates, reptiles, foraging and roosting bats, and the grassland areas may support waxcap fungi.	915m N
Nant Caeach	SINC	This is a stream course that forms a confluence with the Afon Taf Bargoed. The stream follows an unmodified course and includes natural physical features such as meanders, small waterfalls, pools, and riffles.	915m N
Cwm Afon, West of Nelson	SINC	This is a field of semi-improved acid grassland and marshy grassland/flush vegetation with at least 12 indicator species. The site also provides foraging/roosting habitat for bats. The grassland is also likely to be used by reptiles. The site has potential to support a high density of invertebrates, potentially including rare species such as the small pearl-bordered fritillary.	950m W

Protected species

3.4 Table 5 summarises the priority and protected species records found within the local area.

Table 5 – Priority and protected species records found in the vicinity of the site.

Protected & priority		# of records (# species)			Further information (from site)
Groups	Species	Onsite	<500m	>500m	
Bats	Common pipistrelle	-	9	52	Closest record: foraging/commuting activity within garden to the north 70m from site (2021). Closest roost: 400m from site (3 records, all from 2007) with more than seven bats seen.
	Nathusius' pipistrelle	-	1	1	Closest record: adult seen commuting across garden to the north 100m from site (2019). Closest roost: N/A.
	Soprano pipistrelle	-	5	40	Closest record: foraging/commuting activity in garden to the north 80m from site (2021). Closest roost: possible roost 1.53km from site (2019) where a bat was picked up for bat care.
	Brown long-eared bat	-	2	7	Closest record: 90m from site (2017) recorded on a batlogger within a garden to the north of Llanfabon Infants school. Closest roost: 920m from site (2 records, both from 2009) identified roosting within a barn during a dusk survey.
	Natterer's bat	-	1	8	Closest record: 400m from site (2007). No further information. Closest roost: 1.98km from site (2013). No further information.
	Noctule	-	2	9	Closest record: 90m from site (2017) recorded on a bat logger in a garden to the north. Closest roost: N/A.

Protected & priority		# of records (# species)			Further information (from site)
Groups	Species	Onsite	<500m	>500m	
	Serotine	-	1	0	Record is 90m from site (2017) detected on a bat logger in a garden to the north.
	Daubenton's Bat	-	0	4	Closest record: foraging/commuting activity 1.6km from site (2004-2005). Closest roost: N/A.
	Unidentified *Myotis*	-	0	2	Closest record: commuting activity 85m from site (2017). Closest roost: N/A.
	Unidentified pipistrelle	-	4	6	Closest record: foraging over a garden to the north 80m from site (2019). Closest roost: maternity roost within attic, 40+ individuals 270m SW from site (2016).
	TOTALS	-	*25(7)*	*129(8)*	
Mammals *(excluding bats)*	European otter	-	2	26	Closest record is 2x spraints found on the end of a concrete bolster within a stream 300m SW from site (2021).
	European badger	-	0	10	Closest record is a badger latrine 730m from site (2017).
	Hazel dormouse	-	0	1	The record is for a nest 610m from site (2019).
	European water vole	-	0	8	Closest record is for a live sighting at Nelson bog 1.23km from site (1997).
	West European hedgehog	-	9	18	Closest record is 90m from site (2019) where a hedgehog was bothered by a dog to the north of Llanfabon Infants school.
	Other mammal species	-	*3(3)*	*14(4)*	Three records for American mink. The closest record is for prints 325m from site (2020).

Protected & priority		# of records (# species)			Further information (from site)
Groups	Species	Onsite	<500m	>500m	
					Seven records for brown hare. The closest record is 1.28km from site (1976). One record for ferret. The record is 420m from site (2010). One record for pine martin. The record is 230m from site (1997). Three records for polecat. The closest record is 550m from site (2008). One record for weasel. The record is 1.44km from site (1984).
	TOTALS	-	*14(5)*	*77(9)*	
Amphibians	Common toad	-	1	19	Closest record is 480m from site (2 records between 1968 and 2003).
	Common frog	-	3	28	Closest record is 85m from site (4 records between 2017 and 2021).
	Great crested newt	-	0	20	Closest record is 1.44km from site (1984).
	Palmate newt	-	0	17	Closest record is 580m from site (2007).
	Smooth newt	-	0	3	Closest record is 1.28km from site (1976).
	TOTALS	-	*4(2)*	*87(5)*	
Reptile	Common lizard	-	0	1	The record is 1.7km from site (2007).
	Slow worm	-	1	9	Closest record is 85m from site (2018) within a garden to the north.
	Adder	-	0	2	Closest record is 1.67km from site (2019).
	TOTALS	-	*1(1)*	*12(3)*	
Birds	Schedule 1	-	*27(9)*	*95(16)*	Schedule 1 species <500m from site: brambling, fieldfare, goshawk, green sandpiper, king fisher, peregrine, red kite,

Protected & priority		# of records (# species)			Further information (from site)
Groups	Species	Onsite	<500m	>500m	
	Non-schedule 1	-	*105(29)*	*700(55)*	redwing, Western barn owl. Schedule 1 species >500m from site: brambling, cetti's warbler, Eurasian bittern, fieldfare, goshawk, green sandpiper, hobby, kingfisher, merlin, peregrine, red crossbill, red kite, redwing, Western barn owl, Western osprey, woodlark. Non-schedule 1 species: black-headed gull, buzzard, Canada goose, common house martin, common reed bunting, common sandpiper, cormorant, cuckoo, curlew, dipper, dunnock, Eurasian bullfinch, Eurasian coot, Eurasian skylark, European green woodpecker, European herring gull, European pied flycatcher, goldcrest, grasshopper warbler, greenfinch, grey heron, grey partridge, grey wagtail, hawfinch, house sparrow, kestrel, lapwing, lesser black-backed gull, lesser redpoll, lesser spotted woodpecker, lesser whitethroat, linnet, little owl, long-tailed tit, mallard, marsh tit, meadow pipit, mistle thrush, Northern bobwhite, redstart, sand martin, snipe, song thrush, spotted flycatcher, starling, swallow, swift, teal, tree pipit, wheatear, whinchat, whitethroat, willow tit, willow warbler, wood warbler, woodcock, yellowhammer.

