



MAES EMLYN, RHL:

PRELIMINARY ECOLOGICAL APPRAISAL AND PRELIMINARY ROOST ASSESSMENT

	ECOLOGIST	APPROVED	VERSION	COMMENTS
03/03/2023	Ashley Payne	Keymar Wake	V1	

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Executive Summary

Site	Maes Emlyn, Rhyl, LL18 3SF	OS Grid Reference:	SJ0147981605
Surveyor(s)	Ashley Payne and Jane Kingsley	Survey Date:	25/01/2023
Type of Survey	Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA)		
Summary of Proposed work	Phased demolition of the existing buildings (2 phases) with new 1-3 bed apartments replacing existing buildings. Landscaping with new tree planting, existing trees and amenity grassland areas largely being retained.		
Habitats affected	Buildings, hardstanding and amenity grassland,		
Designated sites affected	There were no designated sites within 1km of the survey area.		
Main results of survey	<p>Phase 1 habitats within the survey area included amenity grassland, buildings, hardstanding, mixed parkland and scattered trees.</p> <p>The habitats within the the site had varying levels of potential for protected species including amphibians, reptiles, bats and nesting birds. PRA's were carried out on the buildings for bats, which had low-negligible suitability.</p> <p>Montbretia and cotoneaster sp. were present onsite.</p>		
Survey conclusions	<p>The proposed works will not impact any of the surrounding habitats.</p> <p>If reasonable avoidance measures are followed, there will be no disturbance to protected species, during and after the works.</p>		
Further Surveys Required	Pre-works checks of buildings due for demolition for bats and any works within nesting bird season will require nesting bird checks before works can commence.		
Reasonable Avoidance Measures	Reasonable avoidance measures have been recommended for bats; reptiles and amphibians; badgers, otters and nesting birds. These include lighting recommendations; pre-works checks and general measures if animals are found within the works area.		

1.0 Introduction

- 1.1 Enfys Ecology Limited were commissioned by Denbighshire County Council to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of Maes Emlyn sheltered housing in Rhyl.
- 1.2 The area surveyed is centred on the approximate OS grid reference SJ0147981605. The site primarily comprised buildings and amenity grassland areas. The site was bordered by railway line to the south and surrounded by other houses in all other directions.
- 1.3 The proposed works comprise phased demolition of the existing buildings and the building of new 1-3-bedroom apartments. This is to be done in two phases without a firm date for phase two. In addition, there is a landscaping plan which largely retains the existing trees and amenity grassland and includes new trees to be planted.
- 1.4 Enfys Ecology carried out a PEA of the site, including a phase 1 habitat survey, protected species survey and a desk study examining local ecological records held by COFNOD, Wales' Biodiversity Information Reporting Database. A PRA of the buildings was also carried out to assess their suitability for bats and nesting birds.
- 1.5 The surveys were commissioned to determine whether the proposed works would affect protected species. The surveys were also to gain baseline ecological data on the species and habitats present on the site, identify any potential ecological constraints to the proposed works arising from the site or surrounding area, and recommend suitable general mitigation and/or compensation strategies for these issues, as appropriate.
- 1.6 The survey work to inform this report was carried out on 25th January 2023. Habitats and species found within a discrete area of land are subject to change; this report should therefore be considered valid for a period of two years in accordance with best practice.

2.0 Site Description

2.1 *Survey area*

- 2.1.1 The site is located in the north of the town of Rhyl, approximately 0.6 km from the coast. The immediate surrounding areas comprised a railway immediately south of the site boundary and residential houses in all other directions. There was a road leading to the site from the west and a public footpath running along the north east boundary, though separated from the site with a stone wall. Within the site boundary were buildings surrounded by areas of amenity grassland with broadleaf trees.
- 2.1.2 The wider landscape is primarily residential and commercial properties within the town of Rhyl, the coast of the Irish sea was 0.6 km to the north with Kinmel bay approximately 3.5km to the west and Prestatyn approximately 3 km to the east. The town of Rhuddlan was approximately 3km to the south. (Figure 2.2).



FIGURE 2.1. SITE LOCATION - THE APPROXIMATE SURVEY AREA IS SHOWN IN RED
BACKGROUND IMAGE © GRID REFERENCE FINDER 2023



FIGURE 2.2. WIDER SITE LOCATION - THE APPROXIMATE SURVEY AREA IS SHOWN IN RED
BACKGROUND IMAGE © GRID REFERENCE FINDER 2023

3.0 Methodology

3.1 Desk study

3.1.1 The desk study was undertaken through the COFNOD, Wales' Biodiversity Information Reporting Database, 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 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. The desk study data can be found in Appendix B, and any relevant species results from the desk study will be referred to in Sections 4 and 5.

3.2 Extended Phase 1 Habitat Survey

3.2.1 A survey was conducted by an experienced ecologist walking over the site and 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).

3.2.2 The extended phase 1 habitat survey was conducted on the 25th January 2023 by Ashley Payne (accredited agent on bat survey licence S091201/2) and an assistant, both suitably experienced professional ecologists. Conditions were overcast but dry with a light breeze.

3.3 Limitations

3.3.1 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 that were observed are identified; while every reasonable effort is made, Enfys Ecology cannot guarantee that all protected and invasive species have been identified and that the survey results are definitive.

