Territorial Army Centre, Prestatyn

Ecological Assessments

Date	Author	Project Number	Approved by	Version	Comments
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Executive Summary

Site	TA Centre, Marine Road, Prestatyn, LL19 7HA NGR: SJ 0641 8329
Surveyors	Lucy Boyett (accredited agent on NRW Bat Licence S092545/1) and assistant Jane Kingsley – PEA & PRA Ashley Payne & Ewan Marshall – Otter & Water Survey
Proposed work	The demolition of the existing TA Centre buildings, to be replaced with a residential development comprising 47 units, including dwellings, apartments, and public open space.
Areas affected	All TA Centre buildings and yard within the site boundary.
Type of survey	• Daytime Bat Walkover, Preliminary Roost Assessment, Nesting Bird Assessment & Preliminary Ecological Appraisal - 20/08/2024 • Emergence surveys – 20/08/24 & 09/09/24 • Otter & Water Vole Survey – 23/10/2024
Main results	• PRA found the buildings to have low potential for roosting bats and the surrounding was of low suitability. • A small number of common pipistrelle droppings were found within two of the store rooms (Building 3 within this report). • No bats emerged during the two emergence surveys. • Nests consistent with house martins were seen within the store rooms and pigeons were roosting within the open shed. • Habitats within the site included buildings, hardstanding and tall ruderal. • Old water vole burrows were found within the banks of Prestatyn Gutter, which ran along the outside of the northern site boundary. Rat burrows and fresh signs of mink were also noted. No signs or evidence of otter. • Prestatyn Gutter, running along the outside of the northern site boundary, runs through a number of statutory and non-statutory sites before entering the sea at Gronant.
Survey conclusions	• The store room building (Building 3 within this report) was found to be an occasional night roost/feeding perch for a single or low number of common pipistrelles, which will be destroyed as part of the proposed works and a licence will be required from NRW before any works can commence to this building. • As Prestatyn Gutter runs through designated sites, any pollution which may enter the water course as a result of the development, either during the construction phase or once its complete, may have a potential adverse effect if there are no mitigation or control measures in place. • If any works to the banks of Prestatyn Gutter are proposed, a pre-works check by an ecologist will be required to ensure the works will not affect water vole and dependent on the proposed works, further survey work may be required to confirm the presence of water vole and their population size and a licence may be required.
Mitigation, Compensation and Enhancement	• Mitigation, compensation and enhancement measures will be implemented and are detailed in Section 12.

Contents

1.0 Introduction

1.1 *Project Introduction*

1.1.1 Enfys Ecology Limited was commissioned by Wales & West Housing to conduct a series of ecological assessments, including a Preliminary Ecological Appraisal (PEA), Preliminary Bat Roost Assessment (PRA), emergence surveys and an otter and water vole survey, at the site of the former TA Centre, Marine Road, Prestatyn, LL19 7HA.

1.1.2 The proposed development comprises the demolition of the existing TA Centre buildings, to be replaced with a residential housing development comprising 47 units, including dwellings, apartments, and public open space (Figure 1.1).

1.1.3 Enfys Ecology undertook a Preliminary Ecological Appraisal (PEA) of the site, which included a Phase 1 Habitat survey, protected species survey and a desk study examining local ecological records held for the area by Cofnod, the North Wales Environmental Information Service. A Preliminary Roost Assessment (PRA) and emergence surveys were conducted of the TA Centre buildings and an otter and water vole survey of Prestatyn Gutter, which ran along the outside of the northern site boundary was also undertaken.

1.1.4 The purpose of the surveys was to assess whether the proposed works would impact any protected species, as well as to establish baseline ecological data concerning the species and habitats present on the site. The surveys also identified any potential ecological constraints, with recommendations for suitable mitigation and compensation measures, as well as opportunities for ecological enhancement where appropriate.

1.1.5 The surveys were undertaken during August, September, and October 2024. This report is valid for a period of eighteen months from the latter date in accordance with best practice.

1.1.6 Should evidence of bats be found and it is deemed likely that the proposed works would disturb them a licence from Natural Resources Wales (NRW) would need to be obtained prior to any works commencing.

Figure 1.1 Proposed Site Plan ©Creu Architecture

2.0 Site Description

2.1 *Site Description*

2.1.1 The site comprised buildings on the western side of the site, including a large two-storey building, warehouse, open sided shed and an outbuilding. The remainder of the site comprised a large concreted yard, which is currently in use as a driver training centre. Prestatyn Gutter, a watercourse approximately 2 meters in width, ran along the length of the northern boundary of the site (outside of the site boundary). The approximate central grid reference of the site is SJ 0641 8329 (Figures 2.1 & 2.2).

2.1.2 The site was situated in the central area of Prestatyn, within a mix of residential and commercial properties. To the south, the North Wales mainline railway was located approximately 150 meters away, while Coed Y Morfa wetland and woodland lay around 350 meters to the south. Further south, the larger woodland area of Coed yr Esgob is situated approximately 1.3 kilometers from the site.

Figure 2.1 Site Location. The approximate site boundary is shown red.
Base image ©Google 2025

Figure 2.2 Wider site location. The approximate site boundary is shown red.
Base image ©Google 2025

3.0 Methodology

3.1 *Desk Study*

3.1.1 The desk study comprised a consultation with Cofnod, the North Wales Environmental Information Service, 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; any relevant species results from the desk study will be referred to in Sections 4, 6 and 7.

3.2 *Daytime Bat Walkover*

3.2.1 A daytime bat walkover (DBW) was undertaken by Lucy Boyett, (suitably qualified ecologist) and assistant Jane Kingsley on the 20th August 2024. The DBW was carried out following the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) (Collins, 2023).

3.2.2 The DBW intended to observe and record any habitat features suitable for bats to roost, commute, and forage both on site and in the surrounding area. Photographic and biological evidence was taken where necessary.

3.3 *Preliminary Bat Roost Assessment (PRA)*

3.3.1 The inspections of the buildings were carried out by Lucy Boyett (accredited agent on NRW Bat Licence S0925451/1) and assistant Jane Kingsley on 20th August 2024. The Preliminary Roost Assessment (PRA) was carried out following the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) (Collins, 2023).

3.3.2 The buildings were assessed for any signs of bats; these included droppings, feeding remains, live/dead bats, and other indicative marks. Features of potential use to bats such as crevices, cracks, holes, and potential access points into the roof space were also assessed. High powered torches were used to inspect any identified features, and an endoscope was used to further investigate gaps and crevices, where appropriate. Only the exterior of the buildings were examined due to them being deemed unsafe to enter, however the store rooms within Building 3 (Figure 4.1), were accessible. Photographic and biological evidence was taken where necessary.

3.4 *Emergence Survey*

3.4.1 Two emergence surveys were carried out in total, the first on the 20th August and the second on the 9th September 2024; both led by Lucy Boyett and four other surveyors. Surveyors were positioned to be able to observe and monitor all elevations of the buildings.

3.4.2 The emergence surveys started approximately 30 minutes before sunset and continued for at least 90 minutes after sunset.

3.4.3 Surveyors were equipped with Anabat Scout, Anabat Express, and Bat Box Duet detectors. Records of any bats emerging, or any other bat activity in or near to the site was recorded by the surveyors.

3.4.4 The bat data from the surveys was analysed using Anabat Insight software with the Bat Classify plugin set to 70% to auto analyse any bat calls. The calls were reviewed by a competent ecologist where necessary.