Protected & priority		# of records (# species)			Further information (from site)
Groups	Species	Onsite	<500m	>500m	
Invertebrates	Totals:	-	*6(4)*	*109*	Category 1 species <500m from site: cinnabar, knot gross, wall, white ermine. Category 1 species >500m from site: August thorn, blood-vein, brindled beauty, broom moth, brown-banded carder-bee, buff ermine, centre-barred sallow, cinnabar, dark-barred twin-spot carpet, dingy skipper, dot moth, dusky thorn, ear moth, flounced chestnut, garden tiger, ghost moth, grayling, green-brindled crescent, hedge rustic, knot grass, marsh fritillary, oblique carpet, rosy rustic, rustic, sallow, shoulder-striped wainscot, small blue, small heath, small pearl-bordered fritillary, small phoenix, small square-spot, streak, wall, white ermine, white-letter hairstreak.
Plants	see further info	-	*3(2)*	*46(3)*	Category 1 species <500m from site: tubular water-dropwort, bluebell. Category 1 species >500m from site: bluebell, Deptford pink, chamomile.
Fish	see further info	-	*1(1)*	*7(3)*	Category 1 species <500m from site: brown/sea trout. Category 1 species >500m from site: European eel, brown/sea trout, Atlantic salmon.

Field surveys

Timing and conditions

3.5 The survey timings and prevailing weather conditions during the PEA/PRA and bat activity surveys can be seen in Table 6.

Table 6 – Summary of survey timing and conditions during surveys.

Date	Type	Conditions			
		Temp [°C]	Cloud cover [Oktas]	Wind speed [Beaufort]	Rain
09/06/222	PEA/PRA	16	7	2	nil

Date	Type	Survey Timing			Conditions			
		Start	End	Sunset	Temp [°C]	Cloud Cover [Oktas]	Wind Speed [Beaufort]	Rain
26/07/2022	Dusk emergence	20:56	22:41	21:11	*Start: 16 End: 14*	*Start: 0 End: 0*	*Start: 1 End: 1*	nil
10/08/22	Dusk emergence	20:30	22:15	20:45	*Start: 26 End: 20*	*Start: 0 End: 0*	*Start: 0 End: 0*	nil

3.6 The distribution and extent of habitats observed within the site is illustrated in the PEA plan (see Appendix I). An accompanying species list (including scientific names) can be found in Appendix V.

3.7 The habitats present onsite are described in detail in Table 7 using the standard Phase 1 survey habitat classification hierarchical alphanumeric reference codes (JNCC, 2010).

3.8 Please also refer to Table 7 for a list and description of the onsite target notes. The positions for these target notes are highlighted in the PEA plan in Appendix I.

3.9 The site was classified according to the following habitat types: semi-natural broad-leaved woodland, scrub, scattered broad-leaved trees, semi-improved grassland, tall ruderal, amenity grassland, native species-rich hedgerow, hedge with trees, soft landscaping, buildings, path, and hardstanding.

Table 7 – Habitats and linear features present on site.

Habitat type / Linear feature	Species present
A1.1.1 Semi-natural, broad-leaved woodland There was a small area of woodland adjacent to the east of the school building. The woodland area extended further north outside of the school boundary.	Tree species: field maple, blackthorn, horse chestnut, alder, ash, sycamore, birch, hazel, hawthorn. Understory: cleavers, cock's foot, broad-leaved dock, herb Robert, bramble, dandelion, hazel saplings, germander speedwell, ash saplings, nettle, fern, field maple saplings.
A2.1 Scrub (dense/continuous) Dense scrub was located immediately north and east of the hardstanding areas to the north of the site.	Buddleia, bramble, hawkbit, creeping buttercup, vetch, bracken.

A3.1 Broad-leaved, parkland and scattered trees Various broad-leaved tree species were scattered throughout the school grounds.	Field maple, cherry, whitebeam, willow sp., sycamore, birch.
B6 Poor semi-improved grassland There was a small area of this habitat type located immediately south west of the hardstanding areas to the north of the site.	Cleavers, creeping buttercup, dandelion, vetch, Yorkshire fog, false oat grass, cocks foot, ribwort plantain.
C3.1 Tall ruderal There were small patches of this habitat type scattered throughout the school grounds.	Broad-leaved willowherb, dandelion, vetch, ivy, buttercup, sycamore saplings, ash saplings.
J1.2 Amenity grassland Much of the site was comprised of this habitat type. The amenity grassland extends from the north west of the school grounds, to the south behind the school building and to the east.	Daisy, creeping buttercup, clover, ribwort plantain.
J2.1.1 Native species-rich, intact hedge Hedgerow extended from the south west of the site boundary to the east.	Hawthorn, willow sp., self heal, field maple, dog rose, nettle, bramble.
J2.3.1 Native species-rich, hedge and trees Semi-mature and mature trees were located along the north and eastern boundary of the hardstanding areas to the north.	Blackthorn, oak, holly, hazel, willow sp., smooth sumac.
J3.6 Buildings The main school building (TN#1) was located centrally within the site, and the nursery building (TN#2) was located to the south west of the main school building.	
J5 Other habitat	Smooth sumac, dog rose.

There were areas of soft landscaping along the north east boundary of the school building. Strips of soft landscaping were located within the car parking area at the south west.	

Invasive species

3.10 No stands of invasive species were identified onsite.

Onsite fauna

3.11 The presence of the following species were observed or detected around the site during the survey: pigeon, blackbird, robin, carrion crow.

PRA

3.12 A description of the buildings inspected during the PRA can be seen in Table 8.

Table 8 – Onsite building information.

Building reference	Building type	Description	Development plans
A	Llanfabon Infants School	Single storey brick-built building with metal fascia and soffits, and a vaulted ceiling middle section with no loft space.	Alterations to the roof at the southwest to form the link corridor to the extension of the new part of the building.
B	Llanfabon nursery building	Single storey flat roofed demountable building with metal gutters, and wood panels with pebble dash render.	Demolition

3.13 The results of the PRA can be seen in Table 9.

Table 9 – PRA results.

Building reference	Use by bats	Use by birds	Bat signs and internal and external Potential Roost Features (PRFs) & access points
A	Moderate	Confirmed	Small gaps between walls and soffits, lifted roofing felt, ventilation holes provide access for birds. The caretaker stated that nesting birds have been observed nesting within the holes.
B	Low	No	Gaps under edge of the flat roof, a large gap where two sections of the building are joined at the middle.

Figure 2 – Site plan showing locations of the buildings. Building A is the main school building, and building B is the nursery building. Image used under licence (©2021 Google). Imagery date 20/07/2021.

Links to surrounding habitat

3.14 The site is located in a semi-urban location surrounded by residential properties and their associated gardens, as well as access roads that are illuminated at night, with moderate radiance levels.