3.3.2 The survey was carried out at a sub-optimal time of year for plant and protected species as many plants will have died back for the winter and animals are less active. However, due to the habitats present within the site, it is considered that the results of this survey are sufficient to inform the conclusions.

3.3.2 Not all of the individual flats within the buildings were accessed due to keys not being available; however, these were well sealed and an external assessment was deemed sufficient in this instance.

3.4 *Report and Terminology*

- 3.4.1 For the purposes of this report, the terms 'site' and 'survey area' are used to refer to the area surveyed on the ground by the ecologist at the clients request, which usually includes the entire area subject to the proposed works. 'Search area' is used to refer to the wider 1km radius from which records were sought for the desk study.
- 3.4.2 English species names are generally used in the text with Latin names provided in the species list in the Appendices.

4.0 Survey Results: Preliminary Ecological Appraisal

4.1 *Statutory and Non-Statutory Designated Sites*

- 4.1.1 There were no statutory or non-statutory designated sites within 1km of the survey area.

4.2 *Extended Phase 1 Habitat Survey*

4.2.1 *Habitat Types*

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

- J1.2 Cultivated/disturbed land-Amenity grassland
- J3.6 Buildings
- J5 Hardstanding
- A3.3 Mixed parkland-scattered trees
- A3.1 Scattered trees

- 4.2.2 A Phase 1 habitat map of the site is provided in Figure 4.1. A description of the habitats including some species information are provided below. Photographs of the site are included with the text and target notes are described in Table 4.1.

4.3 *Habitat descriptions*

- 4.3.1 Table 4.2 below provides a description of the habitats within the survey boundary.

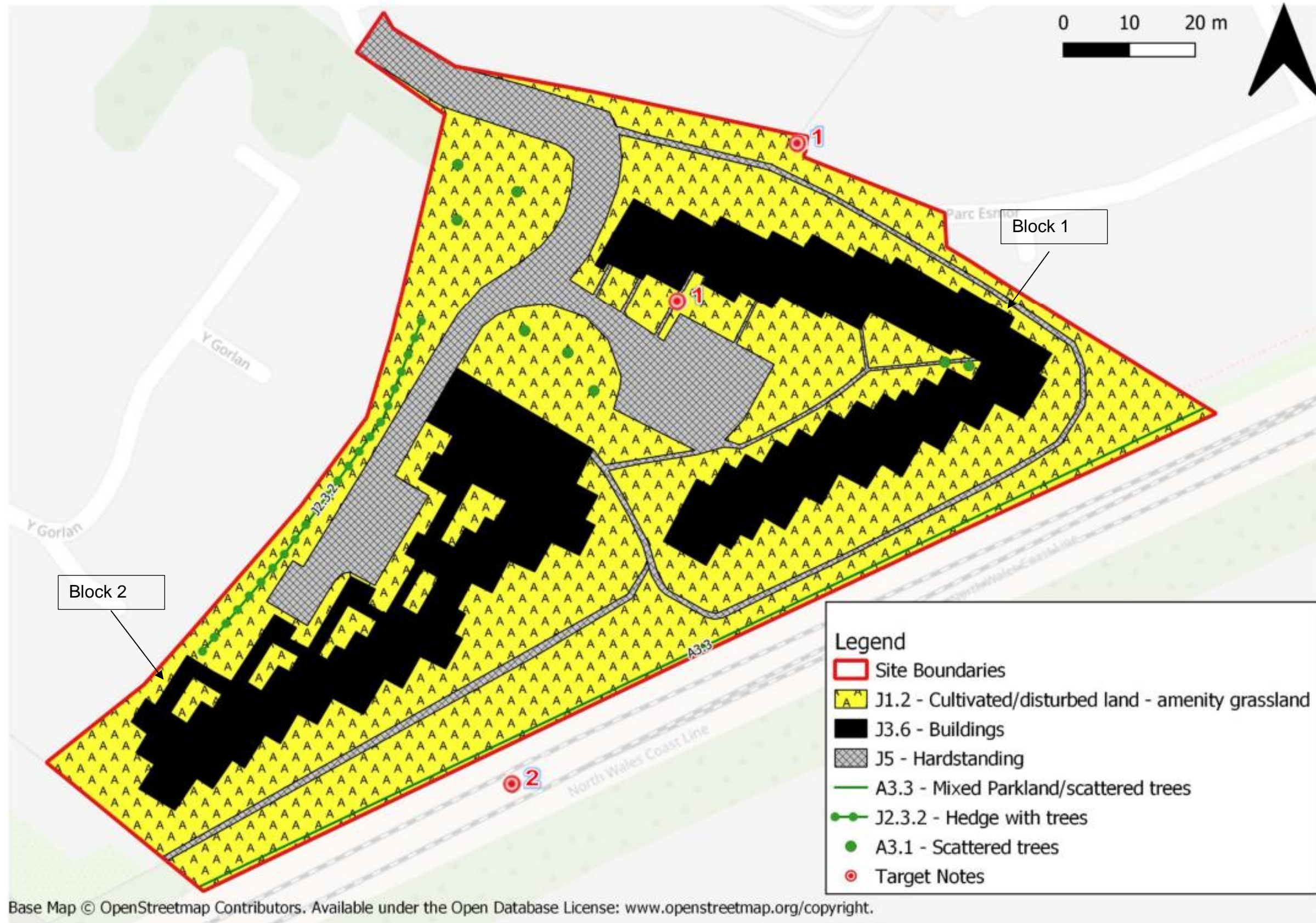


FIGURE 4.1 PHASE 1 HABITAT MAP OF SURVEY AREA. DESCRIPTIONS OF THE HABITATS FOLLOW IN THE SUBSEQUENT SECTIONS. © OpenStreetMap contributors