3.5 *Night Vision Aids (NVAs)*

3.5.1 Night vision aids (NVAs) were used to support the emergence surveys, as per the Good Practice Guidelines (Collins, 2023). NVAs can allow bats to be observed that would otherwise not be visible to the surveyors due to low light levels. Where deemed necessary by the lead ecologist, Canon XA60 video cameras in infrared (IR) mode were used to record footage throughout the survey, with a combination of IR floodlights and spot lights used to illuminate the buildings.

3.5.2 Following the surveys, the footage was reviewed by a competent ecologist using VLC Media Player.

3.6 *Nesting Bird Assessment*

3.6.1 The external inspections of building were carried out by Lucy Boyett (suitably qualified ecologist) and assistant Jane Kingsley in tandem with the PRA.

3.6.2 The buildings were assessed for any signs of use by birds; these included droppings, in/active nests, live/dead birds, and other indicative marks. Features of potential use to birds such as crevices, holes, and potential access points into the building were also assessed and noted. High powered torches were used to inspect any identified features, and an endoscope was used to further investigate potential features, where appropriate.

3.7 *Limitations: Bat and Nesting Bird Surveys*

3.7.1 The buildings were deemed unsafe to enter by the landowners, so they were not surveyed internally. The exception to this was the small storage rooms (Building 3 in Figure 4.1), which were safe to access.

3.7.2 Bats are highly mobile animals and it is possible that they may move into a building after the survey has occurred. Therefore, absence of bats cannot be absolutely guaranteed. The PRA and emergence surveys were carried out in August and September 2024; which were within the appropriate survey window for preliminary assessments and activity surveys, as per the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) (Collins, 2023).

3.7.3 It is possible that birds can nest on or within a building at any point during the nesting bird season (March – September inclusive). Furthermore, some species, like pigeons can nest at any time of year. Therefore, absence of nesting birds cannot be absolutely guaranteed.

3.8 *Otter and Water Vole Survey*

3.8.1 Prestatyn Gutter, a drainage ditch which ran along the outside of the northern site boundary, was surveyed for signs or evidence of otter, such as spraints, tracks, slipways and holts; as well as the potential for otters to use the water course.

3.8.2 Signs or evidence of water vole such as latrines, feeding stations and burrows in the bankside was also surveyed for (Chanin P, 2003).

3.8.3 This survey was undertaken by Ashley Payne and Ewan Marshall on 23rd October 2024, who surveyed approximately 100m upstream and 100m downstream of the site, surveying both banks of the river (Figure 3.1).

Figure 3.1 The site boundary (in red) with the length of Prestatyn Gutter surveyed for otter and water vole shown by the blue line.

3.9 ***Limitations: Otter and Water Vole Survey***

3.9.1 The survey was undertaken on 23rd October 2024, which was outside of the optimal survey window for surveying water vole (April – September). This was due to periods of wet weather and waiting to undertake the survey during a period of drier weather. Given that the proposed works, with appropriate mitigation measures, will not negatively impact the watercourse, and assuming the likely presence of water voles, this level of survey effort outside the optimal period was considered sufficient.

3.9.2 During the survey on 23rd October, it was found that the length of drainage ditch adjacent to the site had very recently been dredged and the vegetation on the banks had been cut short. Although this will have removed many of the signs of otter and water vole that would have been surveyed for, it did however make it easier to see water vole burrows (if present) and potential otter holts.

3.10 ***Preliminary Ecological Appraisal (PEA)***

3.10.1 The survey was conducted by an experienced ecologist walking over the site and all habitat types 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).

3.10.2 The PEA was conducted on the 20th August 2024 by Lucy Boyett, a suitably experienced professional ecologist. Conditions were dry and calm.

3.11 ***Report and Terminology***

3.11.1 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.

3.11.2 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.

3.12 ***Limitations - PEA***

3.12.3 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. Any rare or notable, protected or invasive, species that were observed were 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.

4.0 Preliminary Roost Assessment: Results

4.1 *Data Search*

4.1.1 A data search from Cofnod (North Wales Environmental Information Service) returned records of common pipistrelle, soprano pipistrelle and *Myotis* sp. within 1km of the site. The nearest record was of a single common pipistrelle roost, 285m to the east (2017).

4.2 *Daytime Bat Walkover (DBW)*

4.2.1 The site provided limited habitat for foraging or commuting for bats with no tall vegetation present within the site boundary.

4.2.2 Prestatyn Gutter, along the northern boundary provided moderately suitable habitat for foraging and commuting bats with tall vegetation, scattered mature trees and good connectivity to further areas of suitable habitat, such as Coed Y Morfa to the west.

4.3 *Preliminary Roost Assessment (PRA)*

4.3.1 The roofs and rooflines of all buildings surveyed were generally in good condition and the buildings were well sealed, with only limited potential roosting features identified.

4.3.2 See Section 4.5 and Table 4.1 below for further information on the buildings construction, Table 4.2 for PRFs and photographs and Table 4.3 for evidence of bats and nesting birds found.

4.4 *Nesting Birds*

4.4.1 The buildings were suitable for nesting birds, including within the open store rooms, open sided shed and on the roof areas. Table 4.2 provides further information on the features and any evidence found.

4.5 *Structure Description*

4.5.1 The buildings comprised a large two storey brick-built building (Building 1 in Figure 4.1), a large warehouse building (Building 2), a long and narrow block-built building comprising small store rooms (Building 3), a large shed open on one side and a small block built outbuilding. The basic layout of the buildings are shown in Figure 4.1 and the details of the buildings are described in Table 4.1.

