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Ysgol Dolgarrog, Dolgarrog

Preliminary Protected Species Survey

21st February 2017
Amended 10th April 2017

Report by: Sam Dyer, Cambrian Ecology Ltd

Client: David Wilkinson. Technical Manager, K&C GROUP. Pure Residential and Commercial Limited, New Vision House, New Vision Business Park, Glascoed Road, St Asaph, Denbighshire. LL17 OLP.

Planning Authority: Conwy County Borough Council

Grid Reference: SH 76960 67992

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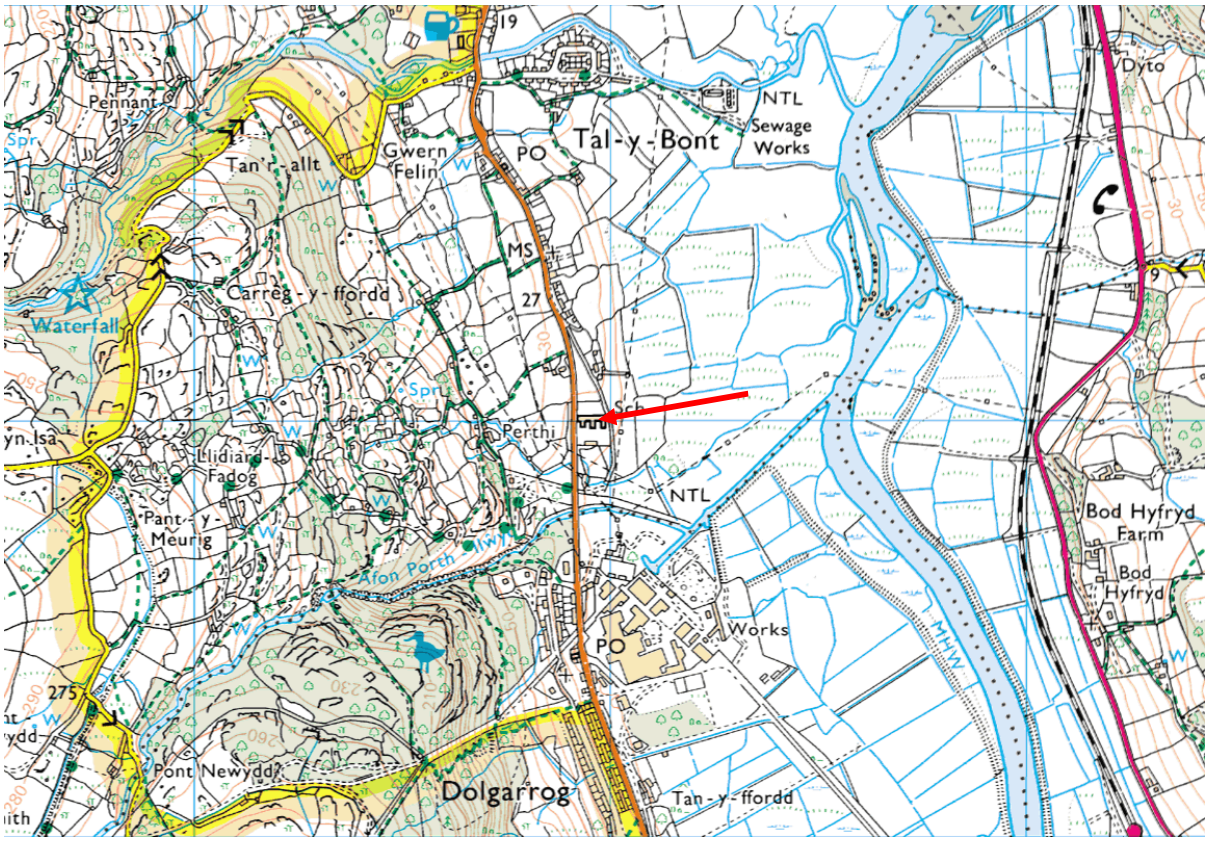


PRELIMINARY BAT & PROTECTED SPECIES SURVEY:-

Ysgol Dolgarrog
Ffordd Llanrwst
Dolgarrog
Conwy
LL32 8QE

21st February 2017, Amended 10th April 2017

1 Summary

A preliminary bat and protected species survey of Ysgol Dolgarrog, Dolgarrog was carried out on 21st February 2017. It is proposed to demolish all buildings before constructing a new school in its place. A protected species survey is required to accompany the necessary planning application.