Maes Emlyn: PEA and PRA

TABLE 4.1 TARGET NOTES





Target Note	Description	Photo	
1	<p><i>Invasive Species</i> – A single stand of Cotoneaster was found growing in the wall that constitutes the northern border of the site, no other stands were noted along the wall. Montbretia was seen growing within the centre of the site. It appeared to be a single stand; however, due to the time of year it is possible that the full extent of this species was not present.</p>		
2	<p><i>Railway</i> – Immediately beyond the southern border of the site was the railway line, the grass verge following the railway was south facing and lined with scrub, which provided good habitat for a number of species including reptiles and amphibians. The site was accessible from the railway by through the security fence.</p>		

TABLE 4.2 HABITAT DESCRIPTIONS

Description	Photo
<p>Amenity grassland surrounded the majority of the buildings with the exception of the western border. There were also small patches of ornamental planting around some of the buildings. Species included perennial rye grass, yorkshire fog, lesser celandine and dock sp. Creeping buttercup, plantain, dandelion and nettles were abundant.</p>	<p style="text-align: center;"><i>Amenity grassland</i></p> 
<p>There was a strip of hedge with trees along the western border. This was largely hawthorn with some larger alder trees. The ground flora included ivy, bramble, nettles and rosebay willow herb.</p>	<p style="text-align: center;"><i>Hedge with trees</i></p> 

Maes Emlyn: PEA and PRA

Description	Photo
<p>This habitat stretches along the southern border adjacent to the railway line. Tree species include sycamore, cherry and ash and horse-chestnut. Ground flora included ivy, bramble, bluebells and daffodil</p>	<p><i>Mixed parkland Scattered trees</i></p> 
<p>There were scattered broadleaf trees around the central carpark, the northeast border and the northwest border. These included sycamores, hawthorn, cherry and horse chestnut.</p>	<p><i>Scattered Trees</i></p> 

Maes Emlyn: PEA and PRA

Description	Photo
<p>There were two buildings comprising 57 flats, divided into two blocks. These are largely uniform in construction and they will be discussed in more detail in Section 5.</p>	<p style="text-align: center;">Buidings</p> 
<p>The road leading into the site into the central carpark and to the western border constituted the main areas of hardstanding. In addition, there was a pathway around the perimeter of the site and individual pathways leading to some of the flats.</p>	<p style="text-align: center;">Hardstanding</p> 

4.4 *Invasive Species*

4.4.1 Montbretia was observed within the centre of the site, and cotoneaster sp. was growing on the wall that forms the northern boundary. Japanese knotweed was recorded 747m to the east of the site in the data search; no Japanese knotweed was present within the site at the time of the survey (though the time of year would limit the presence of this species).

4.5 *Fauna*

4.5.1 No notable or protected species, or signs of their presence, were found within survey area; The survey results for protected species including records within 1km of the survey are described in Table 4.2 below.

TABLE 4.2 RESULTS OF PROTECTED SPECIES SURVEY

Species	Suitability of habitat	Nearest record to site within last 20 years
Amphibians – Great crested newts (GCN) Natterjack toad.	No signs of amphibians were found during the survey. The site consisted of short amenity grassland with interspersed trees, hard standing and buildings; there were no water bodies present within the site; so is considered unsuitable for GCN. The area of amenity grassland and line of trees to the southern border, though in isolation, was connected to the scrub alongside the railway (the metal security fence is passable to amphibians) and had low suitability amphibian habitat for foraging, commuting and shelter. The hedge/treeline which borders the west of the site may also provide foraging, shelter and commuting habitat. The habitats within the site were not suitable for Natterjack toads.	There were no GCN records within 1km of the site. There was a record of a common and smooth newt 796m to the southeast. There was a historical record of a natterjack toad 107m south of the site from before 1995.

Species	Suitability of habitat	Nearest record to site within last 20 years
Badger	<p>No setts or signs of badger activity was seen.</p> <p>The site was not suitable for sett building. The site could be visited by commuting or foraging badgers from the nearby areas.</p>	<p>There was a record of a badger sett 414m to the northeast of the site.</p>
Bats	<p>No signs of bats were found during the survey. The site itself had low suitability for bats. Although there were trees and a hedge/treeline within the site boundary, it was relatively enclosed within a residential area with little connectivity beyond the boundary. No potential roosting features (PRFs) were identified in any trees within the site. The treeline to the southern border alongside the railway would likely provide commuting and foraging habitat.</p> <p>The buildings and their potential for use by roosting bats is discussed further in Section 5.</p>	<p>There were no records of bats within 1 km in the last 20 years. There were however several historical records of bats the closest being 433m to the west in 1991 though the species was not recorded.</p>