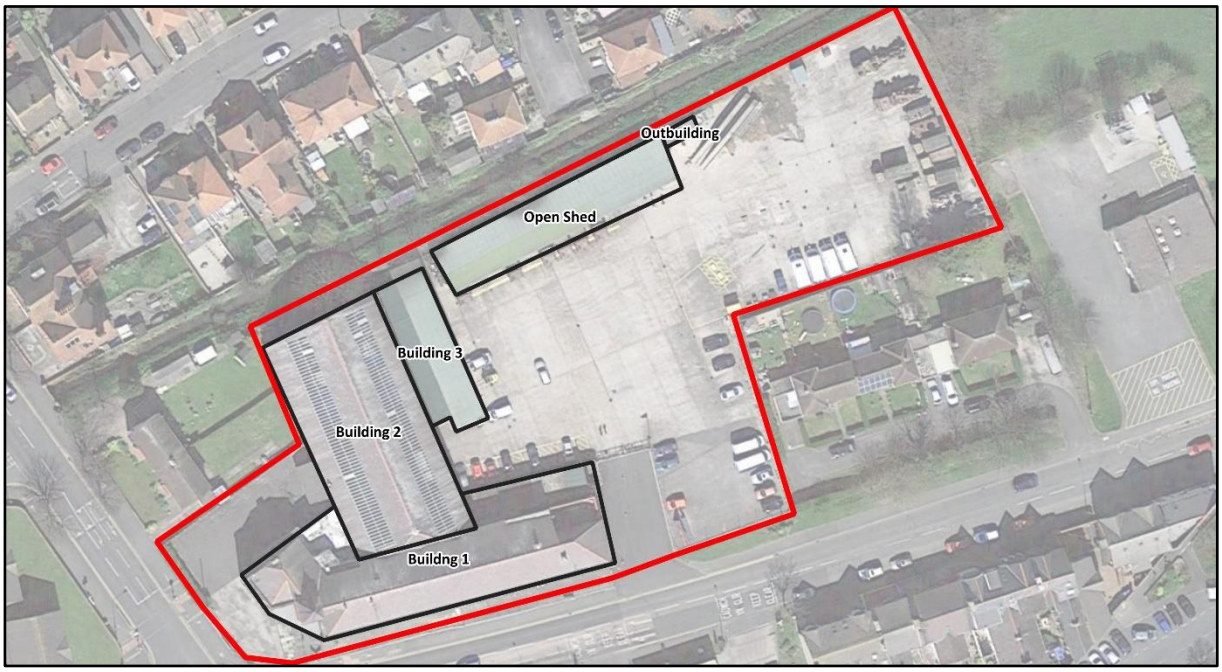
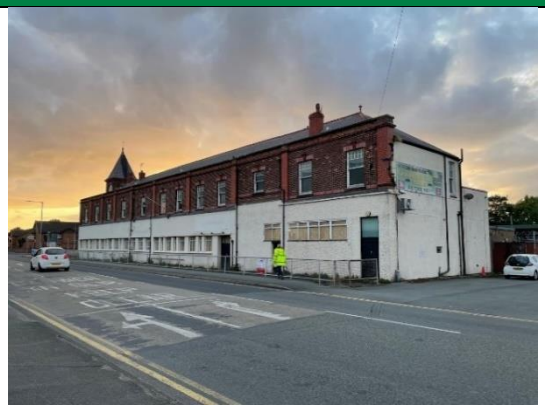
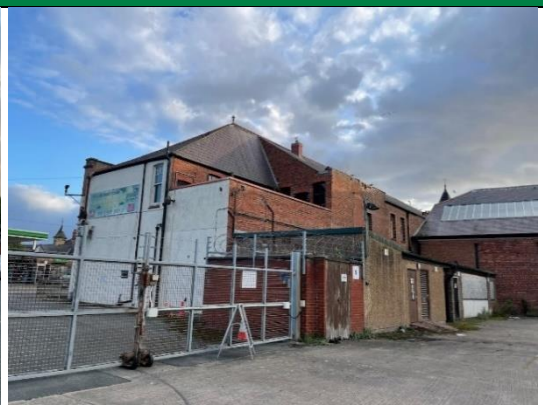
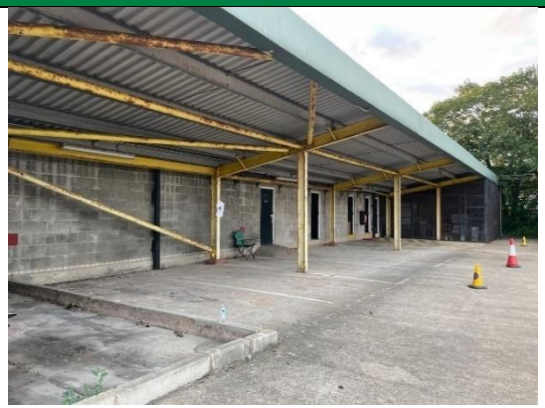
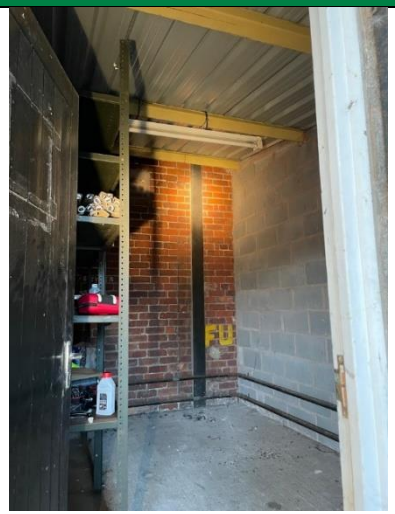
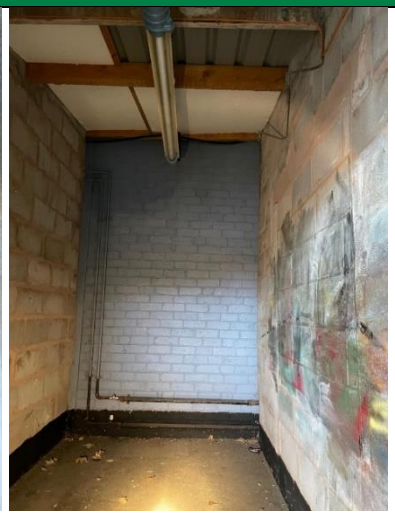
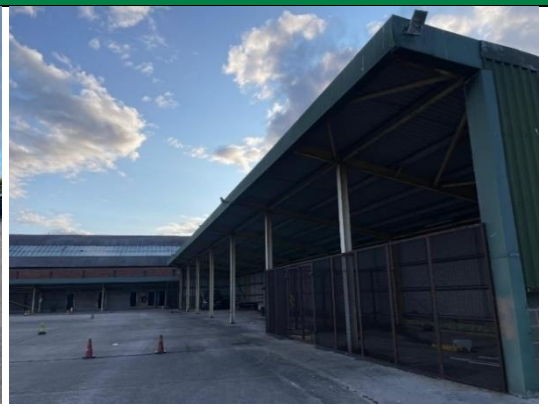


Figure 4.1 Basic plan of buildings (Building numbers and names are for the purposes of this report only).

Table 4.1: Building descriptions

Description	Example Photos
Building 1	
• Large two-storey building, located at the south western corner of the site. • The main roof was pitched and slated including ridge tiles, with single and two-storey flat roofed sections on the northern elevation. • The external walls were built higher than the edge of the roof so no facias or soffits were present.	   

Building 2	
• Large brick-built warehouse building located at the north western corner of the site. • Pitched slated roof, with ridge tiles and skylights running the whole length of the roof on both pitches. • No facias or soffits at the eaves.	 
Building 3 - External	
• Single storey, block-built building with a mono-pitched roof. • Roof covering was corrugated metal sheeting. • Large corrugated metal canopy on the eastern elevation.	 

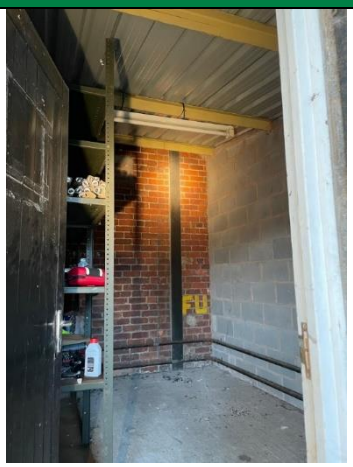
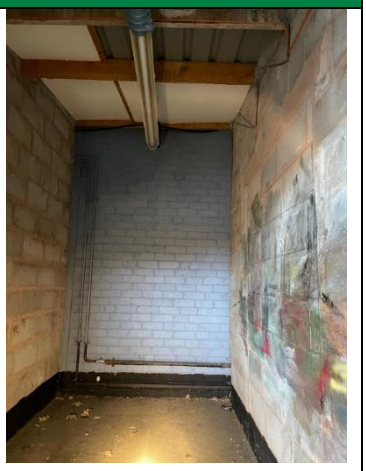
Building 3 - Internal	
• Series of five small store rooms. • In some of the rooms the corrugated metal roof was exposed and in one the roof was partially covered with wooden boarding. • The walls were bare blockwork and the floor concrete.	 
Open Shed	
• Large shed of blockwork and corrugated metal construction on the northern boundary of the site. • Fully open on the southern elevation.	 

Outbuilding	
• Small blockwork outbuilding, comprising a mono-pitched corrugated material roof.	

