



## LLYS ANWYL

# PRELIMINARY BAT ROOST ASSESSMENT, PRELIMINARY ECOLOGICAL APPRAISAL AND BAT EMERGENCE SURVEY

DATE	ECOLOGIST	APPROVED	VERSION	COMMENTS
11/05/2020	Peter Kneen	Keymar Wake	V1	Original

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Executive Summary

Site	Llys Anwyl, Rhyl, LL18 3NB (SJ 01329 81783)
Surveyors	Peter Kneen
Proposed work	Redevelopment of the building and carpark from offices in to residential property; including demolishing the two storey extension to the rear of the property.
Building/structures affected	Council office building and associated parking.
Type of survey	Preliminary Roost Survey (PRA) and ecological constraints survey (16.05.19), Dusk Emergence (20/05/2020))
Results of surveys	<ul style="list-style-type: none"> <li>• An internal inspection revealed no evidence of bats however there are some missing ridge tiles and light showing at the eaves within the loft space.</li> <li>• No protected species were observed during the survey.</li> <li>• No Invasive species were observed during the survey.</li> <li>• No bats emerged from the building during the nocturnal survey.</li> </ul>
Survey conclusions	<ul style="list-style-type: none"> <li>• The main building has <b>low</b> potential for roosting bats.</li> <li>• It is unlikely that the loss of habitats onsite will cause significant detriment to the ecology locally.</li> <li>• Slight loss of a nesting and foraging bird habitat.</li> </ul>
RAMs and Mitigation	<ul style="list-style-type: none"> <li>• The demolition works should be undertaken outside the nesting bird season or immediately following a nesting bird check by a suitably qualified ecologist.</li> <li>• Two inbuilt bat boxes should be installed as part of the final development.</li> <li>• Bird boxes should be included in the final design. At least two Swift boxes mounted approx. 5m height on the new building, and             <ul style="list-style-type: none"> <li>• for smaller birds (25mm), or</li> <li>• 45mm opening (starling box)</li> <li>• An open fronted box (for robins, etc) could also be used, but this should be placed in cover such as ivy on trees. Boxes should be mounted in trees using non-harmful nails (non-rusting – ideally aluminium), and face north/northeast.</li> </ul> </li> <li>• Planting in the final scheme should be native flowering species with the aim to provide flowers throughout the summer.</li> </ul>

### 1.0 Introduction

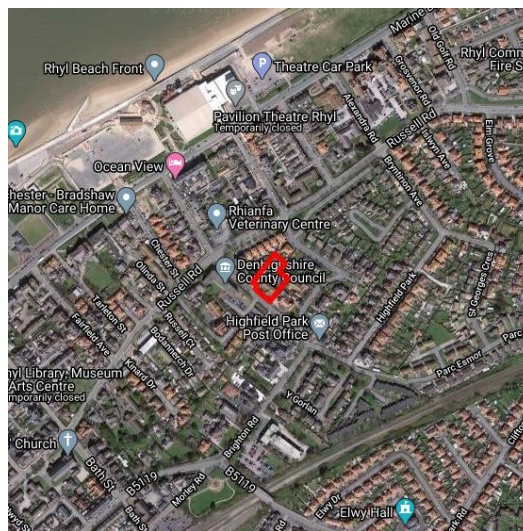
- 1.1 Enfys Ecology Limited were commissioned to undertake a Preliminary Bat Roost Assessment (PRA) and Preliminary Ecological Appraisal (PEA) survey of a council building in Rhyl which, it is proposed, will be renovated and turned in to residential accommodation. The proposed development will require significant internal alterations as well as the demolition of the two storey rear extension. An emergence survey was carried out based on the PRA results.
- 1.2 The purpose of the survey was to gain baseline ecological data on the species and habitats present on the site, identify any potential ecological constraints to potential development arising from the site or surrounding area, and recommend suitable general mitigation and/or compensation strategies for these issues, as appropriate.
- 1.3 The survey work to inform this report was carried out on 11th May 2020 and 20th May 2020. Habitats and species found within a discrete area of land are obviously subject to change; this report should therefore be considered valid for a period of two years (from May 2020) in accordance with best practice.
- 1.4 All British bats (and roost sites) are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended). In addition, all bats are classified as European Protected species by The Conservation of Habitats and Species Regulations 2017 (as amended). Under this legislation, it is an offence to kill, injure, or disturb a bat, or to destroy any place used as a shelter by bats.