The survey involved methodically searching for signs of bats and other protected or invasive species, in particular nesting birds. The building was then assessed on its potential to support bats or any other notable species.

Large accumulations of droppings, showing the characteristics of brown long-eared or Natterer's bats were recorded within roof voids 1, 2 and 3 of the main building, strongly indicating the presence of a maternity roost of significance. A small accumulation of droppings showing the characteristics of pipistrelle or small *Myotis* bat species were also located in roof void 6.

A pre-demolition asbestos survey was commissioned to be undertaken on the 10th April 2017, and due to the now confirmed presence of bat roosts, Cambrian Ecology were commissioned to supervise the works. This gave a second opportunity to enter loft voids, and gain access to voids 4 and 5 which had not previously been accessible. During this second survey a single brown long-eared bat was located which strongly supports theories that it is this species utilising the buildings. Significant usage by brown long-eared bats was also found in void 5, which is internally connected to void 2, and a lower level of usage was found in void 4 which was not directly connected to the other roof voids. This survey concluded that bat usage was evident in all roof voids of the school.

The exterior walls of the main school building were pebble dashed, with no cracks or crevices. Wall tops were well sealed, but there were gaps under occasional raised slates, over dormer window gables and dormer roof joints, and on porch slating edges. These features offer potential roosting opportunities for crevice-dwelling species of bat and may form the entrance points for void dwelling species.

The canteen contained no evidence of bat usage; overall its potential to support roosting bats was assessed as low-medium for single male or non-breeding female, crevice dwelling bats.

Due to the requirement to establish the number of bats using the buildings, their exit points and commuting routes, along with the potential for roosting bats to be present within exterior features, further emergence surveys will be required during the recognised bats survey season. The emergence surveys should be conducted during appropriate environmental conditions between 1st May and 30th September. It is essential to utilise an adequate number of surveyors to cover all elevations of the building. In this instance, a minimum of eight surveyors is recommended.

House martins were recorded nesting under the eves of the main school building.

2 Introduction

Cambrian Ecology Ltd was commissioned by Mr Craig Buck of Conwy County Borough Council to conduct a preliminary bat and protected species survey of Ysgol Dolgarrog, Dolgarrog. The building is an existing primary school which is proposed for demolition prior to construction of a new, modern primary school with greater student capacity on the site. As part of the planning process for this project an ecological survey to identify any protected species issues was required.

Ysgol Dolgarrog, Dolgarrog is located at Grid Reference SH 76960 67992.

3 Methodology

3.1 Bats

The preliminary survey, was carried out on 21st February 2017 by licensed bat workers Sam Dyer (74337:OTH:CSAB:2016) and Kate Williamson (74340:OTH:CSAB:2016). Sam Dyer is a very experienced consultant bat specialist, who has held a bat license from the Countryside Council for Wales (now Natural Resources Wales) for over 9 years. Kate has been working as an independent ecologist for 7 years and has held a bat license from CCW/NRW since October 2004. Kate is also a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM).

Objectives of the survey:

- Identify any signs of the presence of bat species within the building or associated with external features
- Assess the potential of the building to support bat species
- Identify any crevice-dwelling species roosting within internal or external features of the building and identify the features they are using
- Recommend any further survey work required
- Identify any other protected or invasive species issues associated with the development proposals

A pre-demolition asbestos survey was commissioned to be undertaken on the 10th April 2017, and due to the now confirmed presence of bat roosts, Cambrian Ecology were commissioned to supervise the works. Supervision was undertaken by Sam Dyer, and involved re-inspecting all roof voids. With the use of a scaffold tower, full access was gained to void 4 and head and shoulders access was gained to void 5.