3.15 The site is within an area with a radiance of 6.30 x 10-9 W/cm2 x sr (www.lightpollutionmap.info).

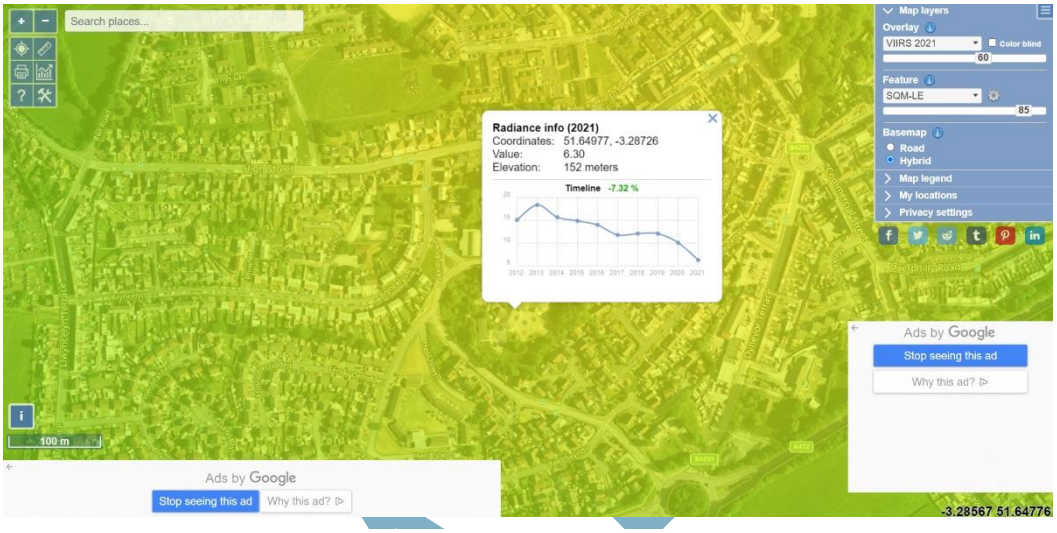

Figure 3 – Radiance levels modelled at the site (VIIRS 2021 data, https://www.lightpollutionmap.info/ - accessed August 2022.

Bat surveys (dusk emergence)

3.16 The results of the bat surveys (dusk emergence) are summarised in Table 10.

Table 10 – Bat survey results. SS±xx refers to the time in minutes before/after sunset.

Survey type and date	Roosts and activity/points of particular interest	General observations
Dusk emergence (Main school building) 26/07/2022	o First bats observed at SS+22 soprano pipistrelle heard not seen (HNS). o Species observed/detected during the survey include soprano and common pipistrelle.	o Low activity overall within the site. o Bats were observed foraging/commuting at the woodland area to the north of the site. o Bats were observed commuting north to west and west to north across area of hardstanding at the north west of the site. o No emergences were observed.
Dusk emergence (Nursery building) 26/07/2022	o First bat observed at SS+17 common pipistrelle HNS. o Species observed/detected during the survey include soprano and common pipistrelle.	o Moderate activity overall surrounding the building. o Bats were observed foraging along the hedgerow to the south and west of the nursery. o The area was illuminated by a security light at the north east corner of the nursery building above the door. o No emergences were observed.
Dusk emergence (Main school building) 10/08/2022	o First bats observed at SS+19 soprano pipistrelle HNS. o Species observed/detected during the survey include common and soprano pipistrelle, and noctule.	o Low activity overall within the site. o Bats observed foraging by trees to the north. o Bats observed commuting across the car park to the west of the site, towards trees at the north. o No emergences were observed.

3.17 Bat flight lines in and around the site can be seen in Appendix III.

4 INTERPRETATION AND ASSESSMENT

4.1 The following interpretation and assessment is provided to ensure full compliance with legislation and both local and national planning policy (see Appendix VI).

Designated sites

4.1 There were no international statutory designations within 5km of the site and one national statutory designations within 2km (see Table 4). The closest statutory designated site, Nelson Bog, was approximately 700m northeast from site.

4.2 There are no protected areas (SSSIs or SACs) designated for their bat populations within 10km of the site.

4.3 There were six international non-statutory designations within 1km of the site (see Table 4). The closest non-statutory designated site, Wern Woodland, was approximately 520m northeast from site.

4.4 Given the scale of the proposed development, and the lack of likely impacts beyond the site boundary, the nearby designated sites are sufficiently well separated so that no impacts on their designated features are anticipated as a result of the works.

Priority and protected habitats

4.5 The following priority habitats (as listed in Section 7 of the Environment (Wales) Act 2016) were present onsite: broad-leaved woodland, and native species-rich hedgerow.

Semi-natural broad-leaved woodland

4.6 The woodland provides structural diversity to the site. It is likely to provide foraging opportunities for local bat populations and may support nesting birds and other wildlife. It is comprised of mature and semi-mature trees and is not easily replaceable in the short to medium future. It is therefore considered to have **local ecological importance.**

Amenity grassland

4.7 The amenity grassland onsite was well-managed, and the vegetation kept short. The flowering plant species are common for this habitat type, and the habitat is well represented within the surrounding area. Therefore, the amenity grassland is considered to be of **site ecological importance.**

Semi-improved grassland

4.8 The grassland to the north of the site was unmanaged and the vegetation left to grow tall. The flowering plant species are common for this habitat types and provide opportunities for invertebrates and possibly reptiles. Therefore, the semi-improved grassland is considered to be of **site ecological importance.**

Native species-rich hedgerow

4.9 The hedgerow provides structural diversity and connectivity throughout the site, as well as a foraging and shelter resource for wildlife. Therefore, the hedgerow on site is considered to be of **local ecological importance.**

Scattered broad-leaved trees

4.10 The trees onsite provide structural diversity to the site and may provide foraging and nesting opportunities for birds and other wildlife. The species identified onsite are common species and widespread and not in decline. Therefore the scattered trees are considered to be of **site ecological importance.**

Scrub and tall ruderal

4.11 These habitats contribute to the habitat diversity of the site and may provide foraging and shelter opportunities to wildlife. They are therefore considered to have **site ecological importance.**

Soft landscaping

4.12 The areas of soft landscaping may provide foraging resources for invertebrates, as well as shelter for other wildlife. The soft landscaping is considered to be of **site ecological importance.**

Hardstanding and paths

4.13 These areas do not have any features that could support any protected and notable species. Therefore, they are of **negligible ecological importance.**

Priority and protected species

Bats

PRA

4.14 The local records search returned 154 records for bat species in the vicinity of the site (see Table 5). Of the 154 records, 25 of the records were less than 500m from site, species of which include common pipistrelle, soprano pipistrelle, nathusius' pipistrelle, brown-long eared bat, natterer's bat, noctule, and serotine.