Table 4.2: Potential Roosting Features for bats and nesting birds

Description	Example Photos
• At the time of the survey, the doors to the store rooms within Building 3 were open, allowing access for bats. • The rooms themselves were well-sealed, with no gaps or crevices that would be suitable for a day roost. • The frequency with which these doors are left open is currently unknown.	
• The roof and rooflines were generally in good condition; however, a small number of potential gaps and crevices where slates were missing or slipped were identified on Building 1.	 

Table 4.3 Evidence of bats and birds

Evidence	Photos
• A small number (approximately ten), of scattered bat droppings were found in two of the store rooms of Building 3. Some looked to be old and degrading, while others looked to be more recent. A sample of the droppings were sent to SureScreen Scientifics for DNA analysis, which confirmed the sample to be Common Pipistrelle (DNA Analysis Report in Appendix B). • The roofs within the two store rooms were exposed corrugated metal, which in one of the rooms was partially covered with wooden panels. • The rooms were well sealed with no cracks or crevices within the blockwork. • The space between the panelling and the corrugated metal roof is unlikely to provide a suitable roosting place.	   

• Nests consistent with house martins, were present above a light fitting and against one of the beams, within the store rooms of Building 3.	
• There were a number of pigeons roosting within the roof of the open shed. It is not known if active nests were present.	

5.0 Emergence Surveys

5.1 *Emergence Survey: 20th August 2024*

5.1.1 Table 5.1 provides details of the dusk bat survey, including timing and weather conditions and Table 5.2 provides details of any emergences and general bat activity during the survey.

Table 5.1 Summary of survey details

Date	Start time	Sunset time	End time	Temp. at start	Weather
20/08/24	20:14	20:29	21:59	16°C	Dry with a light breeze

Table 5.2 Summary of emergences and dusk survey activity

Emergences
• There were no emergences during the survey
General Activity
• The first bat to be detected was at 20:54, a common pipistrelle commuting from east to west, along the northern site boundary. • A common pipistrelle was recorded passing briefly between the buildings at 20:57 and 20:59 and then three common pipistrelles were recorded foraging within the yard area between 21:07 and 21:23. • A noctule was briefly heard but not seen at 21:06. • No bats were recorded along the southern or western elevations of the building.
Screenshot from the darkest part of the survey

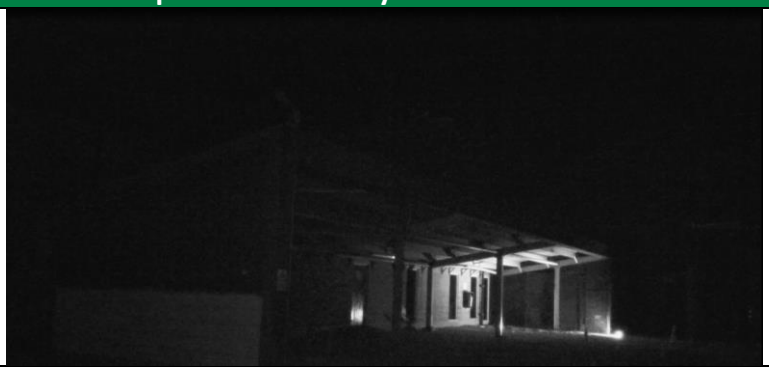

5.2 *Emergence Survey: 9th September 2024*

5.2.1 Table 5.3 provides details of the dusk bat survey, including timing and weather conditions and Table 5.4 provides details of any emergences and general bat activity during the survey.

Table 5.3 Summary of survey details

Date	Start time	Sunset time	End time	Temp. at start	Weather
15/09/23	19:28	19:43	21:13	15 °C	Dry and mild

Table 5.4 Summary of emergences and dusk survey activity

Emergences
• There were no emergences during the survey
General Activity
• The first bat to be detected was at 19:58, a common pipistrelle commuting along the northern site boundary and across the top of Building 3. • A common pipistrelle was recorded foraging and commuting within the central yard area, between the buildings, at 20:18, 20:26, 20:29 and 20:45. • Brief passes by a common pipistrelle was heard but not seen to the south of the site at 20:27 and again at 20:32. • A common pipistrelle was recorded foraging along Bastion Rd, along the western site boundary at 20:16 and then again at 20:51.
Screenshot from the darkest part of the survey


6.0 Results: Otter and Water Vole

6.1 *Data Search*

6.1.1 A data search from Cofnod (North Wales Environmental Information Service) returned two records of otter within the 1km search radius (2011 & 2023). One of a spraint 1km to the east and one of a live sighting near the coastline approx. 927m to the north.

6.1.2 The data search returned a number of water vole records, along the section of Prestatyn Gutter, which runs along the northern edge of Y Morfa wetland area, with the nearest record 683m to the west of the site.

6.2 *Otter and Water Vole Survey: 23rd October 2024*

6.2.1 Prestatyn Gutter is a large drainage ditch, within a network of ditches across the area. It runs through the Y Morfa wetland area to the west of the site, along the outside of the northern site boundary, and then drains into the sea at Gronant to the east. The water course passes through a number of culverts as it passes through the more built up areas of Prestatyn.

6.2.2 During the PEA on 20th August 2024, the ditch (viewed from within the site) was observed to be well-vegetated, with vegetation (mainly grasses) present along the banks and within the water. The northern bank of the ditch abutted residential gardens, featuring trees and shrubs (Photo 6.1 & 6.2). However, during a subsequent survey of the watercourse to undertake the otter and water vole survey on 23rd October 2024, the ditch had recently been dredged, resulting in the removal of all aquatic vegetation and the cutting back of the vegetation along the banks (Photos 6.3 & 6.4).

6.2.3 The ditch was approximately 2m in width and 0.5 to 1m in depth with earth banks.

Photos 6.1 & 6.2: Photos taken of Prestatyn Gutter on 20th August 24, prior to it being dredged.

Photos 6.3 & 6.4: Photos taken of Prestatyn Gutter on 23rd October, after being recently dredged.

6.2.4 A number of old burrows, which were consistent with water vole, were identified along the banks. No recent signs were seen, however these would have likely been removed during the dredging process.

6.2.5 No evidence of otter was seen including no areas that would be suitable for a holt.

6.2.6 Both rat burrows and fresh signs of mink were identified.

Photo 6.5: Old water vole burrow

7.0 Results: Preliminary Ecological Appraisal

7.1 *Statutory and Non-Statutory Designated Sites*

7.1.1 Cofnod returned details of four statutory designated sites and four non-statutory sites, within 1km of the site. Table 7.1 below, details the names and distances of these statutory and non-statutory sites from the survey area.

Table 7.1 Statutory and non-statutory sites within a 1km radius of the site

Site	Designation	Distance (m)
Y Morfa	Wildlife Site	370m
Liverpool Bay	Special Protection Area	630m
Prestatyn Golf Links	Wildlife Site	670m
Gronant Dunes and Talacre Warren	Site of Special Scientific Interest	822m
The Dee Estuary	Special Protection Area & Ramsar	822m
Gronant Dunes	Local Nature Reserve	822m
Y Ffrith	Wildlife Site	900m

7.2 *Extended Phase 1 Habitat Survey*

7.2.1 *Habitat Types*

The following Phase 1 habitat and feature types were recorded within the site:

- C3.1 Tall Ruderal
- J2.1.2 Species Poor Hedge
- J2.4 Fence
- J.3.6 Building
- J5 Hardstanding

7.2.2 A Phase 1 Habitat map of the site is provided in Figure 7.1 and a description of the habitats including some species information are provided in Tables 7.2 below.