### 2.0 Site description

- 2.1 The site is comprised of a large council office building with two storey extension to the rear and associated car parking; within the carpark is a small open fronted shed. The main building is a three storey office with multiple pitches in the roof. The majority of the surrounding ground within the site is hard standing; however, there is a small strip of amenity grassland to the front of the building with some ornamental planting. The approximate grid reference of the site is SJ 01329 81783 (Figure 2.1). There is a small open sided bike shed to the rear of the property.
- 2.2 The site is located in the centre of Rhyl. The general surroundings of the property of the site are residential properties and office buildings with limited green space and linear features though there are some scattered mature trees in gardens and more immature trees on the streets. Approx. 400m to the north of the site, separated from the site by buildings and main roads, is the north wales coast line. The site itself is bounded by low walls and hedges.
- 2.3 There is one statutory designated site within 1km of the proposed development site which is the Liverpool Bay Special Protection Area (SPA) approximately 700m to the north of the site.



**FIGURE 2.1 THE SURVEYED SITE IS SHOWN OUTLINED IN RED. IMAGE © GOOGLE 2019**



**FIGURE 2.2 THE SURROUNDING AREA OF THE SITE. IMAGE © GOOGLE 2019**

### 3.0 Methodology

#### 3.1 Preliminary Bat Roost Assessment (PRA)

The building was assessed for any signs of bats; these include droppings, feeding remains, and other indicative marks, plus features of potential use to bats such as crevices, cracks and other holes, and any potential access points into the building. 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.

The building inspection was carried out by ecologist Peter Kneen (accredited agent under licence number S087393/1) and assistant Ashley Payne. Building and potential roost assessments were carried out following the guidelines set by the Bat Conservation Trust Good Practice Guidelines (Collins, 2016). Photographic evidence was taken where necessary.

#### 3.2 Desk study

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

#### 3.3 Extended Phase 1 Habitat Survey

A survey was conducted by two experienced ecologists walking over the site and (where access permitted) immediately adjacent areas. All habitat types on site were visited. Notes were taken on the habitat types present, and their suitability for protected species, and target notes were used to record any habitats or features of particular note, following the standard methodology (JNCC 2010). A list of floral species was recorded.

A search for evidence of protected species was carried out, including amphibians (including great crested newt (*Triturus cristatus*)), bats, and water vole. Evidence of badgers (*Meles meles*) including setts, dung pits, hairs, footprints, and scratching posts or trees was searched for. Trees with suitable features for roosting bats, including knot holes and other crevices, hollow trunks and dense ivy coverage were identified.

The extended phase 1 habitat survey of the site was conducted on the 12<sup>th</sup> May 2020 by Peter Kneen, a suitably experienced professional ecologist. Conditions were dry and overcast.

The results of this survey consist only of those species encountered during a short space of time on one day; during the survey. Species that use the site infrequently or at different times of the year may not be recorded, and the absence of species from the results of a single survey should not be taken as indicating the species definite absence from the area in question. 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.

### 3.4 *Report and Terminology*

For the purposes of this report, the terms 'site' and 'survey area' refer to the area surveyed on the ground by the ecologist at the client's request, which usually includes the entire area which is subject to the proposed development. 'Search area' is used to refer to the wider 1km radius from which records were sought for the desk study. Where used, 'development area' refers to the area of land directly impacted by the proposed development.

English species names are generally used in the text, Latin names generally being given after the first appearance of a species in the report, however these may be repeated where useful for clarity. English names are also used for plant species in the habitat descriptions, but all Latin names are provided in the species list in the Appendices.