4.15 No potential roosting features (PRFs) were noted on trees within the vicinity of the proposed development.

4.16 PRFs noted within the main school building included small gaps between the wall and the soffits, ventilation holes underneath the main entrance to the building, and lifted roofing felt. It is unlikely that bats would access the building via the ventilation holes as the surface is metal, and too smooth for bats to cling to.

4.17 PRFs noted within the nursery building included gaps under the edge of the flat roof, and a large gap where two sections of the building are joined at the middle.

4.1 The area of roof space to the west was observed, however internal access was not possible due to a suspended ceiling. No evidence of roosting bats was noted.

4.2 The moderate suitability of the main school building, and low suitability of the nursery building, together with the local records for bat species in the vicinity of the site means there may be a negative impact on bat species as a result of the proposed development.

Bat activity surveys (dusk emergence)

4.3 The bat surveys carried out found that no bats were roosting within the main school building and nursery building. Species observed/detected during the surveys include common pipistrelle, soprano pipistrelle, and noctule.

4.4 Bats were observed commuting across the car parking area at the west of the site, towards the area of woodland and trees at the north. Bats were also observed foraging/commuting along the hedgerow to the south and west of the nursery building.

4.5 In the absence of mitigation, there will be a negative impact on foraging and commuting bats as a result of additional lighting due to the proposed development of the site.

Nesting birds

4.6 The local records search returned 122 records for schedule 1 nesting bird species in the vicinity of the site (see Table 5). Of the 122 records, 27 records were less than 500m from site. The local records search returned 805 records for non-schedule 1 bird species in the vicinity of the site.

4.7 No nesting birds were noted during the survey. However, the caretaker stated that birds have been seen to nest within the air ventilation holes under the main entrance to the school building (see Figure 18).

4.8 Bird species observed during the bat activity surveys included: jackdaw, swift, green woodpecker, blackbird, wren, carrion crow, swallow, sparrowhawk, magpie, woodpigeon, and robin.

4.9 The hedgerow, scrub and woodland area to the east provide suitable habitat for nesting birds.

4.10 There may be a negative impact on nesting bird species as a result of the proposed development.

Reptiles

4.11 The local records search returned 13 records for reptiles in the vicinity of the site (see Table 5). Of the 13 records, 1 record was less than 500m from site. This record is for a slow worm located 85m from the site (2018) within a garden to the north.

4.12 At the time of the survey, the grassland within the school grounds was mowed short and therefore unsuitable to provide cover for reptiles. However, there were small patches of tall ruderal located to the south of the site which could provide cover for reptiles.

4.13 The area of semi-improved grassland located adjacent to the hardstanding area to the north is more suitable to support reptiles. Areas of scrub to the north and east of the hardstanding at the north may also provide suitable habitat for reptiles.

4.14 There may be a negative impact on reptiles during vegetation clearance of the area of land to the north of the site and tall ruderal areas within the school grounds to the south if precautionary working methods are not followed during vegetation clearance.

Hedgehog

4.15 The local records search returned 27 records for hedgehog in the vicinity of the site (see Table 5). The closest record was 90m from site (2019).

4.16 Suitable habitats for hedgehogs are present onsite including woodland edges, scrub, and hedgerows.

4.17 The site is also located in a suburban area where it is common for hedgehogs to be found. Gardens within the surrounding residential areas may provide suitable habitat for hedgehogs so it is possible that hedgehogs could use habitats onsite or commute through the site.

4.18 There may be a negative impact on hedgehogs during vegetation clearance if precautionary working methods are not followed.

Common dormouse

4.19 The local record search returned only one record for dormouse in the vicinity of the site (see Table 5). The record is for a nest located 610m from the site in 2019. The record is located further west within fields and has no direct connectivity to the site due to unsuitable habitat (housing and roads) laying between the record and the site.

4.1 Hawthorn and bramble were noted within the hedgerow and scrub areas, both of which provide a suitable food source for dormice.

4.2 The hedgerows and scrub habitat onsite may provide suitable foraging and nesting habitat for dormouse, however, the vegetation onsite is isolated from the wider landscape and surrounded by residential areas and minor roads.

4.3 It is therefore unlikely that dormouse would be present onsite due to no connectivity within the wider landscape and the small areas of habitats present onsite.

4.4 There will not be a negative impact on dormouse as a result of the proposed development.

Great crested newt and other amphibians

4.5 The local records search returned 20 records for great crested newt within the wider landscape. All of these records are greater than 500m from the site. The closest record is 1.44km from the site in 1984. Records for common toad, common frog, palmate newt, and smooth newt were also returned.

4.6 Although there is suitable terrestrial habitat onsite for great crested newt and other amphibians, there is no standing water onsite, and it is unlikely that amphibians would commute through the site.

4.7 There are two ponds within 500m of the site (see Figure 4). However, these ponds are isolated from the site due to roads, and residential areas. It is likely that great crested newt, and other amphibians if present within these ponds, are using the habitat further south from the site.

4.8 There may be a negative impact on common amphibian species in their terrestrial phase if precautionary working methods are not followed during vegetation clearance.

Figure 4 – Red line indicates the site boundary, and yellow pins indicate the location of ponds within the vicinity of the site.

Otter

4.9 The local records search returned 28 records for otter in the vicinity of the site (see Table 5). Of the 28 records, two records were returned within 500m of the site. The closest record is for spraints found within a stream 300m southwest of the site in 2021.

4.10 There are no suitable habitats onsite that would support otters, it is not expected that otters would commute or forage.

4.11 There will not be a negative impact on otter as a result of the proposed development.

Badger

4.12 The local records search returned 10 records for badger in the vicinity of the site (see Table 5). All of the records were greater than 500m from site. The closest record is for a latrine found 730m from the site in 2017.

4.13 An area of woodland is present to the east of the site which could provide suitable habitat for badgers. However, it is small in size, not connected to any surrounding suitable habitats, and enclosed by metal fencing which prevents access.

4.14 There will not be a negative impact on badgers as a result of the proposed development.

Invertebrates

4.15 The local records search returned 6 records for 4 species of category 1 invertebrates within 500m of the site. Species include cinnabar, knot grass, wall, and white ermine. 109 records for 35 species were returned within the search greater than 500m from site.

4.1 Suitable habitats onsite for invertebrates include hedgerow, scrub, soft landscaping, and woodland.

4.2 The habitats onsite are common throughout the surrounding landscape, and it is not considered likely that the development will significantly impact local invertebrate populations.