Species	Suitability of habitat	Nearest record to site within last 20 years
Birds	<p>No nests were seen on or within the buildings on site (as observed from a ground-based survey). There were however a number of herring gulls perching on the flat roofs and it is likely that they nest on these roofs.</p> <p>The tree/hedge-line along the western boundary of the site would provide suitable nesting habitat, as would the tree line along the southern border. The remaining surrounding area was hardstanding and short grassland and so not likely to be used by ground nesting birds.</p> <p>The buildings are their potential for nesting birds are discussed in section 5.</p>	<p>There were 696 records of 176 species of birds within a 1km radius of the site; the closest was a mute swift recorded 90m southeast of the site.</p> <p>There were several Schedule 1 species recorded within the 1km grid square of the site, including (but not limited to) black tailed godwit, common scoter, hobby, peregrine, and red throated diver.</p>
Otter	<p>No signs of otters were found during the survey.</p> <p>The site itself and the immediate surrounding habitat did not provide suitable habitat for foraging or holt building.</p>	<p>There was a spraint recorded 985m to the west of the site.</p>
Reptiles	<p>No signs of reptiles were noted at the time of the survey. The site did not provide highly suitable habitat for reptiles with the short grassland and areas of hardstanding. The area of amenity grassland and line of trees to the southern border though in isolation, is of low suitability, as it is connected to the scrub alongside the railway (the metal security fence is passable to reptiles) which is suitable reptile habitat for foraging, commuting and shelter.</p>	<p>There was a common lizard recorded 955m to the east of the site.</p>



Species	Suitability of habitat	Nearest record to site within last 20 years
Water Vole	No signs of water voles were found during the survey. The site and surrounding area did not provide suitable habitat burrowing or foraging water voles.	There were no records of water voles within 1km of the site.

5.0 Survey Results: Preliminary Roost Assessment



5.1 Building Descriptions

5.1.1 There were 57 flats within the site boundary that were assessed for bat potential. The buildings were divided into two blocks with numbers 2-34 comprising the 1st block (This will be phase 1 of the proposed works) and buildings 35-59 comprising the second block (phase 2 of the works); the blocks are labelled on Figure 4.1. Although it was not possible to gain entry to all of them internally, the internal areas were largely uniform and all were assessed externally. Descriptions of each building are shown in Table 5.1.

TABLE 5.1: BUILDING DESCRIPTIONS

Maes Emlyn – Block 1 and 2			
External Description	External Photo	Internal Description	Internal Photo
<p>The flats were generally uniform in construction with brick walls and flat roofs. All of the roofs appeared to be of the same construction with composite cladding/flashing along the edges. Where the windows and doors were there was a pre-cast concrete section or pebbledash and some of the upper flats had a steel balcony. On several flats some of the walls were rendered over completely. All the windows and doors were covered over with metal security sheeting.</p>		<p>Internally the walls of all the rooms were plastered and well-sealed with some having gyproc coving whilst others did not. All had double glazed windows and there was no attic or roof space in any of them due to the flat roofs. The kitchens and bathrooms were approximately 2.5m wide by 2.5 high and 4m long. All other rooms were approx. 2.5m high by 4m wide and 5 m long. Some of the flats in block 2 (phase 2) were in the process of having new boilers and heating installed. New holes for the outlets had recently been drilled in some.</p>	