During the surveys, all crevices and other likely roosting areas were methodically searched for signs of bat occupation, such as droppings, feeding remains and marks on timbers from oils in the animal's fur. A Ridgid CA300 USB endoscope was used to investigate any accessible cracks or crevices within the stonework or behind exterior timbers. A High powered LED torch was used to examine gaps behind fascias and barge boarding, and search for signs of bat occupation within the roof void.

3.2 Other Ecological Issues

In accordance with the guidelines from CIEEM, the presence of any other protected or invasive species was also recorded. In particular, this building was searched for signs of breeding birds, including droppings and old nests.

4. Site Description.

4.1 Building

The site surveyed is currently utilised as a primary school. The main school building is in a good state of repair overall, it contains 6 separate roof voids (see section 11.1), with voids 1, 2, 3 and 5 interconnecting allowing bats to pass between them, but not humans. The others two are separate roof voids. On the initial survey (21st February) voids 4 and 5 could not be accessed as suspended ceilings were fitted below the true, high ceilings, making access via ladder impossible where upper roof hatches were not located against a wall. Voids 4 and 5 were accessed on the 10th April using scaffold towers. Slating is in a good state of repair. There are two cellars within the building, one utilised for storage and the second a redundant boiler room.

The second building on site is the canteen, which is a concrete prefabricated building, it is well maintained but of low potential to bats due to construction materials. The kitchen had a suspended ceiling forming an inaccessible roof void.

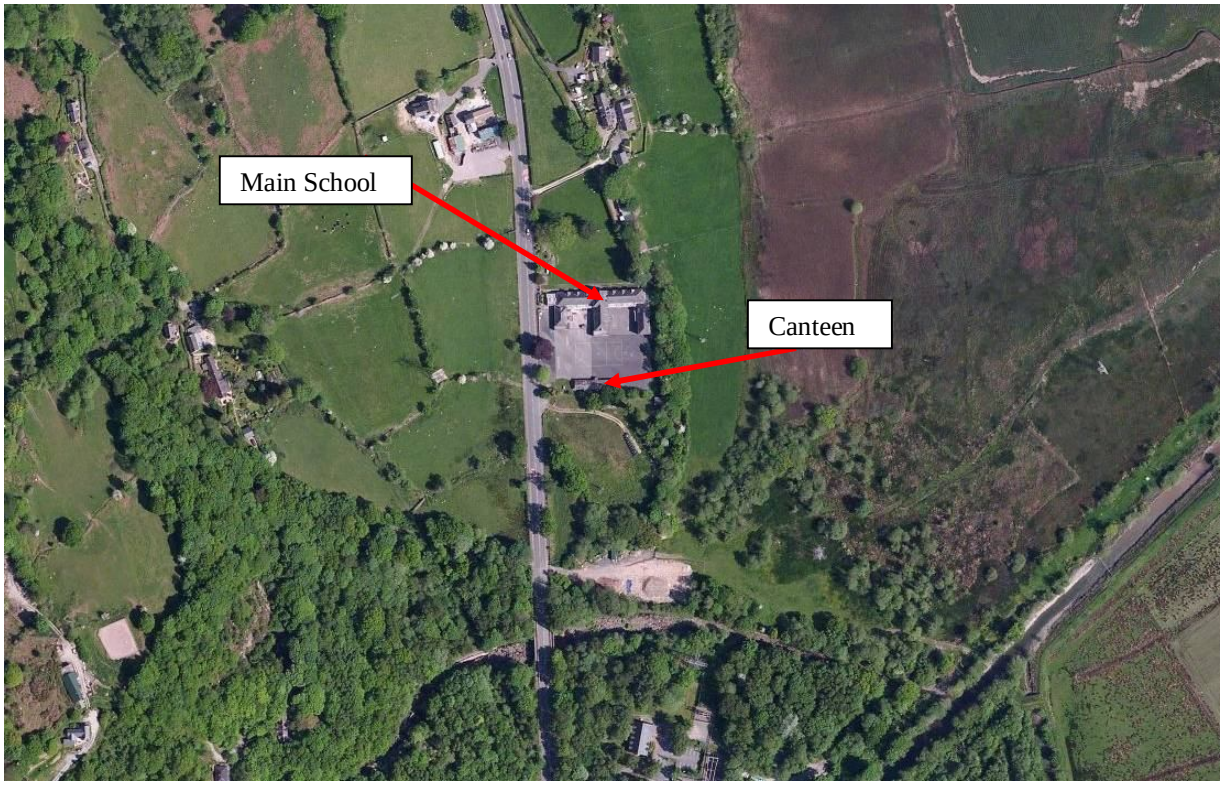
Building/Construction Detail:

Walls	The main school walls were brick where visible. Pebble dashed externally and plastered internally. External wall tops well sealed, virtually no gaps observed. Overall there was no bat roosting potential within the walls. The canteen walls were pre-cast concrete walls with no bat roosting potential.
Roof	All pitched roof sections are slate clad. Slate is clad with lime torching which is in good condition. Roofs are supported with wooded rafters, purlins and trusses, creating large roof voids. Slating is in good condition and relatively few potential bat access points were visible as a result. Minor gaps were noted under occasional ridge tiles, around overflow pipe exits, over dormer window gables on the north side and where dormer roofs join the main roof. Porches giving access into quads had slate clad roofs and the edges were not sealed giving potential crevice roosting locations. Flat roof sections were well sealed and contained no roosting potential.

	The canteen roof was clad with corrugated cement sheeting, supported by concrete trusses. There is a separate roof void which was inaccessible over the kitchen section; however the roof was of low potential overall.
Doors / Windows	Fitted and functional in all sections.
Light Levels	All accessible roof voids have low light levels.
Airflow	All accessible roof voids have low airflow levels.
Rain Water Goods	Present, fitted and functional.

4.2 Habitat

Ysgol Dolgarrog is situated within the Conwy Valley. This is an area well known for its bat diversity and large populations. It is a wide river valley, with broadleaf wooded sides and well connected pasture and reed beds in its central flood planes. The school is located on the western side of the valley bottom, and is connected via wide tree belts to the Coed Dolgarrog NNR to the west, and to a large reed bed to the east. In other directions small improved grassland fields are divided by hedgerows. The Afon Conwy is located 500m to the east. The habitat offers excellent foraging opportunities for a range of bat species, with excellent connectivity to the wider area.



Aerial photograph of Ysgol Dolgarrog and surrounding habitat

5 Results

5.1 Bats

During the initial survey on the 21st February 2017, droppings, showing the characteristics of brown long-eared or Natterer's bat (suspected to be brown long-eared but droppings from the two species are easily confused), were found within roof voids 1, 2 and 3. These droppings were scattered throughout the voids, but also found in large accumulations, particularly below the ridge. Numbers of droppings were in the hundreds of thousands and showed a wide age range including droppings from 2016. The roof voids are clearly utilised by a significantly sized maternity roost. During the survey on the 10th April a single brown long-eared bat was located in void 3 confirming that the roost is highly likely to be of brown long-eared bats rather than Natterer's, and void 5 showed equal levels of usage by the brown long-eared bats as was in voids 1, 2 and 3. A lower level of usage was also recorded within void 4. There was no obvious access point into the voids for the bats, a number of minor crevices with potential to be the access point were identified, but patterns in dropping locations or staining did not clearly indicate a favoured access point. The same was true in roof void 6 where a small accumulation of approximately 200 droppings consistent with those produced by pipistrelle species or small *Myotis* species bats were located.

Generally the potential for additional individual crevice dwelling species is low-medium due to the lack of wall crevices and the good state of repair of the roof, the main exception to this may prove to be the porch roofs.