4.3 There is unlikely to be a negative impact on invertebrate species as a result of the proposed development. As the habitat of importance to invertebrates will be retained, there is unlikely to be a negative impact as a result of the proposed development.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Wildwood Ecology was commissioned by Caerphilly County Borough Council (the client) to undertake an ecological impact assessment (EcIA) for bats and nesting birds at Llanfabon and Llancaeach Junior School Amalgamation.

5.2 The site is the subject of a planning application to amalgamate two schools (the existing infants already on site and the existing junior school on a different site) to form a primary school. The scheme involves the following: construction of a two-storey extension to house 7 classrooms plus ancillary support spaces; the existing twin demountable currently housing the nursery, to the south west of the site, is to be demolished; the existing infants school will be refurbished internally and will require some alterations to the roof to form the link corridor to the extension; and the area of waste/overgrown land to the north of the site will be developed into a car park, and during construction will likely be the site compound for the contractor.

Designated sites

5.3 Designated sites in the vicinity of the site (see Table 4) are sufficiently well separated so that no impacts on their designated features are anticipated as a result of the proposed development.

Protected species

5.4 Recommendations regarding protected species are shown in Table 11.

Table 11 – Recommendations.

Species	Recommendations

Bats	• No further surveys will be required as the dusk emergence surveys that were carried out did not identify any bats roosting within the building. Therefore, a European protected species licence from Natural Resources Wales will not be required for the works to proceed.
	• The vegetation to the west of the site should remain unlit. A lighting plan should be put in place to ensure there is no light spill. Suggestions for achieving this and for mitigating the light impact on bats are outlined in Guidance Note 08/18 - 'Bats and artificial lighting in the UK; Bats and the built environment series' (The Bat Conservation Trust, BCT, and the Institution of Lighting Professionals, ILP). These include:
	  • All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.
	  • LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
	  • A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
	  • Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).

	• Internal luminaires can be recessed (rather than choosing a pendant fitting) where installed in proximity to windows to reduce glare and light spill. • The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by a lighting professional. • Column heights should be carefully considered to minimise light spill. • Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light. • Luminaires should always be mounted on the horizontal, i.e., no upward tilt. • Any external security lighting should be set on motion-sensors and short (1min) timers. • As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. • A bat box should be installed on the building or on a suitable tree onsite to enhance roosting opportunities for bats within the area.
Nesting birds	• If buildings / habitats suitable for nesting birds are to be removed, then any building works / vegetation clearance will take place outside of the bird nesting season. In the event that clearance work has to be undertaken during the nesting season (generally from 1st March until 31st August, although birds are known to nest outside of these dates in suitable conditions), a nesting bird check will be required and must be carried out by a suitably qualified person. Any active nests identified should be protected until the young have fledged. Where a Schedule 1 species (as defined in the Wildlife and Countryside Act - http://www.jncc.gov.uk/page-3614 is involved, compensation for impacts, e.g., loss of nesting sites, should be devised and implemented. • A bird box should be installed on a suitable tree within the site to compensate for the loss of nesting habitat.
Amphibians and reptiles	Precautionary working methods should be followed during any vegetation clearance. This includes the following: • The vegetation clearance will be undertaken in a two staged cut through the use of handheld tools (e.g. handheld strimmers, brush cutters). • The first cut will be down to approximately 150mm. • The arisings will be carefully raked off and removed from site. • The vegetation can then be cut down to ground level. • The vegetation should be kept short for the duration of the works to ensure reptiles do not enter the site.

Hedgehog	Precautionary working methods should be followed and will include the following: • Ensure all excavations are covered overnight to ensure no animals get trapped. If this is not possible, place a ramp type structure in the excavation to allow them to escape. • All chemicals, fuel, and materials are to be securely stored (locked cabinet/container) to prevent animal access. • A two-staged vegetation cut should be carried out (see amphibians and reptiles above).

Biodiversity enhancement

5.5 Local Authorities have a duty (known as the 'Biodiversity and resilience of ecosystems duty') under the Environment (Wales) Act 2016 to seek to maintain **and enhance** biodiversity in the exercise of their functions.

5.6 Where possible the existing onsite habitat will be retained to ensure that species are not adversely affected by the development. Native species of local provenance will be used for any new planting on the site to support The Action Plan for Pollinators in Wales, 2013 (http://gov.wales/docs/desh/publications/130723pollinator-action-plan-en.pdf).

5.7 Bird nesting boxes and bat roosting boxes (over and above that required for mitigation on this site) should be incorporated within any newly constructed buildings and boundary features. Bird and bat boxes could also be introduced to any woodland habitat. A range of types should be used in order to cover a variety of species. Many designs are available and we would initially recommend the following for this site:

- Bats – https://www.nhbs.com/beaumaris-woodstone-bat-box
- House Sparrow - http://www.nhbs.com/1sp_schwegler_sparrow_terrace_tefno_174850.html
- General open fronted - http://www.nhbs.com/2hw_schwegler_nest_box_tefno_177926.html (suitable for redstart, thrushes, flycatchers).

Overall conclusion

5.8 Providing that the recommendations outlined within this report are successfully implemented, it should be possible for the proposed development to proceed and for there to be no long-term impacts upon the key protected species present at the site.

This ecological report will remain valid for a period of 18 months from the date of the last survey – i.e. until February 2024. Further surveys may be required to update the site information if planning is not obtained, or works do not commence within that time period.

6 REFERENCES

Bat Conservation Trust and the Institution of Lighting Professionals (2018) Bats and artificial lighting in the UK; *Bats and the Built Environment* series (Guidance Note 08/18), The Bat Conservation Trust, London.

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

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Institute for Environmental Assessment (1995). Guidelines for Baseline Ecological Assessment. E & FN Spon, Hong Kong.