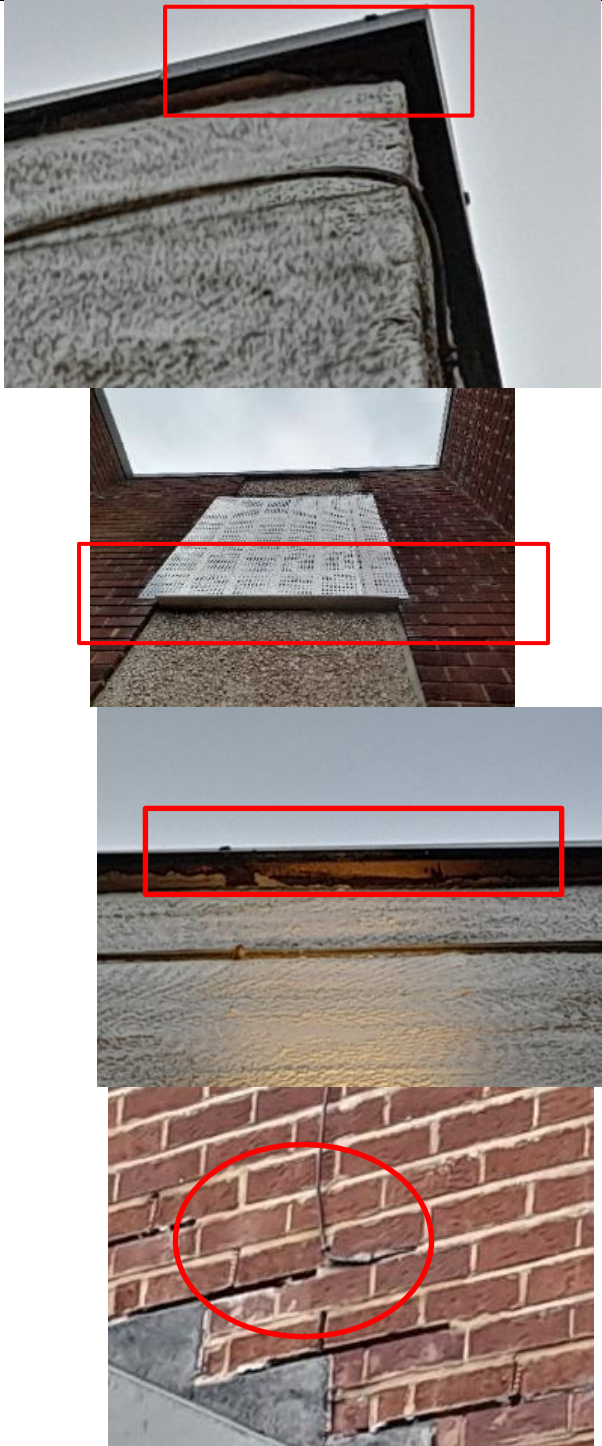
Maes Emlyn: PEA and PRA

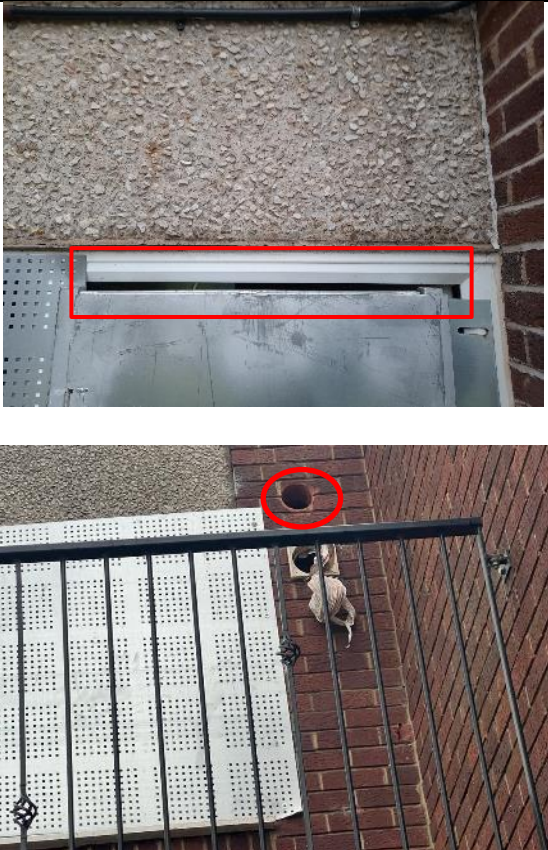
Maes Emlyn - Outbuildings			
External Description	External Photo	Internal Description	Internal Photo
<p>There were brick-built sub stations and a shed at the rear of block 2. These were approx. 2.5m high by 4m wide and 4m long for the substations whilst the shed was the same height and length but only 1.5m wide approx.</p>		<p>The plant rooms and sheds appeared to have block walls internally with false ceilings and were used for storage</p>	

5.2 *Bat Roosting Potential*

5.2.1 There were limited access points and potential roosting features within all the buildings. Table 5.2 describes the roosting potential for each building.

TABLE 5.2 DESCRIPTION AND PHOTOS OF POTENTIAL ROOSTING FEATURES (SHOWN IN RED)

Potential Roosting Features	Photo
<p>The external walls were generally well-sealed and the pointing between the bricks was very good and where rendered this was also in good condition with no gaps. The main gaps were between the roof fascia flashing/cladding and the recessed precast concrete/pebbledash sections.</p> <p>Many of the corner flashings had gaps behind them however it was possible to see the entire space behind them with a high-powered torch and there were roof boards which sat flat atop the walls with no possibility for bats to crawl into the roofs.</p> <p>On the buildings in block 2 there were some narrow gaps in the pointing where the lead flashing was installed, it was possible to see to the back of these gaps with a high-powered torch</p> <p>No bats or signs of bats were found; No signs of nesting birds were seen.</p>	

Potential Roosting Features	Photo
<p>There were some gaps into the buildings such as where doors or windows had been left open behind the security metal sheeting and where old or newly drilled holes had been made for the boiler outlets. These were the only entry points into the flats as the buildings were very well sealed otherwise. Internally the buildings were all well sealed and light and airy with few roosting opportunities for bats. No bats or signs of bats were found and no signs of bird nests.</p>	 <p>The top photograph shows a close-up of a grey door frame set into a wall of light-colored pebbledash. A red rectangular box highlights a narrow gap between the top of the door and the frame. The bottom photograph shows a brick wall with a black metal balcony railing in the foreground. A red circle highlights a small, dark, circular hole in the brickwork above the railing.</p>

6.0 Discussion and Conclusions

- 6.1 The proposed works comprise the demolition of the existing buildings and replacing them with new apartments (Figure 6.1). This is to be done in two phases, with phase 1 the dismantling of block 1 and building of new apartments, whilst a timeframe for phase 2 was not available at the time of this report. The current plan is for block 2 to be reoccupied hence the new boilers/heating being fitted but, in the future, these will also be demolished and replaced with new apartments. In addition, there will be some landscaping but largely all the existing trees and habitats will be retained though there are some dead trees along the southern border which will likely be removed and some small areas of amenity grassland will be replaced with paving (Figure 6.2).