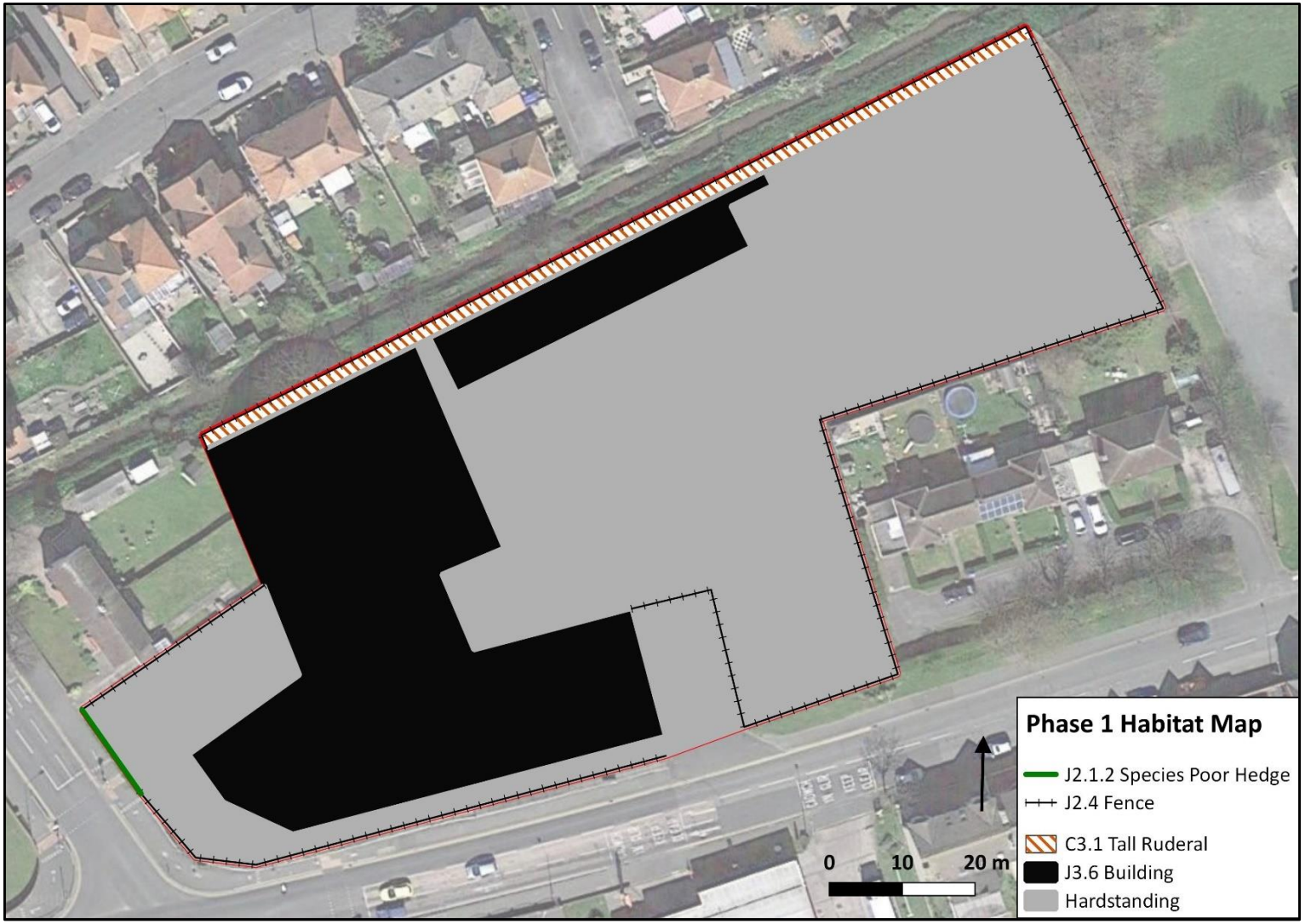


Figure 7.1 Phase 1 Habitat Map

Table 7.2 Habitat Descriptions

Description	Photo
Hardstanding	
In addition to the buildings (discussed previously in section 4.5), the site comprised a large area of concrete hardstanding, which was in good condition and in use as a driving training facility.	
Tall Ruderal	
Along the northern site boundary was a strip of tall ruderal vegetation at the foot of the wire boundary fencing. Species included bramble (*Rubus fruiticosus*), common nettle (*Urtica dioica*), common ragwort (*Jacobaea vulgaris*), ivy (*Hedera helix*), red valerian (*Centranthus ruber*), broad-leaved dock (*Rumex obtusifolius*) and grasses.	

7.3 *Invasive Species*

7.3.1 No invasive non-native species were recorded within the site boundary. Himalayan balsam (*Impatiens glandulifera*) was seen along the banks of Prestatyn Gutter to the north of the site boundary.

7.3.2 The Cofnod data search returned many records if INNS within a 1km search radius, the majority of which were plant species recorded along the coast to the north and within Coed Y Morfa to the west. The nearest records were Japanese Knotweed 481m to the west (2019) and Himalayan Balsam within the Y Morfa wetland area 569m to the west (2011).

7.4 ***Fauna***

7.4.1 The presence of water vole and otter was discussed in Section 6 and bats with regards to the buildings is discussed in Section 8

7.4.2 The survey results for other protected species including records within 1km of the survey are described in Table 7.3 below.

Table 7.3 Summary of Protected Species Survey

Species	Suitability of habitat	Nearest record to site within last 20 years
Amphibians – great crested newts (GCN)	There was no suitable habitat for amphibians, including for breeding, foraging or resting within the site.	Three records of newts *Lissotriton,* 720-742m to the east (2018 – 2022).
Badger	No evidence of badgers and no suitable habitat within the site for foraging or sett building.	Nine of badger records within 1km
Reptiles	The site did not provide suitable reptile habitat and nor did the immediate surrounding area.	Sand lizards present within Gronant dunes 880m to the north east. Common Lizard also present within the dune systems to the north and east of the site.
Birds	The buildings provided potential nesting areas for birds with pigeons seen within the open shed and nests consistent with house martin seen within Building 3.	Large number of bird records within the 1km search radius, mostly concentrated along the coastal and dune areas to the north and east.
Hedgehog	No suitable habitat for hedgehog within the site.	Many records of hedgehog within the 1km search radius, within the residential area.

8.0 Discussion and Evaluation: Bats

8.1 ***Daytime Bat Walkover***

8.1.1 The site itself, provided very limited suitable habitat for bats with no tall vegetation present, however Prestatyn Gutter, running outside of the northern site boundary, did provide some connectivity to areas of suitable habitat across the area.

8.1.2 Overall the site had low potential flight paths or foraging habitat as per the Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) (Collins, 2023). This is defined as habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.

8.1.3 This was observed during the emergence surveys, where common pipistrelles were seen commuting along the northern boundary of the site and foraging briefly within the area.

8.1.4 Proposed planting as part of the proposed development, will greatly enhance the site for bats.

8.2 ***Preliminary Roost Assessment & Emergence Surveys***

8.2.1 The roof and rooflines of the buildings were in good condition and there were only a small number of potential roosting features present. Under the Good Practice Guidelines (Collins, 2016; 2023), the buildings were regarded as having a low suitability for roosting bats.