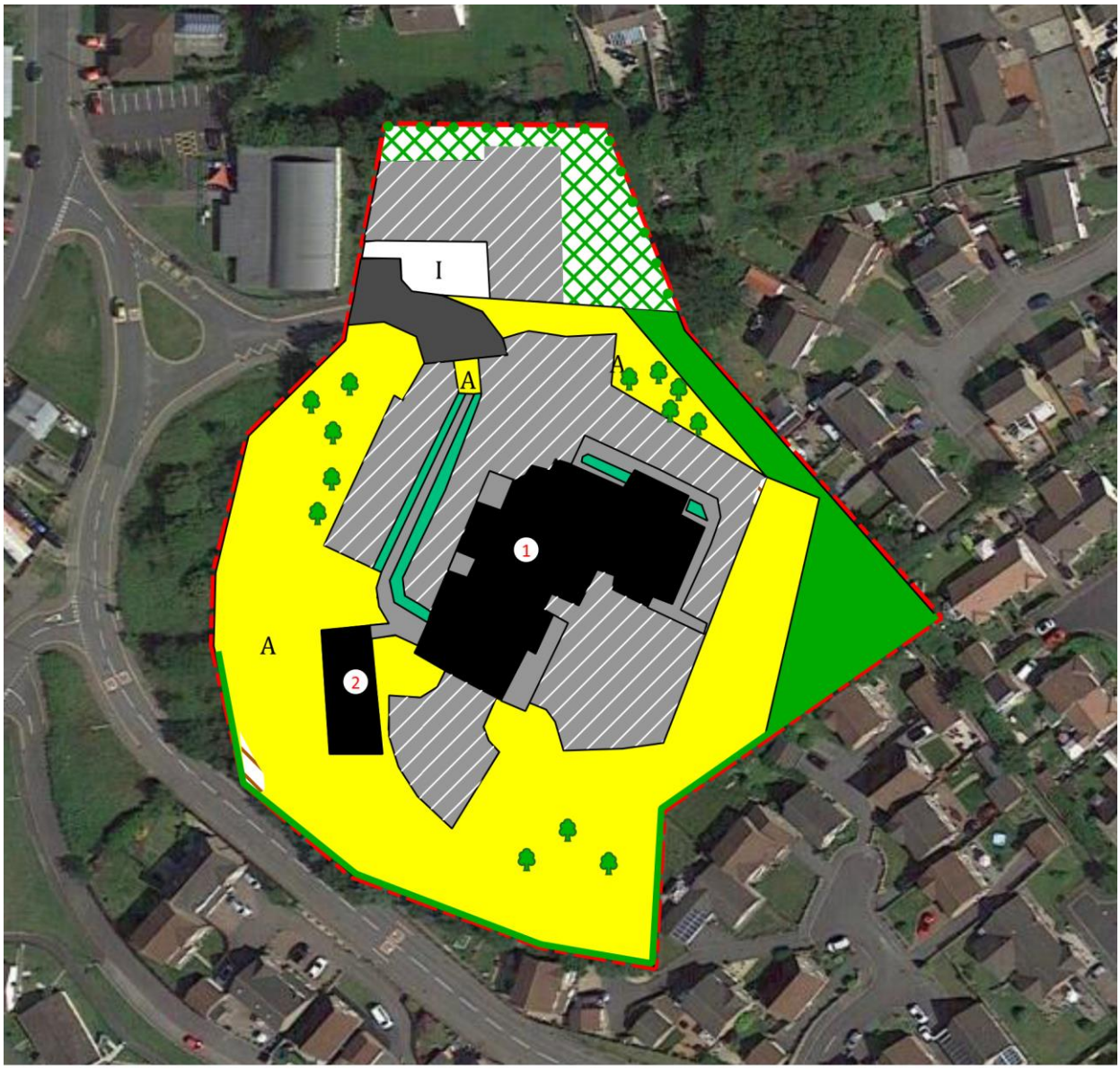
Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey; A technique for environmental audit. Reprinted by JNCC, Peterborough.

Mitchell-Jones, A.J, & McLeish, A.P. Ed., (2004) 3rd Edition Bat Workers' Manual. Joint Nature Conservation Committee, Peterborough.

Mitchell-Jones, A.J. (2004) Bat Mitigation Guidelines. Natural England, Peterborough.

Rowse E.G., Lewanzik D., Stone E.L., Harris S., Jones G. (2016) Dark Matters: The Effects of Artificial Lighting on Bats. In: Voigt C., Kingston T. (eds) Bats in the Anthropocene: Conservation of Bats in a Changing World. Springer, Cham

APPENDIX I: PEA PLAN



Target note	Description
1	School building that will be affected during the works.
2	Nursery building to be demolished.

0 20 40 60 80 m

Key

Site boundary

Habitat codes

A.1.1 Broad-leaved woodland, semi-natural

A.2.1 Scrub, dense/continuous

I B.4 Improved grassland

C.3.1 Tall ruderal

A J.1.2 Amenity grassland

J.3.6 Buildings

Soft landscaping

Hard standing

Road

Path

Trees

Broad-leaved scattered tree

Linear features

Intact hedgerow, native species-rich

Hedge with trees, native species-rich

APPENDIX II: SURVEY IMAGES

Figure 5 – Access road into the site.

Figure 6 – Car parking area at the west of the site.

Figure 7 – Well-managed amenity grassland at the east of the site.

Figure 8 – Scattered trees at the south east of the site.

Figure 9 – Native species-rich hedgerow at the east of the site.

Figure 10 – Areas of tall ruderal and scrub at the site of the site that may provide cover for reptiles.

Figure 11 - Hardstanding with tall ruderal edges at the east of the site.

Figure 12 - Hardstanding areas bounded by amenity grassland to the east of the site.

Figure 13 - Native species-rich hedgerow at the south of the site.

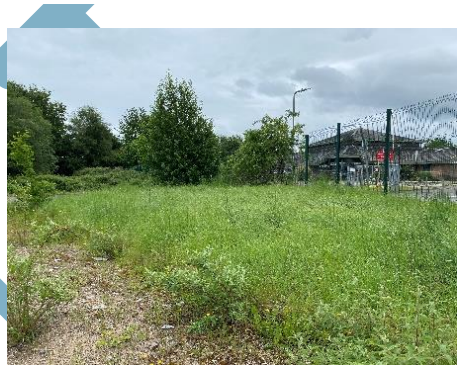


Figure 14 - Area of semi-improved grassland within the land at the northern area of the site.

Figure 15 - Hardstanding area to the north of the site, bounded by a hedge with trees.

Figure 16 - Scrub habitat surrounding the hardstanding areas to the north of the site.

Figure 17 – Main entrance to the school at the north western corner of the building.

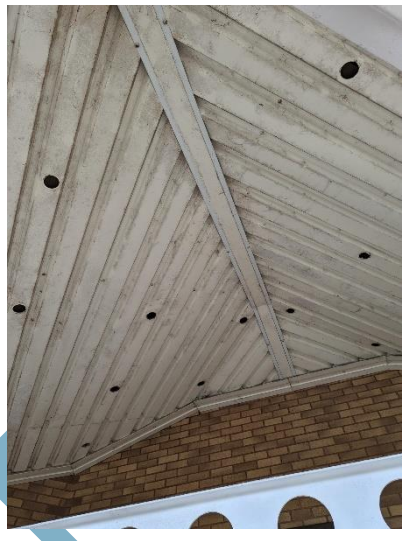


Figure 18 – Ventilation holes under the roof at the main entrance to the building.

Figure 19 – Western aspect of the building (area of roof to be affected by the works).