FIGURE 6.1 PLANS FOR NEW APARTMENTS (BASE IMAGE © TACP ARCHITECTS LTD)



FIGURE 6.2 LANDSCAPING PLANS (BASE IMAGE © ABOVE ZERO)

6.3 *Habitats*

6.3.1 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). The works will include the demolition of the existing buildings and the building of new apartments to be undertaken in 2 phases. This will result in the loss of a small amount of amenity grassland, however this is considered of low ecological value and the proposed landscaping plan will increase the overall biodiversity of the site. The existing trees are being retained with the exception of some dead trees along the southern border which will be felled for safety reasons. The new trees to be planted as specified in the proposed landscaping plan will compensate for any trees felled and will enhance the overall biodiversity of the site.

6.4 *Invasive Species*

6.4.1 A small stand of Montbretia and Cotoneaster sp. were present on the site; the stands did appear to be spreading throughout the site. These species are invasive non-natives, which are listed under Schedule 9 of the Wildlife and Countryside Act 1981 with respect to England and Wales. As such, it is an offence to plant or otherwise allow this species to grow in the wild. The plants should be removed from site prior to the development works and the biosecurity method statement for invasive species removal and management will need to be followed (Section 7).

6.5 *Fauna*

6.5.1 *Great Crested Newts (GCN) and common amphibians*

The majority of the habitats within the site boundary, including the buildings, hardstanding areas and the amenity grassland that surround the site are not suitable habitats for GCN and there are no records of GCN within 1km of the site. There are no ponds or streams within or near the site however, the hedgerow/tree line to the western border and the southern border with the railway may provide foraging and sheltering habitat for common amphibians; these areas are retained in the proposed landscaping plan. No GCN or their habitat will therefore be affected during the works. It cannot however, be discounted that common amphibians may visit the site on occasion; general reasonable avoidance measures are provided in Section 7 to prevent risk to all protected and non-protected species that may use the site.

6.5.2 *Badger*

The site was unsuitable for sett building and the surrounding residential area is unsuitable habitat for badgers. There was, however, a sett recorded 414m northeast of the site near the railway and therefore badgers may visit the site to forage. The proposed works will not cause disturbance to a badger sett. RAMs will be followed at all times during the works to minimise any risk or disturbance to potential badgers and other wildlife entering the site.

6.5.3 *Bats*

The buildings on site all had low - negligible potential for roosting bats. There were potential roosting opportunities such as gaps behind the roof fascia cladding/flashing on both blocks of buildings and potential access points into the buildings above the security sheeting over a door where the door had been left open behind or through holes created for boiler outlets. All of these features were shallow and could be easily inspected in their entirety with a torch; there was no evidence of bats having used these features. There was access into the buildings but internally the buildings were well sealed with no available roosting features for bats. The buildings/flats were very light inside with few roosting opportunities and there are no records of bats in the area therefore, it is deemed unlikely that bats would use the buildings for roosting.

The railway and treeline along the southern border provided highly suitable bat foraging and commuting habitat, though there were no records of bats within 1km of the site. Due to suitability of the adjacent habitat it should be assumed that bats will visit or commute over the site. As the potential roosting features could be easily inspected with a torch (and showed no evidence of bat usage), it is not considered necessary to carry out emergence surveys prior to the works; alternatively, pre-works checks will be carried out to ensure not bats are present within the site. The proposed works will not directly affect any bats that may use the site or roost within the buildings as long as RAMs, provided in section 7, are followed.

6.5.4 *Birds*

There was no evidence of nesting birds within the buildings or the habitats within the site boundary during the survey; however, the survey was outside of the nesting bird season. It was noted however that a number of herring gulls were perched on the flat roofs of the buildings and although the roofs were not inspected it is entirely plausible that they nest on the flat roofs. Small passerines may also enter the buildings through the holes that were present for the boiler outlets, the demolition of the buildings therefore may result in the loss of nesting bird habitat. The trees and hedge line within the site boundary provided highly suitable nesting, commuting and foraging habitat and these are being retained. The amenity grassland within the works area is unlikely to host any ground nesting birds though may be used by other bird species for foraging. RAMs detailed in Section 7 will be followed to prevent disturbance to nesting birds.

6.5.5 *Reptiles*

The habitats within the site have limited suitability for reptiles with the short grassland, buildings and hardstanding areas being sub-optimal for them. The railway and scrub adjacent to the southern border provide more suitable reptile habitat and reptiles may well visit the site in small numbers. To avoid disturbance to reptiles, RAMs in Section 7 should be followed during the works.

7.0 Reasonable Avoidance Measures

7.1 *Reptiles and amphibians*

7.1.1 The amenity grassland surrounding the site must be kept short prior to, and during the works to discourage reptiles and amphibians from entering this area of site.

7.1.2 All materials brought onto site are to be stored on hard standing. Materials will be stored on raised pallets or bagged, to prevent amphibians (or other wildlife) from taking refuge beneath them.