8.2.2 During the Preliminary Roost Assessment (PRA), a small number of common pipistrelle droppings (confirmed by DNA analysis), of varying ages, were identified within two of the store rooms in Building 3. As the store rooms had low suitability as a day roost due the lack of roosting features, the metal roof, and no bats were seen to emerge during the emergence surveys, it is thought that they are likely to be used only as an occasional night roost/feeding perch when the doors are left open.

8.2.3 Building 3 is therefore considered to be an occasional night roost/feeding perch for an individual or low number of common pipistrelles.

8.2.4 Table 8.1 provides a summary of the species and roost type present within Building 3 and its relative importance on a site, local or district scale using the assessment methodology set out in Reason & Wray (2023).

Table 8.1: Summary of species and roost types present within Building 3

Species	No. Individuals	Species Rarity Category (Reason & Wray, 2023)	Roost Type	Roost Importance (Reason & Wray, 2023)
Common pipistrelle	Low number of individuals	Widespread	Feeding perch /night roost	Site

8.2.5 **As Building 3 has a known bat roost, a licence will be required from NRW before any works can commence to this building.**

8.3 ***Effect of Proposed Works on Bats***

8.3.1 Building 3 will be demolished as part of the proposed works. This will result in the destruction of the common pipistrelle night roost/feeding perch, which would have a negative affect on bats in the absence of mitigation. Compensatory roosts will be created to compensate and further enhance the site for bats.

8.3.2 The site is currently well lit by the existing street lighting however, there may be an increase in lighting levels across the site during the period of works, and as a result of the residential development. RAMs for during the construction phase and lighting guidance, to reduce the impact to bats, is detailed in Section 10.

8.3.3 The proposed planting as part of the development, and the increase in vegetation within the residential gardens over time, will greatly enhance the site for bats.

8.3.4 **A European Protected Species licence (EPSL) will be required** from Natural Resources Wales (NRW) prior to any works commencing on Building 3.

8.3.5 General recommended avoidance, mitigation, compensation and enhancement measures (in line with adopting a step-wise approach), which include details of Reasonable Avoidance Measures (RAMs) to reduce the impact of the works on bats using the site and the immediate surrounding area are provided in Sections 10 and 12.

8.4 ***Impacts on Designated and Notable Sites***

8.4.1 The proposed works will not have an impact on any SSSIs designated for bats, bat populations within the local area, or the favourable conservation status of the species concerned, as long as mitigation measures detailed within this report and subsequent Natural Resources Wales licence application method statement are followed.

8.5 ***Nesting Birds***

8.5.1 Nests consistent with house martins were seen within the store rooms of Building 3 and pigeons were seen within the open shed. Although no other birds were seen during the surveys, the other buildings did provide potential for nesting.

8.5.2 Recommended avoidance, mitigation, compensation and enhancement measures (in line with adopting a step-wise approach), which include details of Reasonable Avoidance Measures (RAMs) to reduce the impact of the works on birds using the site and the immediate surrounding area are provided in Sections 10 and 12.

9.0 Discussion and Evaluation: Other Species and Habitats

9.1 ***Proposed Works***

9.1.1 The proposed development involves the demolition of the existing TA Centre buildings, to be replaced by a residential housing development comprising 47 units, including dwellings, apartments, and public open space.

9.2 ***Designated Sites***

9.2.1 Prestatyn Gutter, which runs along the northern site boundary, flows eastwards before entering the sea at Gronant, flowing through Gronant Dunes and Talacre Warren SSSI, Liverpool Bay SPA, the Dee Estuary SPA & Ramsar and Gronant Dunes Local Nature Reserve and Prestatyn Golf Links Wildlife Site.

9.2.2 **As the water course runs into these designated sites, any pollution as a result of the development, either during the construction phase or once its complete, may have a potential adverse effect if there are no mitigation or control measures in place.**

9.3 ***Habitats and Flora***

9.3.1 The development will result in the loss of an area of buildings, hardstanding and a narrow strip of tall ruderal vegetation. Floral diversity of the development footprint was low and species were those typically associated with the habitats on site. None of the species recorded during the survey are protected by the Wildlife and Countryside Act 1981 (as amended), or listed under Section 7 of the Environment (Wales) Act, 2016. In addition, no nationally or locally rare species were recorded.

9.3.2 No invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 were recorded within the site boundary, however Himalayan Balsam was recorded on the banks of Prestatyn Gutter (outside of the site boundary). The proposed works will not impact this area and so the works are unlikely to cause any further spread of INNS.

9.4 ***Amphibians and Reptiles***

9.4.1 There were no ponds within the site or immediate area to provide breeding opportunities for GCN and there are no records for this species within a 1km radius and so there is negligible potential for this species to be present within the site. Due to the nature of the site, it is also unlikely that other common amphibians or reptiles would rest or forage within these areas. RAMs provided in Section 11 should be followed to reduce the risk of harm if an amphibian or reptile were to enter the site during the construction phase of the development.

9.5 *Otter and Water Vole*

9.5.1 The section of Prestatyn Gutter, along the northern site boundary was suitable for water vole and signs of likely past use were seen during the survey. With mitigation in place, the proposed works will not have a negative impact on individual water vole or water vole population within the area.

9.5.2 While no otter holts were recorded, the water course was suitable for foraging and commuting otters and it should be assumed that they may pass by the site on occasion and could be present during the works period. The works will not be considered to have a negative impact on individual otters and otter populations within the area as long as mitigation is in place. Therefore, reasonable avoidance measures will be followed during and after construction, as detailed in Sections 10 and 11.

10.0 Mitigation and Reasonable Avoidance Measures (RAMs): Bats and Birds

10.1 **As Building 3 has a known bat roost, no works to this building must commence until a licence has been obtained from NRW. A licence can only be applied for following the granting of planning permission and the discharge of any ecology related conditions. Once submitted the licence application takes 40 working days to be processed (or more if any there are any queries).**

10.2 ***Timing of Works***

10.2.1 As the building is a known night roost/feeding perch for a low number of common bat species, the works to Building 3 can be undertaken at any time of the year (subject to nesting bird restrictions, see Section 10.5).

10.3 ***Mitigation: Destructive Works***

10.3.1 Prior to the start of works, a toolbox talk will be given to everyone involved in the project by the licenced ecologist and a log of this will be kept. The toolbox talk will also be incorporated into the site induction for all contractors.

10.3.2 The ecologist will carry out an inspection of the potential roosting areas prior to the start of any works using an endoscope and high-powered torch where necessary. If it can be determined that no bats are present then works can continue in these areas without supervision. If there are any areas that cannot be inspected fully, or bats are found, then works to these areas will be carried out under supervision.

10.3.3 It is very unlikely but there may be bats active and present in small numbers during the works period. To reduce the impact of disturbance on the bats (if present), the removal of the roof or internal wooden panelling in Building 3 **will be carried out by hand** and inspected prior to works by/supervised by a licensed ecologist who is named on and authorised to act under the specific licence granted by NRW for this works.

10.3.4 A bat box (such as a woodstone/woodcrete multi-chamber bat box suitable for both summer and winter roosting bats) will be made available on site prior to the start of works, to be available for the species that is found within the site (the exact location of installation to be agreed with the licenced ecologist).

10.3.5 If a bat is found and is accessible, it should be captured by a licenced ecologist and placed in one of the temporary roosts on site, which is appropriate for that species.

10.3.6 If, when carrying out the pre-works checks and supervision works, it becomes apparent that more bats or different species of bats are to be affected by the works than first thought, works will be stopped until the working method and type/scale of compensation measures can be reviewed and agreed with NRW.