The cellars were either well sealed, or in the case of the old boiler room, cool and dry, with low potential for either hibernation or summer usage in the future.

The canteen showed no evidence of bat usage, either past or current. Overall its potential to support roosting bats was assessed as low-medium for single male or non-breeding female, crevice dwelling bats.

Due to the clear presence of droppings in the roof voids and potential roosting opportunities on the site, a suite of emergence surveys along with repeat internal checks will be needed to accurately assess the impact of the proposed works. The emergence surveys should be conducted during the recognised bat survey season between 1st May and 30th September in appropriate environmental conditions. A minimum of eight surveyors will be required to adequately cover all elevations and potential exit points for bats. Surveys will be designed to confirm species, numbers, access points and commuting routes. It is likely that at least two surveys will be required, however this will be confirmed following the first emergence survey.

5.2 Other Ecological Issues

There were a number of house martin (*Delichon urbicum*) nests recorded under the eaves of the most easterly section of the main school building.

There was no evidence of any invasive non-native species on site.

6 Survey Limitations.

It was not possible to access roof voids 4 and 5, or the kitchen roof void during the survey on the 21st February. Full access was gained to void 4 and a head and shoulders inspection was possible of void 5 on the 10th April.

Bats are highly mobile animals and some species move roosts on a regular basis. It is often possible to find signs of bat occupation outside of the time that they are resident, in the form of droppings and feeding remains, however, these dissipate over a period ranging from a few days to several months. It is not always possible to get an accurate picture of the status of roosts or species while animals are absent. Many species are crevice-dwelling and signs may be impossible to find during surveys outside of the recognised flight period.

7 Ecological Impacts

If the proposed demolition works to this property go ahead with no mitigation or compensation work for bats, the potential impacts are:

- Destruction and permanent loss of a significant maternity roost for bats
- Possible killing or injury to bats

From the results of this preliminary survey, it is judged that at least two species of bats are present within the roof voids and individuals may be present on occasion within exterior features.

8 Conclusions

8.1 Bats

It is concluded that the school building proposed for demolition currently supports bat roosts of significance for at least two species of bats, including maternity roost usage and possibly, on occasion, for further crevice dwelling species within exterior features. The significant numbers of droppings recorded with roof voids 1, 2, 3, 4 and 5, along with the presence of a single brown long-eared on the 10th April 2017 strongly indicate the presence of a maternity roost of brown long-eared bats. There is no obvious single entry point for the animals to the roof voids. There is no potential within the walls of the main school due to pebble dash coating on all elevations.

The canteen contained no evidence of bat usage, either past or current. Overall its potential to support roosting bats was assessed as low-medium for single male or non-breeding female, crevice dwelling bats.

If the demolition works were to be undertaken with no mitigation or compensation, an offence would be committed though roost destruction and disturbance of bats. An EPS license from Natural Resources Wales will be required to allow the works to proceed. In order to gather robust enough data to support this application, full emergence surveys will need to be carried out during the recognised bat flight period.

8.2 Other Ecological Issues

House martins were found to be nesting under the eaves of the main school building. Nesting birds cannot be disturbed during the nesting season and mitigation should be factored into the new school design.

9 Mitigation & Recommendations

9.1 Bats

Due to the presence of bat droppings within the roof voids and roosting potential present on the building, at least two emergence surveys will be needed to accurately assess the impact of the proposed demolition and gather data to support the necessary license application to Natural Resources Wales. The emergence surveys should be conducted during the recognised bat survey season between 1st May and 30th September, in appropriate environmental conditions. A minimum of eight surveyors will be required to adequately cover all potential emergence points and elevations.

It must be remembered that bats are protected under both UK and European legislation and a European Protected Species development license will need to be obtained from Natural Resources Wales, before the works can proceed. Mitigation for the demolition and loss of the bat roosts will be required as part of this process and a strategy for this must be developed with the client.