7.1.3 Waste materials and rubble from the demolitions would provide suitable refuge habitat for reptiles, all waste materials will be removed from site immediately or stored in skips so as not to encourage reptiles (or other species) to use them for shelter.

7.1.4 If reptiles or amphibians are found at any point during the works, all works in that area must stop. Reptiles should be left to move away of their accord and common amphibians should be picked up with a glove and moved to safe area off site, before works can continue.

7.1.5 If at any point during the works a great crested newt is found then all works **must stop** and an ecologist must be called.

7.2 *Badger*

7.2.1 If a badger is seen within the works area or immediately adjacent, all works must stop immediately until the animal has moved on.

7.3 *Nesting birds*

7.3.1 Where possible any demolition works or felling of trees or pruning work should not be carried out during the nesting bird season (March – September). Any works that may impact nesting birds will require a nesting bird check, carried out by an ecologist immediately (no more than 48 hours) prior to works. Should nesting birds be present within or on top of the buildings then work will not commence until the chicks have fledged.

7.4 *Bats*

7.4.1 No evidence was found of bats using the buildings or habitats within the site boundary. Due to the gaps behind the cladding and the few entry points into the buildings however, pre-works checks of the buildings are to be undertaken prior to works commencing. The railway and treeline adjacent to the southern border are suitable for bats and it should be assumed that bats will commute and forage over the site; therefore, it cannot not be discounted that bats could enter or use the buildings to roost at any point.

7.4.2 If during the pre-works checks or at any point during the works a bat or bats are encountered, all works (or planned works) in that area **must immediately stop**, and a licence may need to be obtained from Natural Resources Wales before works can continue.

7.4.3 *Lighting*

Any additional lighting as part of the proposed scheme has the potential to impact bats and other nocturnal species using the site. To reduce the potential impact of any light spillage on foraging or commuting bats and other nocturnal species during and after the works, any lighting schemes should seek to minimise the levels of light within the site at night and avoid illumination of any potential roosting and commuting habitat. The following recommendations should be used when forming the lighting plan for the proposed development (Bat Conservation Trust (2018) and Stone, E.L. (2013)).

General Lighting Guidance

- There must be no lighting focused on the trees or along the railway line to the north.
- 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.
- Construction should start at least one hour after dawn and finish at least hour before dusk outside of the winter months (March – October) to prevent light and noise levels disturbing the bats and other nocturnal species using the site. If works outside these times are needed, all lighting should be directional and be directed into the site and a downwards angle, with lights focussed on, or illumination of, the treeline and railway to the south.
- 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, with a short timer (< 1 minute) in order to provide maximum darkness when not needed as well as providing safe lighting conditions of pedestrians when required.

Species	Potential contamination route	Likelihood of risk	Operational Procedure
Cotoneaster sp.	Present on site. Further introduction spread by birds/ animals/ people and the spread of the berries and seed	High. Known presence on site Low – once current plants removed; There are no requirements to import soil.	<p>All presence of plant needs to be removed from site before works commence.</p> <ul style="list-style-type: none"> • Removal should be undertaken outside of the fruiting season (which is late spring – early summer). • All removal procedures will be carried out under strict biosecurity protocols – boots/gloves/clothes worn and tools used while the plants are being excavated will be rinsed and cleared of any plant debris or soil – all water run off will be contained • All plant and soil waste will be disposed of as controlled waste at a licensed land fill site, or burnt on site. • A suitable native grass/ forb mix should be sown into any soiled areas not being built upon, to prevent bare ground and colonisation of other unwanted species. <p>Ensure contractors, staff and volunteers know what crocosmia/montbretia looks like If plants are found refer to removal method above.</p>

7.6 Biosecurity

7.6.1 Biosecurity means taking measures to ensure that good practices are in place to minimise the risk of importing and spreading invasive non-native species (INNS), pests and infectious disease. As non-native species or diseases could be transmitted in any water or material, a good biosecurity routine is essential, even if invasive non-native species are not apparent.

7.6.2 Biosecurity Measures:

- Any machinery should be washed clean of any plant debris before entering and leaving the site to prevent transmission of seeds.
- **All** footwear of staff leaving site (for **any** reason and no matter for how short a time) must be cleaned (i.e. visually free of soil and debris) before leaving site.
- Soil and vegetation should be washed off with clean water (and brushes). Water (which should not be contaminated with any disinfectant or other pollutants) should

then be disposed of by pouring on hardstanding. Soil from this area of the site **must not** be moved elsewhere on site either intentionally or unintentionally.

- The wheels or tracks (and any other part which has come into contact with the soil) of all vehicles which have entered the area must be thoroughly washed and be free of soil and debris before leaving the site.

7.5 *General Site - Reasonable Avoidance Measures (RAMs)*

7.5.1 Suitable RAMs will be implemented to reduce the potential to impact to species that may be found on site. All measures in this section should be implemented as appropriate throughout the works:

- Working areas should be kept to the minimum required.
- Works should be avoided within 1 hour of dawn and dusk where possible to avoid disturbance to nocturnal animals. If works outside this time are needed, all lighting should be directional and be directed away from the surrounding trees and railway.
- Storage of fuel must follow best practice. Refuelling of machines must be undertaken on the road/hard standing at the north of the site using drip trays/plant nappies as appropriate. Potential pollutants should be restricted to hardstanding areas.
- To avoid creating refugia which may attract amphibians, reptiles or small mammals to the works zone, any materials from the vegetation clearance or excavations, or any materials that are brought onto the site, should be stored in skips or on hard standing and off the ground (e.g on pallets). No piles must be left overnight.
- Any terrestrial mammals seen must be allowed to leave the area on their own. If this is not possible e.g. the animal is injured or trapped then an ecologist must be called.