10.3.7 Biosecurity measures, as detailed in Section 14, will be in place throughout the of the works.

10.4 ***Mitigation: Lighting***

10.4.1 The habitats surrounding the buildings, had low suitability for bats, however the northern site boundary was used by bats for commuting and foraging. Therefore, any new lighting has the potential to impact bats and nocturnal birds.

10.4.2 To reduce the potential impact of additional lighting, which may be installed, the following measures should be incorporated into the lighting design.

- There should be no illumination of the new bat and bird boxes once the works are complete.

- A darker 'buffer zone', where there should be no illumination, will be created along the northern site boundary.

- Any external or security lighting should be limited to provide some dark periods during the night. Ideally the lighting should be motion activated, and not stay on longer than one minute, in order to provide maximum darkness when not needed as well as providing safe lighting conditions for residents when required.

- During the period of works, works should be avoided within 1 hour of dawn and dusk to avoid disturbance to nocturnal animals (especially during the time when bats are active April – October). If works outside this time are needed, all lighting should be directional and be directed away from the northern site boundary.

Figure 10.1: Location of a 'darker buffer zone' in blue shaded area

10.4.3 The following notes are summarised from ILP (2023) 'Bats and Artificial Lighting At Night. Guidance Note GN08/23' and it is essential that this guidance is incorporated into the lighting design to ensure the development will not have a negative impact on the bats using the site or in the wider area.

10.4.4 ILP (2023) conclude that for bats, artificial lighting at night (ALAN) is thought to increase the chances of predation by avian predators (such as owls and hawks) and in lit areas, bats are known to modify their behaviour, potentially in response to this threat. Illuminating a bat roost can cause disturbance and this may result in the bats deserting the roost, or even becoming entombed within it. Lighting would therefore be considered an obstruction under the legislation protecting bats and their roosts. In addition, artificial lighting can also affect the feeding behaviour of bats.

10.4.5 Key messages from the ILP (2023) 'Bats and Artificial Lighting at Night' guidance include:

- The ecological mitigation hierarchy applies to lighting design: impacts to biodiversity should be avoided in the first instance through design and where this has been clearly demonstrated not to be possible, appropriate mitigation needs to be put in place. Compensation is the least desirable option, so all other avenues should first be explored and ruled out. In parallel, opportunities to design lighting betterment for biodiversity should be sought wherever possible.

- It is important to integrate avoidance measures into developmental design, by retaining ecologically functional 'dark corridors' within schemes wherever feasible, and in preference to seeking lighting mitigation strategies. Consideration should be given to the lighting effect of a scheme on Key Habitat and Supporting Habitat areas for bats, as well as commuting routes.

- It is important to minimise Artificial Lighting At Night (ALAN) close to vegetation, particularly for slower-flying bat species.

- ALAN has been shown to be particularly harmful along river corridors, near woodland edges and hedgerows.

- Bats have considerable sensitivity to very low light levels and distances from light sources, and there is a need to maintain or reduce existing light levels in the environment.

- Careful choices would need to be made about the type of lighting chosen for a scheme, and this should be designed through a multi-disciplinary design approach. Whilst Part Night Lighting (PNL) schemes and the installation of LED lights may have energy-saving benefits, they can result in an increase in light intensity, impacting on bat behaviours, and the lighting design for each site should be developed using information from bat surveys, and pre-development light level data.

10.4.6 Slower-flying, broad-winged species (such as long-eared, *Myotis* species (which include Brandt's, whiskered, Daubenton's, Natterer's and Bechstein's), barbastelle and greater and LHS) have been shown to avoid commuting and foraging routes illuminated with a variety of different street luminaires. Consequently, these bat species are put at a competitive disadvantage and are less able to forage successfully and efficiently, and ILP (2023) suggest that Artificial Lighting At Night (ALAN) has potentially devastating conservation consequences for these species.

10.4.7 Faster-flying species (such as noctule, Leisler's, serotine and pipistrelle) can congregate around white light sources, particularly those on the UV spectrum (ILP, 2023). This is because their prey are attracted to the light source and the feeding opportunities for these bats are then concentrated into a smaller area around the light. ILP (2023) conclude that the cumulative impacts from Artificial Lighting At Night (ALAN) on these bat species are likely to have negative impacts on the Favourable Conservation Status of a bat species.

10.4.8 After avoiding, wherever possible, the potential impacts of Artificial Lighting At Night (ALAN) through scheme designs, if further mitigation measures are required in the form of lighting controls, ILP (2023) recommend that a lighting professional helps to select those light sources, lamps, LEDs and their fittings which are most appropriate for the project. To assist with the decision-making process, ILP (2023) suggest that the following are considered when choosing luminaires:

- All luminaires should lack UV elements when manufactured. Metal halide, compact 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 light source (2700Kelvin or lower) should be adopted to reduce blue light component.

- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone et al, 2012).

- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill.

- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges.

- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.

- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - see ILP (2021) GN01.

- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.

- Where appropriate, external security lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.

- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.

- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

10.5 ***Birds***

10.5.1 House martin nests were seen within Building 3, pigeons were present within the open shed and other areas of the buildings also had potential for nesting birds.

10.5.2 Where possible, work to these areas should be avoided during the bird nesting season (April to September inclusive). If this is not possible, a nesting bird check must be carried out no more than 48 hours before works commence. If birds are found nesting during any point in the works, all works to that area must **stop** and only continue once the chicks have fledged. The existing house martin nests will be retained, where possible, as the nests may be reused.

11.0 Mitigation and Reasonable Avoidance Measures (RAMS): Other Species

11.1 ***Water Vole***

11.1.1 If any works to the banks of Prestatyn Gutter are proposed, a pre-works check by an ecologist will be required to ensure the works will not affect water vole and dependent on the proposed works, further survey work may be required to confirm the presence of water vole and their population size and a licence may be required.

11.2 ***Otter***

11.2.1 Due to the potential presence of otter along Prestatyn Gutter, reasonable avoidance measures as detailed below will be adhered to at all times.

- Any lighting along the northern boundary has the potential to cause disturbance to otter, which may be passing through the area. Lighting during construction must be kept to a minimum and no lighting will focus on the northern site boundary. There should be no lighting of the northern site boundary on completion of the construction works.

- 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 northern site boundary, i.e. onto the site from the perimeter and noise should be kept to a minimum.

- General site reasonable avoidance measures detailed below, must be adhered to at all time.

11.3 ***General Site Reasonable Avoidance Measures***

11.3.1 Suitable RAMs will be implemented to reduce the potential impact to species that may be found on site or passing through the site. All measures in this section should be implemented as appropriate.

11.3.2 The following measures should be implemented at all times during 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 during this time are needed, all lighting should be directional and directed away from boundary edges and any surrounding habitat.

- Storage of fuel must follow best practice. Potential pollutants should be restricted to site compounds and hardstanding areas.

- Should it be necessary to have any excavation left open overnight a suitable ramp (such as a plank or branch) must be provided to allow badgers, and other animals to escape the pit. Ramps could be created by grading the slope at the edges or using scaffold boards.

- 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.

- 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.

- If at any point in the works an amphibian or reptile is found within the works area all works in the vicinity of the sighting must immediately cease. Common amphibians should be moved from the working area by site workers (wearing gloves) and placed in a nearby hedgerow. Reptiles will usually retreat to a safe area of their own accord.