### 3.4 *Limitations*


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



4.0 Results

4.1 Preliminary Roost Assessment

Table 4.1 – Building Inspection - Internal

Building Feature	Description	Photos
Two Storey Extension at the rear	The internal roof inspection showed the roof void of the extension was felt lines with two open vents in the ceiling. There are several gaps where light enters the roof space at the eaves. The height of the space is approx. 3.5m, length 14m and width 14m. No droppings or evidence of bats within the loft space was found.	 A photograph showing the internal structure of a roof void. The image captures a network of wooden rafters and beams. A window is visible on the right side, allowing natural light to enter the space. The overall appearance is that of a well-ventilated but empty loft area.



**Llys Anwyl – Preliminary Roost Assessment and Preliminary Ecological Appraisal**

Roof Void in Main Building

The roof void in the main building appears well sealed with felted underside of the roof and no visible gaps. The roof height was approximately 3m at the apex, length 20m and the width 11m. No droppings or evidence of bats within the loft space was found.



**Llys Anwyl – Preliminary Roost Assessment and Preliminary Ecological Appraisal**


Internal rooms

The rooms were used for office space with suspended ceilings. They were well lit with multiple well sealed windows in the walls. No visible gaps in the walls or in to the loft spaces above.



Llys Anwyl – Preliminary Roost Assessment and Preliminary Ecological Appraisal

Table 4.2 – Building Inspection - External

Building Feature	Description	Photos
<b>Roof of the extension</b>	The roof is pitched with concrete tiles. The roof appears to be in good condition with tight flashing between the extension and the main part of the building. The gaps observed in the eaves are not obvious from the outside.	


**Llys Anwyl – Preliminary Roost Assessment and Preliminary Ecological Appraisal**

**Roof of the main building**

The roof of the main building is pitched with concrete tiles. There are some missing ridge tiles on the north eastern and south eastern hips. There is missing mortar beneath these tiles and further evidence of slipped tiles further up the roof.




**Llys Anwyl – Preliminary Roost Assessment and Preliminary Ecological Appraisal**

<p><b>Walls of the main building</b></p>	<p>There are several vents on the walls of the main building which provide ventilation within. It is not clear whether or not the vents have an internal mesh covering.</p>		
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## Llys Anwyl – Preliminary Roost Assessment and Preliminary Ecological Appraisal

<p><b>Bike shed</b></p>	<p>The small open sided bike shed is to the rear of the main building adjacent to the hedge on the southern boundary. The structure is breeze block built and has ivy growing on the external faces.</p>	
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### 4.2 Emergence Survey

4.2.1 Table 4.3 provides details of the emergence survey with timings and weather conditions.

**TABLE 4.3 – SUMMARY OF SURVEY DETAILS**

Survey	Date	Start time	Sunset / sunrise time	End time	Temp. at start	Weather
Dusk Emergence	20/05/2020	20:44	21:14	22:46	18°C	10% cloud cover, light breeze, dry.

- 5.4.2 The first bat to be recorded was at 20:51, a soprano pipistrelle flying the south to the north over the trees. Common and soprano pipistrelles were then recorded commuting and foraging over the site infrequently throughout the survey.
- 5.4.3 No other species of bat were heard and no bats were seen emerging from the building or the trees at any time during the survey.



### 4.3 *Phase 1 Habitat Survey - Habitat Types*

4.3.1 The following phase 1 habitat and feature types were recorded within and adjacent to the site.

- Buildings (0.05Ha);
- Improved grassland (0.01Ha);
- Hard standing (0.01Ha);
- Species Poor Hedgerow (0.03Ha); and
- Trees.

4.3.2 A phase 1 habitat map of the site is provided in Figure 4.1. A description of the habitats including some species information from the map are provided below. Photographs of the site are included with the text.