9.2 Other Ecological Issues

Eaves suitable for house martin nesting usage should be factored into the design of the new school. Nesting birds cannot be disturbed during the nesting season.

10 Legal Implications

10.1 Bats

Bats are protected under UK law by the Wildlife and Countryside Act 1981 (as amended) and also under European law by the Habitat and Species Regulations 2010. Under these laws it is an offence to deliberately kill or injure a bat, to disturb a bat or to damage, destroy or block access to a roost. Bat roosts are protected under these laws whether the animals are present at the time of survey or not. Natural Resources Wales are empowered to issue licences to carry out work to bat roosts for reasons of overriding public interest.

10.2 Nesting Birds

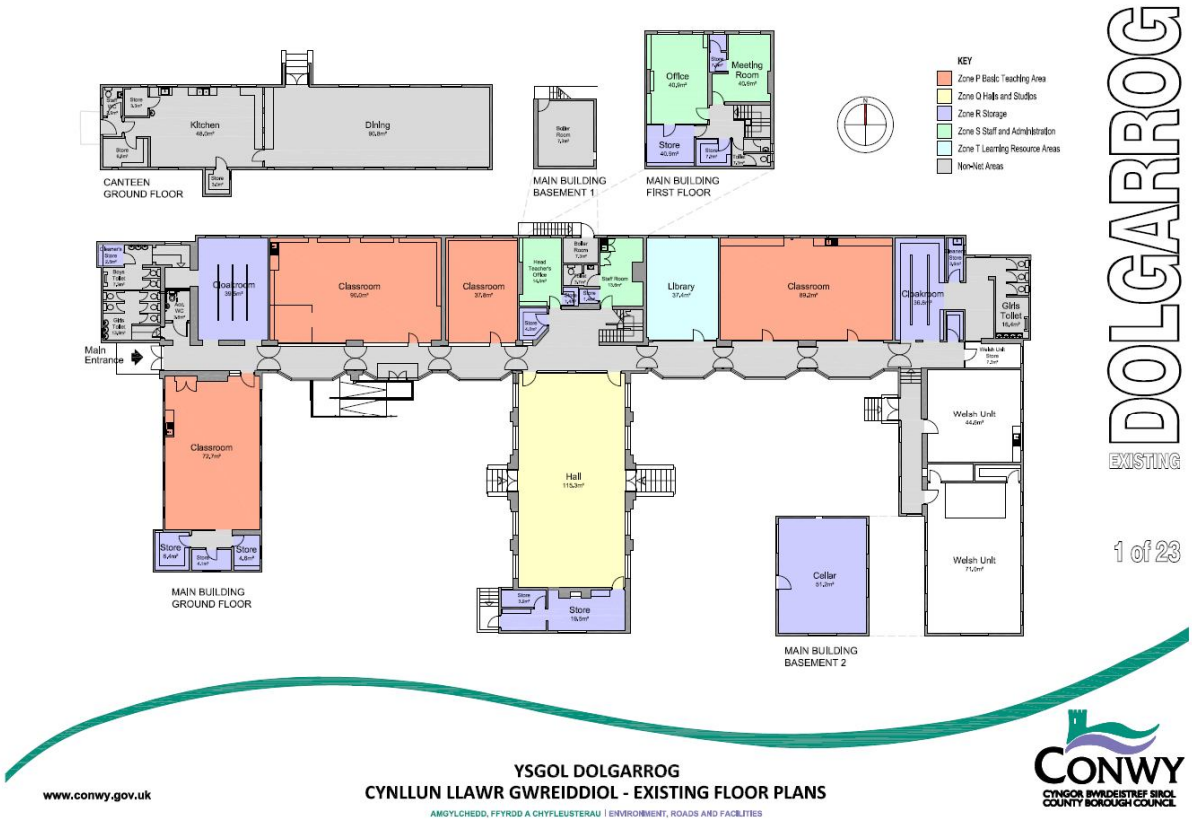
Under the Wildlife and Countryside Act 1981, all nesting birds and their nests are protected. Once a bird places a single piece of material then it constitutes a nest. It is then an offence to cause damage to the bird, nest, eggs or chicks and immediate habitat which is likely to result in damage by causing the bird to desert its nest. This

covers all bird species, with a small number of exceptions (pest species which can be controlled by special license.