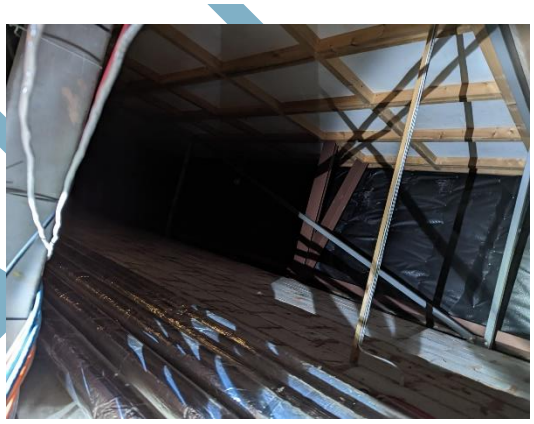


Figure 20 – Visible loft space at the west of the building.

Figure 21 – Gaps under metal fascias and soffits.

Figure 22 – Gap between the nursery building.

Figure 23 – Southern aspect of the nursery building.

Figure 24 – Gaps between flat roof and wall of the nursery.

APPENDIX III: ACTIVITY SURVEY PLAN

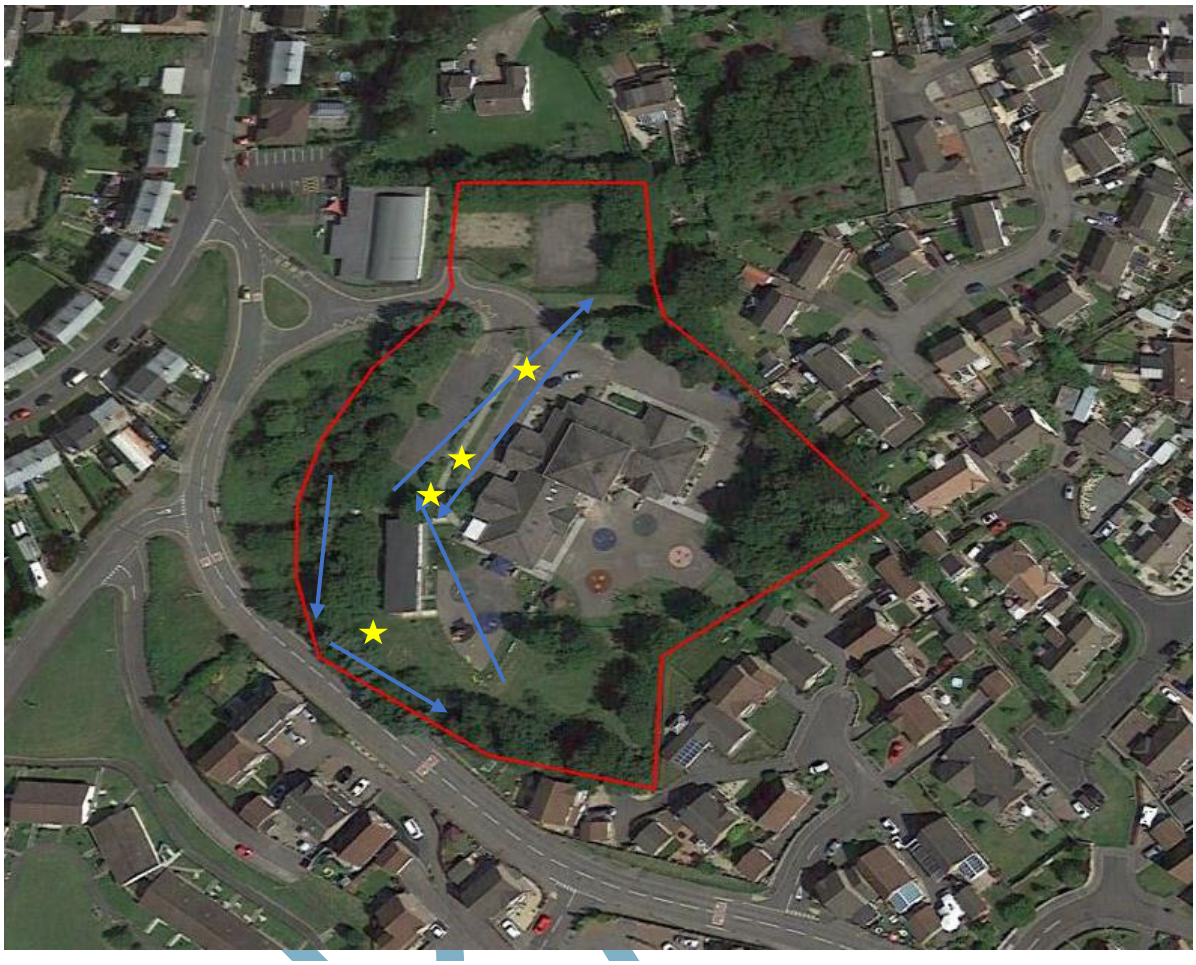


Figure 25 – Blue arrows indicate flight paths observed during the surveys, and yellow stars indicate the location of surveyors during the surveys.

APPENDIX IV: AREA OF ROOF THAT WILL BE AFFECTED

Figure 26 – The pink shading indicates the area of roof where alterations will be required in order to form a link to the new extension that will extend further west.

APPENDIX V: SPECIES LIST

To be submitted to the appropriate Local Records Centre

Site Name:	Llanfabon and Llancaeach Junior School Amalgamation	**Provided by:**	Wildwood Ecology
Grid ref:	ST 11043 95342	**Verified by:**	Maddie Anderson

Common name	Scientific Name (if known)	Number	Comment
FLORA			
Alder	*Alnus glutinosa*		
Ash	*Fraxinus excelsior*		
Birch sp.	*Betula*		
Blackthorn	*Prunus spinosa*		
Bramble	*Rubus fruticosus*		
Broad leaved dock	*Rumex obtusifolius*		
Buddleia	*Buddleja*		
Cherry	*Prunus avium*		
Cleavers	*Galium aparine*		
Cocks foot	*Dactylis glomerata*		
Common self-heal	*Prunella vulgaris*		
Common yarrow	*Achillea millefolium*		
Creeping buttercup	*Ranunculus repens*		
Daisy	*Bellis perennis*		
Dandelion	*Taraxacum officinale*		
False oat grass	*Arrenatherum elatius*		
Field maple	*Acer campestre*		
Germander speedwell	*Veronica chamaedrys*		
Hawthorn	*Crataegus mongyna*		
Hazel	*Corylus avellana*		
Herb Robert	*Geranium robertianum*		
Horse chestnut	*Aesculus hippocastanum*		
Horsetail sp.	*Equisetum*		
Ivy	*Hedera helix*		
Meadow buttercup	*Ranunculus acris*		
Nettle	*Urtica dioicia*		
Oxeye daisy	*Leucanthemum vulgare*		
Ragwort	*Jacobaea vulgaris*		
Ribwort plantain	*Plantago lanceolata*		
Rosebay willowherb	*Chamaenerion angustifolium*		
Rough hawksbeard	*Crepis biennis*		
Smooth sumac	*Rhus glabra*		
Sycamore	*Acer pseudoplatanus*		
Vetch sp.	*Vicia*		