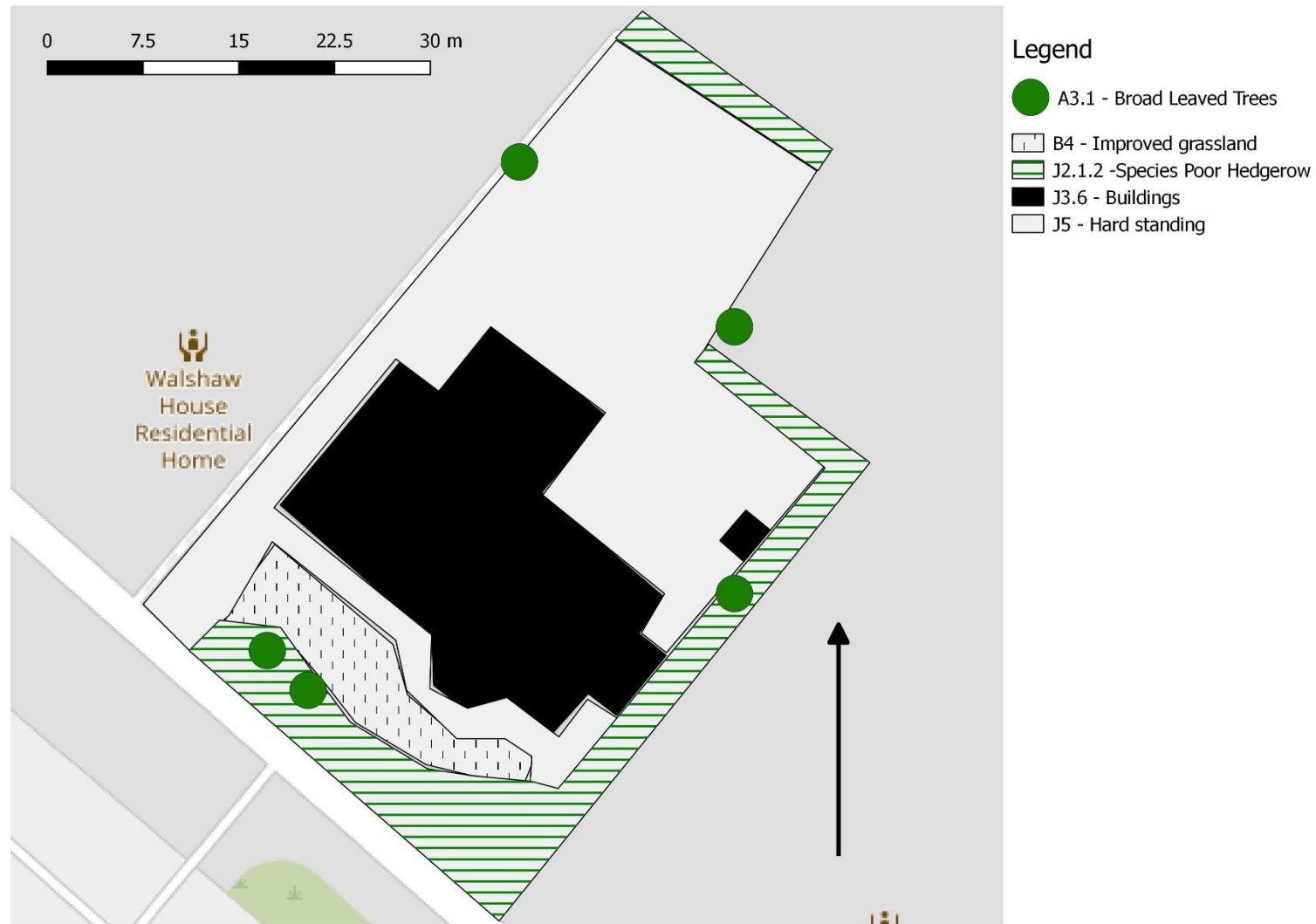


FIGURE 4.2. PHASE 1 HABITAT MAP OF THE SURVEY AREA. DESCRIPTIONS OF THE HABITATS FOLLOW IN THE SUBSEQUENT SECTIONS.

### 4.4 *Habitat Descriptions*

- 4.4.1 The main building onsite is a three-storey red brick structure with tiled roof. There is a two storey extension to the rear of the property. The windows are double glazed with wooden frames.
- 4.4.2 In the west of the site, in front of the main building, there is a small area of improved grassland (lawn). The lawn is bordered to the west by an ornamental hedge with a tree (*Acer sp.*) and to the east by the building. At the time of survey, the lawn appeared to be managed by regular mowing. Species present included buttercup (*Ranunculus sp.*), daisy (*Bellis perennis*), suspected perennial rye grass (*Lolium perrene*) and ivy (*Hedera sp.*). Photo 4.1.