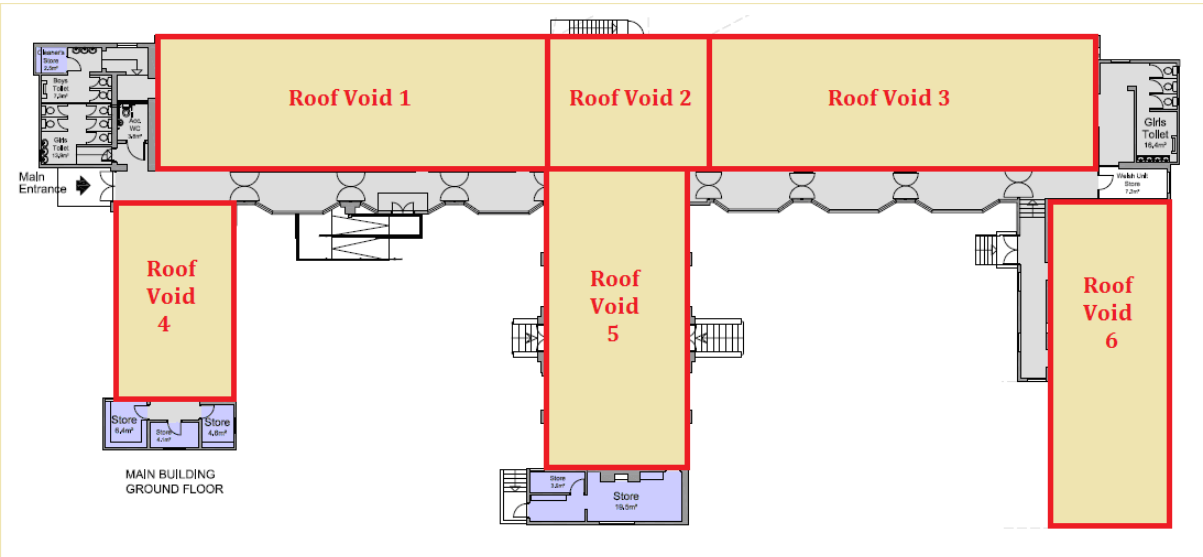
In 2000, the Countryside and Rights of Way Act (CROW Act) was made law, strengthening the legal protection for many species and introducing a 'reckless disturbance' offence.

11 Appendix

11.1 Building Plans



Plan of builings



Plan of Roof Voids

11.2 Photos of the building

West Elevation

South Elevation

South Elevation

South Elevation

East Elevation

North Elevation

North Elevation

Well sealed wall tops, exposed rafter end roof design

Internal view of roof void 1

Internal view of roof void 1

Significant quantities of bat droppings consistent with those produced by brown long-eared bats throughout roof voids 1, 2, 3 and 5.

Significant quantities of bat droppings consistent with those produced by brown long-eared bats throughout roof voids 1, 2, 3 and 5.

Small quantity of bat droppings consistent with those produced by pipistrelle or small Myotis bats within roof void 6.

Canteen, North elevation.

Internal view of roof void 5

Significant quantities of bat droppings consistent with those produced by brown long-eared bats throughout roof void 5.

Significant quantities of bat droppings consistent with those produced by brown long-eared bats throughout roof void 5.

Internal view of roof void 4

Quantities of bat droppings consistent with those produced by brown long-eared bats throughout roof void 4.

11.2 Biological Records

House martin nests on main school builing.

Bat Species to be confirmed via activity surveys

11.3 Report Review

Report Written	Sam Dyer	11th April 2017
Report Review	Kate Williamson	12th April 2017