White clover	*Trifolium repens*		
Willow sp.	*Salix*		
Yorkshire fog	*Holcus lanatus*		
FAUNA			
Blackbird	*Turdus merula*		Observed during PEA/PRA.
Carrion crow	*Corvus corone*		Observed during bat surveys.
Common pipistrelle	*Pipistrellus pipistreulls*		Observed during bat surveys.
Green woodpecker	*Picus viridis*		Observed during bat surveys.
House sparrow	*Passer domesticus*		Observed during bat surveys.
Jackdaw	*Corvus monedula*		Observed during bat surveys.
Noctule	*Nyctalus noctula*		Observed during bat surveys.
Robin	*Erithacus rubecula*		Observed during PEA/PRA.
Soprano pipistrelle	*Pipistrellus pygmaeus*		Observed during bat surveys.
Sparrowhawk	*Accipiter nisus*		Observed during bat surveys.
Swallow	*Hirundinidae*		Observed during bat surveys.
Swift	*Apodidae*		Observed during bat surveys.
Wood Pigeon	*Columba palumbus*		Observed during PEA/PRA.
Wren	*Troglodytes troglodytes*		Observed during bat surveys.

APPENDIX VI:PLANNING POLICY AND LEGISLATION

The following local and national planning policy and both primary and European legislation relating to nature conservation and biodiversity status are considered of relevance to the current proposal.

Planning and biodiversity

Local Authorities have a requirement to consider biodiversity and geological conservation issues when determining planning applications under the following planning policies.

Planning Policy Wales (2021) and Technical Advice Note 5 (2009)

Planning Policy Wales (Edition 11, February 2021) sets out the land use planning policies of the Welsh Government, integrating fully with the Environment (Wales) Act 2016. The advice contained within Planning Policy Wales (PPW) is supplemented for some subjects by Technical Advice Notes (TAN's).

TAN 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species.

Under Section 2.4 within the TAN 5, '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;
- 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;
- Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
- Ensure that appropriate weight is attached to designated sites of international, national and local importance;
- Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
- 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;
- Ensure that the range and population of protected species is sustained;
- 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;

Legislation and biodiversity

Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in the Conservation of Habitats and Species Regulations 2017 (as amended). These two main pieces of legislation have been consulted when writing this report and are therefore described in detail within this section.

Other relevant legislation and policy documents that have been consulted include – The Environment (Wales) Act 2016; The Countryside and Rights of Way Act 2000; The Hedgerow Regulations 1997; Biodiversity Action Plans, both UK-wide (UKBAP) and Local plans (LBAPs), and The National Planning Policy Framework (NPPF).

There is also legislation that legally protects certain animals - for example, the Protection of Badgers Act (1992) protects badgers and their setts, and the Deer Act (1991) places restrictions on actions that can be taken against deer species.

Environment (Wales) Act 2016

Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'. The duty replaces the section 40 duty in the Natural Environment and Rural Communities Act 2006 (NERC Act 2006), in relation to Wales, and applies to those authorities that fell within the previous duty.

Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience.

Section 7 replaces the duty in section 42 of the NERC Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) [WCA] is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act deals with the protection of wildlife.

Most European Protected Species offences are now covered under the Conservation of Habitats and Species Regulations (see below), but some 'intentional' acts are still covered under the WCA, such as obstructing access to a bat roost.

The WCA prohibits the release to the wild of non-native animal species listed on Schedule 9 (e.g. Signal Crayfish and American Mink). It also prohibits planting in the wild of plants listed in Schedule 9 (e.g. Japanese Knotweed and Rhododendron ponticum) or otherwise deliberately causing them to grow in the wild. This is to prevent the release of invasive non-native species that could threaten our native wildlife.

The provisions relating to animals in the Act only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.

There are 'defences' provided by the WCA. These are cases where acts that would otherwise be prohibited by the legislation are permitted, such as the incidental result of a lawful operation which could not be reasonable avoided, or actions within the living areas of a dwelling house.

Licensing: certain prohibited actions under the Wildlife and Countryside Act may be undertaken under licence by the proper authority. For example scientific study that requires capturing or disturbing protected animals can be allowed by obtaining a licence – e.g. bat surveys.

Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (which are the principal means by which the EC Habitats Directive is transposed in England and Wales) update the legislation and consolidate all the many amendments which have been made to the Regulations since they were first made in 1994.

These regulations provide for the:

- protection of European Protected Species [EPS] (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts, and otters;
- designation and protection of domestic and European Sites - e.g. Site of Special Scientific Interest [SSSI] and Special Area of Conservation [SAC]; and
- adaptation of planning controls for the protection of such sites and species.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in exercising their function – i.e. when determining a planning application.

There is no defence that an act was the incidental and unavoidable result of a lawful activity.

Licensing: it is possible for actions which would otherwise be an offence under the Regulations to be undertaken under licence issued by the proper authority. For example, where a European Protected Species has been identified and the development risks deliberately affecting an EPS, then a 'development licence' may be required.

<u>Species protection</u>

The following protected species information is relevant to this report. Legislation is only discussed in relation to planning and development; other offences may exist.

Bats

All British bats are classed as European Protected Species and therefore receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), making it an offence inter alia to:

- Deliberately kill, injure or capture a bat;
- Deliberately disturb bats;
- Damage or destroy a breeding site or resting place of a bat.

In addition, all British bats are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which contains further provisions making it an offence to intentionally or recklessly:

- Obstruct access to any structure or place which any bat uses for shelter or protection; or
- Disturb any bat while occupying a structure or place which it uses for that purpose.

If proposed development work is likely to destroy or disturb bats or their roosts, then a licence will need to be obtained from Natural Resources Wales, which would be subject to appropriate measures to safeguard bats.

Birds

In the UK, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 (as amended). All wild birds, their nests and eggs are protected it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any such bird whilst it is in use or being built; or
- take or destroying an egg of any such wild bird.

The law covers all species of wild birds including common, pest or opportunistic species.

Special protection against disturbance during the breeding season is also afforded to those species listed on Schedule 1 of the Act.