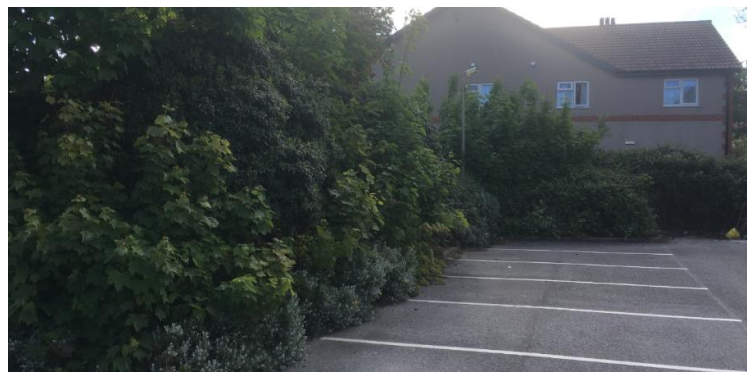
**PHOTO 4.1 IMPROVED GRASSLAND IN THE WEST OF THE SITE**

- 4.4.3 To the east of the main building there is a large area of hard standing, currently used as car parking and is not considered to have any ecological value. (Photo. 4.2).



**PHOTO 4.2 HARD STANDING TO THE REAR OF THE MAIN BUILDING**

4.4.4 There are two intact hedgerows which make up the eastern boundary of the site (Photo 4.3 and 4.4). This hedge is dominated by laurel (*Laurus sp.*) and sycamore (*Acer pseudoplatanus*). On the southern boundary, there is a wall where the same hedgerow continues, and there is a large sycamore tree within it. The hedgerows are not connected to other linear features outside the site but provide good habitat for birds within the site.



**PHOTO 4.3 AND 4.4 EASTERN BOUNDARY HEDGES**

4.4.5 There were a number of mature sycamore trees around the perimeter of the site,. On the western boundary, there is a mature sycamore within the hedgerow; another on the northern boundary within the car park which is not connected to any further vegetation (Photo 4.5); and there are further trees within the south and eastern boundary hedgerows.



(Photo 4.6). The trees were assessed for roosting bat potential. No roosting features were identified from the ground although there is some ivy growth on the mature tree in the west of the site and in the south. It is considered however that the ivy is too dense for bats to access any features which may lie behind it.



**PHOTO 4.5 AND 4.6 MATURE TREES**

### 4.5 *Protected Species*

- 4.5.1 A data search for the area has been undertaken through COFNOD. There were records of several bat species as well as common lizard within 500m of the site. No water bodies were present on site and none were returned in the data search. The site has poor connectivity with the wider landscape and poor quality foraging and resting habitat for other protected species such as great crested newts and badgers.

### 5.0 Discussion

#### 5.1 Preliminary Roost Assessment

- 5.1.1 An internal inspection of the building showed that there were light gaps showing from around the eaves in the two storey extension as well as two open vents in the roof. The main building roof appeared to be sealed from within. The windows appeared tightly sealed.
- 5.1.2 The external assessment of the building identified several missing tiles with missing mortar which provided small gaps that could be utilised by bats. Therefore the building was assessed as having **low** bat roost potential.
- 5.1.3 The small bike shed was considered to have **negligable** roosting potential as it was open sided and light throughout the day with no crevices considered to be suitable for bats.

#### 5.4 Nocturnal Emergence Survey

- 5.4.1 A nocturnal bat emergence survey was conducted and no bats were observed utilising the building as a roost. There were however, common pipistrelle bats commuting and foraging over the trees on the site. . As the proposed works will not be causing disturbance or destruction to a known bat roost, no further survey work and **no licence will be required** to carry out the works on this building. However, due to the suitable surrounding habitat and the limited bat activity on the site, mitigation for the loss of roosting areas will in the form of bat boxes.