8.0 Enhancement Recommendations

- 8.1 In line with Planning Policy Wales, and following the Environment Wales Act (Section 6) and guidance provided in the recent letter by the Chief Planner in Wales, there is a requirement to ensure that **a net benefit for biodiversity** is provided in all application for planning in Wales; and applications are to be refused if they cannot show an overall increase in the provision for biodiversity.
- 8.2 *Bats and Birds*
- 8.2.1 It is recommended that at least six external bat boxes suitable for crevice dwelling bats are erected within the site; these should be on the south facing elevations of the new properties along the southern edge of the site, facing the railway and allowing for connectivity along the treeline. It is recommended that either integrated or woodstone/woodcrete boxes are used as they last longer and require much less maintenance than wooden boxes. The boxes should be mounted at least 3m high, away from any windows and lights.
- 8.2.2 To enhance the site for birds; bird nesting opportunities will be provided by including bird boxes within the site. A minimum of six boxes suitable for small birds need to be erected on site, - three suitable for house sparrows with a 32mm entrance, and three for smaller birds (28mm). Examples of suitable bird boxes can be found online and suitable models include [vivara-pro-seville-32mm-woodstone-nest-box](#) and the [vivara-pro-seville-28mm-woodstone-nest-box](#). Woodstone nest boxes are more durable and require less maintenance than wooden boxes. These boxes should be mounted onto the new buildings towards the north of the site, on northern, eastern and western elevations, at least 3m off the ground and away from any doors or windows.

9.0 Legislation

9.1 *Badgers*

The Protection of Badgers Act 1992 fully protects badgers and their setts. Offences include:

- killing, injuring and taking (or attempting these)
- possession of a dead badger (or derivative)
- cruelly ill-treating a badger
- damaging a badger sett or any part of it
- destroying a badger sett
- obstructing access to / entrance of a badger sett
- causing a dog to enter a badger sett
- disturbing a badger whilst occupying a sett

Badgers are also listed on Schedule 6 of the Wildlife and Countryside Act 1981, which prohibits certain methods of killing and capture.

9.2 *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.

9.3 *Birds*

In addition, 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.

9.4 *Reptiles*

All British reptiles are protected from intentional killing, injuring and sale under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). These are as follows:

- Adder, *Vipera berus*
- Grass snake, *Natrix natrix*
- Slow worm, *Anguis fragilis*
- Common lizard, *Lacerta vivipara*

This legislation aims to protect them from persecution and also exploitation in the pet trade.

10.0 References and Information Sources

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

Institute of Ecology and Environmental Management (2017) *Guidelines for Preliminary Ecological Appraisal*. IEEM.

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

JNCC (2019) UK habitats guide, JNCC website: [UK Habitats and Species > UK Habitats > UK Habitat Types](http://archive.jncc.gov.uk/page-6297). Available at: <http://archive.jncc.gov.uk/page-6297> accessed 22/08/2019.

Natural England (2011) Reptile mitigation guidelines (1st draft) Natural England Technical Information Note TIN102, Natural England, Peterborough.

Stone, E.L. (2013) Bats and lighting: Overview of current evidence and mitigation guidance

11.0 Appendices

Appendix A. Plant Species List.

(This list is not exhaustive). No protected or notably rare species were found.

English Name	Scientific Name
Alder	<i>Alnus glutinosa</i>
Ash	<i>Fraxinus excelsior</i>
Bramble	<i>Rubus fruticosus</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Butterfly bush	<i>Buddleja sp.</i>
Cherry	<i>Prunus sp.</i>
Crab apple	<i>Malus sp.</i>
Cocks foot	<i>Dactylis glomerata</i>
Creeping buttercup	<i>Ranunculus repens</i>
Clover	<i>Trifolium sp.</i>
Daffodil	<i>Narcissus poeticus</i>
Dandelion	<i>Taraxacum sp.</i>
Daisy	<i>Bellis perennis</i>
Elephant ears	<i>Bergenia crassifolia</i>
Hawthorn	<i>Crataegus monogyna</i>
Holly	<i>Ilex aquifolium</i>
Horse-chestnut	<i>Aesculus hippocastanum</i>
Hortensia	<i>Hydrangea sp.</i>
Ivy	<i>Hedera sp.</i>
Leyland cypress	<i>Cupressus x leylandii</i>
Nettle	<i>Urtica dioica</i>
Pennywort	<i>Umbilicus rupestris</i>
Perennial rye grass	<i>Lolium perenne</i>
Primrose	<i>Primula sp.</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rosebay Willow Herb	<i>Chamaenerion angustifolium</i>
Vetch sp.	<i>Vicia sp.</i>
Yorkshire fog	<i>Holcus lanatus</i>

Appendix B: Desk study Data: - See attached document.