#### 5.5 *Habitats*

- 5.5.1 No rare, semi-rare or notable habitats were present within the surveyed area, and no habitats are considered to be Habitats of Principal Biological Importance on Section 7 of the Environment (Wales) Act, 2016, important habitats based on the guidelines from the Institute of Ecology and Environmental Management (IEEM 2006) or Priority Habitats on the former national biodiversity Action Plan (UK BAP 2007) or local Biodiversity Action Plan (BAP). Most of the ecological interest on this site are the scattered trees and hedgerows, and the animal species that would use them.

#### 5.6 Ecological Constraints

- 5.6.1 During the survey there were several herring gulls around the building and on the roof. However there was no evidence for birds nesting within or ontop of the building itself. No nesting birds were observed within the trees or hedgerows during either site visits.
- 5.6.2 The data search returned results for common lizard within 1km of the site, however the site has extremely low suitability for reptile foraging or shelter.

5.6.3 No invasive species were observed within the site and none were identified by the data search within the site. The closest record of an invasive non-native species was Japanese knotweed approximately 1km to the south east of the site.



### 6.0 Conclusions

- 6.1 The proposed works involve the demolition of the extension to the rear and the redevelopment of the main building. A small amount of vegetation within the site will be lost as part of the works and the redevelopment will have associated landscaping built in to the final design.
- 6.2 An internal inspection was undertaken and a nocturnal emergence survey carried out. No bats were observed using the building as a roost and no evidence of bats within the loft space was found. It is therefore considered unlikely that there are any bats present within the building. However as bats are a mobile species, there is a possibility that they could move into the building therefore Reasonable Avoidance Measures are detailed below. The removal of the bike shed is not considered to be ecologically significant.
- 6.3 The vegetation on site is considered to be of relatively low ecological value as there is little connectivity with the wider landscape, no notable vegetative species and no invasive species. It is not known whether or not all the trees onsite are to be retained. If possible, the trees should be utilised and incorporated within the design.
- 6.5 At the time of the survey no bird nests or evidence of birds nesting around the site was observed. It is considered however that there will be a small loss and disturbance of bird nesting habitat which must be mitigated for in the final development.
- 6.6 There was no evidence of other protected species found onsite nor returned from the data search. No further survey or mitigation is required for badgers, reptiles, or amphibians; however, Reasonable Avoidance Measures (RAMs) and good working practise should be employed at all times to protect any species that may visit the site during the works.

### 7.0 Reasonable Avoidance Measures (RAMs) and Mitigation

- 7.1 Two inbuilt bat boxes should be included in the final design as mitigation for the loss of roosting areas with the demolition of the extension. Examples of built in bat boxes can be found [here](#).
- 7.2 To reduce the potential impact of any light spillage on commuting bats during the construction and post construction phases of the development, lighting design for the site (both during the works and of the completed building) should seek to minimise the levels of light along any areas used by bats, i.e. the area around the buildings and the northern and western site boundaries. The following recommendations should be used when forming the lighting plan for the proposed development (Bat Conservation Trust (2009) and Stone, E.L. (2013)):

#### *General Lighting Guidance*

- There must be no lights focused on individual trees or the hedgerows along the boundaries of the site
- Lights along pathways should be placed as far apart as possible to minimise the illuminated area, this lighting should be baffled in order to prevent light going upwards.
- The times during which the lighting is on should be limited to provide some dark periods during the night. Ideally the lighting should be motion activated in order to provide maximum darkness when not needed as well as providing safe lighting conditions of pedestrians when required.

The following luminaire specifications are provided by Bat Conservation Trust and Institute of Lighting Professionals (2018) and must be incorporated into the lighting plan for the proposed development.

- 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.

- Internal luminaires can be recessed 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 the 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.
- Luminaires should always be mounted on the horizontal, ie 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.

7.4 A small amount of vegetation on site will be lost. The loss of this vegetation is not considered to be significant as the species were not of high ecological value. However, this will mean the loss of bird nesting and general foraging habitat for various animals and therefore the final planting scheme should be made up entirely of native species. Plants should be chosen which flower/fruit at various times of the year to mitigate for the loss of the other vegetation.

7.5 Any vegetation clearance should be undertaken outside the nesting bird season March-September (inclusive). If this is not possible, then a nesting bird check should be undertaken by a suitably qualified ecologist a maximum of 48 hours prior to clearance works.

7.6 In order to enhance the site for birds, and mitigate for the loss of nesting habitat, at least ten bird boxes will be provided within the site as part of the construction works. Ideally, boxes would be integrated or erected onto the building, however if this is not possible then these should be securely mounted in trees. Boxes should include:

- At least two Swift boxes mounted approx. 5m height on the new building, and
- for smaller birds (25mm), or
- 45mm opening (starling box)
- An open fronted box (for robins, etc) could also be used, but this should be placed in cover such as ivy on trees. Boxes should be mounted in trees using non-harmful nails (non-rusting – ideally aluminium), and face north/northeast.

### 7.7 During all works

In order to protect general wildlife on the site the following measures should be implemented at **all times** during the works:

- The times during which the lighting is on should be limited to provide some dark periods during the night.
- If at any point during the works an active bird's nest is encountered, works must stop in the vicinity of the nest until all chicks have fledged.
- Any common amphibians encountered during works should be left undisturbed unless in immediate danger. If active however, they should be moved well away from the working area by site staff **wearing gloves**.
- Should great crested newts be discovered at any point during the vegetation clearance, the works should stop immediately, a GCN licenced ecologist should be called to advise.
- To avoid creating refugia which may attract amphibians, reptiles or small mammals to the construction zone, any materials from the demolition should be stored in skips or off the ground,. No piles must be left overnight.
- No trenches will be left open overnight. Trenches must be thoroughly inspected for animals by site operatives prior to back filling.
- 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, a log of the inspections must be kept.

### 8.0 Legislation

#### 8.1 *Bats*

The Wildlife and Countryside Act (WCA) 1981 (as amended) forms the key legislation protecting habitats and species in the UK. All UK bat species are fully protected under the 1981 Act through inclusion on Schedule 5. All bats are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations (2017) which transcribes the EC Habitats Directive into UK law. In combination, this legislation makes it an offence to:

- Deliberately or recklessly take, injure or kill a bat;
- Deliberately or recklessly damage or destroy a place or structure used by bats for shelter or protection;
- Deliberately or recklessly obstruct access to a bat roost; or
- Deliberately or recklessly disturb bats while occupying a roost.

Bat roosts are protected under these laws whether the animals are present at the time of survey or not. Under both laws the Welsh Government and D.E.F.R.A. are empowered to issue licences to carry out work to bat roosts for reasons of overriding public interest. It is not illegal to tend to a disabled bat pending recovery.

In addition, under the Wildlife and Countryside Act all birds, their nests and eggs are protected during the breeding season (typically March to August inclusive) from killing/destruction, damage and disturbance.

#### 8.2 *Great Crested Newts*

Great crested newts are a European protected species. The animals and their eggs, breeding sites and resting places are protected by law.

It is illegal to (without proper license):

- Capture, kill, disturb or injure great crested newts deliberately;
- Damage or destroy a breeding or resting place;
- Obstruct access to their resting or sheltering places (deliberately or by not taking enough care);
- Possess, sell, control or transport live or dead newts, or parts of them; and
- Take great crested newt eggs.

You could get an unlimited fine and up to 6 months in prison for each offence if you're found guilty.

#### 8.3 *Birds*

Under the Wildlife and Countryside Act, 1981 (as amended) and the Countryside and Rights of Way, 2000, all wild birds, their nests and eggs are protected during the breeding season (typically March to August inclusive). This makes it an offence to:

- Intentionally kill, injury or take any wild bird.
- Take, damage or destroy the nest of a wild bird included in Schedule ZA1.
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built.
- Take or destroy an egg of any wild bird.

### 9.0 References and Useful Information Sources

Bat Conservation Trust (2018) Bats and artificial lighting in the UK- bats and the built environment series [www.bats.org.uk](http://www.bats.org.uk)

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

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