- 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.

12.0 Compensation and Enhancements

12.1 In line with Planning Policy Wales Edition 12 issued in February 2024, and following the Environment (Wales) Act 2016, there is a requirement for all development to deliver a **net benefit** for biodiversity and ecosystem resilience from the baseline state.

12.2 ***Bats***

12.2.1 At least eight bat boxes will be in-built into the new houses located along potential commuting and foraging routes to increase the roosting opportunities within the area.

12.2.2 The boxes should be at least 4m above the ground and be placed on elevations facing preferably south, south-east and south-west. The positions of these will be agreed with an experienced ecologist and must be placed where there will be the least likely disturbance from light spill, windows doors and patios. Preferred locations of the bat boxes are shown in Figure 12.1.

12.2.3 Examples of recommended integrated bat boxes include:

- Green & Blue Bat Block/Bat Brick for crevice dwelling bats (recommended by Bat Conservation Trust) https://www.greenandblue.co.uk/products/bat-block-bat-brick
- Schwegler 1FR https://www.schwegler-natur.de/portfolio_1395072079/fledermaus-fassadenroehre-1fr/?lang=en
- Habibat Bat Box https://www.habibat.co.uk/bat-boxes

12.3 ***Swifts***

12.3.1 There were a number of records of swifts within the area. To provide potential nesting sites for swifts, three groups of four swift boxes will be inbuilt onto the northern elevation of the apartment block (Figure 12.1). These will be placed at the eaves at least 5m high and must be facing north, east, or northwest, and away from direct sunlight. They should also have a clear flight path in front of them.

12.3.2 Examples of recommended integrated swift boxes include:

- Green & Blue Swift Block https://www.greenandblue.co.uk/products/swift-block-swift-box
- Schwegler Swift Box https://www.schwegler-natur.de/vogelschutz/?lang=en
- Habibat Swift Box https://www.habibat.co.uk/bird-boxes

12.4 ***House Martins***

12.4.1 To compensate for the loss of the house martin nests within Building 3, two pairs (4x) of house martin nest cups will be erected. These nest cups must be placed under the eaves, at a minimum height of 2 meters above the ground. They should be out of direct sunlight and rain, and ideally face north or east (Figure 12.1).

12.4.2 Examples of recommended house martin nest cups include:

- Schwegler House Martin Box https://www.schwegler-natur.de/portfolio_1408366639/mehlschwalbennest-nr-9a/?lang=en
- Vivaro Pro House Martin Nest Bowl https://www.vivarapro.co.uk/?s=house+martin

12.5 ***General Birds***

12.5.1 To enhance the site for other general birds, six bird boxes will be in-built on the northern elevations. These are to be placed at the eaves, positioned away from doors, windows and vents to prevent disturbance, as indicated by the yellow circles on Figure 12.1.

12.5.2 Examples of recommended integrated bird boxes include:

- Green & Blue Bird Block/Nest box https://www.greenandblue.co.uk/products/birdblock-bird-nest-box
- Schwegler Brick box type 24 https://www.schwegler-natur.de/portfolio_1408366639/nist-einbaustein-24/?lang=en
- Habibat 003 Bird Nest Box https://www.habibat.co.uk/bird-boxes

Figure 12.1 Recommended locations for inbuilt bat and bird boxes

12.6 ***Hedgehogs***

12.6.1 As hedgehogs are known to be present in the area, a 'hedgehog highway' comprising a 13 x 13cm (5" x 5") square hole at the bottom of every fence or gravel board should be created. This will ensure they can continue to move through the area to forage but is too small for most pets.

12.7 ***Tree and hedgerow planting***

12.7.1 Native species hedges, should be incorporated into the final landscape design, to create connectivity across the site and to the wider area.

12.7.2 Trees and shrubs should be planted within the areas of public open space and gardens and will comprise native species, which are wildlife friendly and good for pollinators. Examples of suitable species are given in Table 12.1.

Table 12.1 Recommended native tree and hedgerow species

Latin name	Common name
Crataegus monogyna	Hawthorn
Corylus avellana	Hazel
Acer campestre	Field maple
Rosa canina	Dog rose
Cornaceae	Dogwood
Euonymus europaea	Spindle
Viburnum opulus	Guelder rose
Viburnum lantana	Wayfaring tree
Sorbus torminalis	Wild service tree
Sorbus aucuparia	Mountain ash/rowan
Sorbus aria	Whitebeam
Prunus avium	Wild Cherry
Prunus padus	Bird Cherry
Pyrus pyraster	Wild Pear
Prunus domesticus	Denbigh Plum
Prunus domesticus	Damson
Ilex aquifolium	Holly

13.0 Monitoring and Mitigation Contingencies

13.1 ***Monitoring***

13.1.2 Monitoring will comprise checks to ensure that the mitigation and compensation measures for bats have been properly implemented. This will be conducted through an Ecological Compliance Audit as part of the NRW bat licensing process.

13.2 ***Auditing***

13.2.1 Work will be supervised where appropriate throughout the project by a licenced worker. All mitigation and compensatory measures will be inspected by an ecologist to ensure compliance with measures detailed in the licence method statement.

13.2.2 The licensed ecologist will be available throughout the project to provide advice on more detailed points as the project progresses.

13.2.3 A record of visits will be kept and a toolbox talk will be given to all those who will be involved in the project.

13.2.4 The works will be audited through the formal bat licencing process to include the submission of the development licence report form, with evidence of the implementation of the detailed mitigation and compensation measures, within four weeks of the licence expiry. The NRW ecological compliance audit form will be completed as required by the bat licence. Monitoring and Compliance Audit reports will be submitted to NRW and success will be determined by the achievement of performance indicators detailed in Section 13.3.

13.3 ***Performance Indicators***

13.3.1 The surveys showed the site is used as a night roost/feeding perch for common pipistrelle. Therefore, the mitigation measures will be considered successful if the following are achieved:

- The audit found that all proposed mitigation, compensation and enhancement measures were in place as per this document and the licence method statement.

- The Ecological Compliance Audit finds that the licence method statement has been followed with no non-compliances.

13.3.2 All records will be submitted to Cofnod, the Local Environmental Records Centre and reported to NRW as a condition of the bat licence.

13.4 ***Mitigation Contingencies***

13.4.1 If, when carrying out the pre-works checks or during works, it becomes apparent that a higher number of bats, or different species of bats, are to be affected by the works than first thought, works will be stopped until the working method and type/scale of compensation measures can be reviewed and agreed with NRW and the licence amended. Further surveys may be required.

13.5 ***Persons Responsible for Implementing the Works***

13.5.1 The site is to be kept in the ownership of Wales & West Housing, who will be responsible for implementing the works and the subsequent management of the building.

13.6 ***Mitigation Site/Compensation Ownership Post-Construction***

13.6.1 Once built, the properties with the inbuilt bat boxes will come under different ownerships. On purchase, the owners will be formally informed that the boxes are protected by the current bat legislation and will be retained and remain un-disturbed.

13.6.2 Any potential works to the site in the future that may directly or indirectly impact the designated bat areas, including any future proposed lighting schemes, will be subject to further licencing requirements and all proposals for the site will need to be discussed with an ecologist and NRW.

14.0 Biosecurity Risk Assessment

14.1 *Biosecurity Risk Assessment - Bats*

14.1.1 Table 14.1 below relates to ecologists employed to monitor bat populations that come into direct contact, i.e. handling bats, but is applicable to these works where bats may need to be captured and moved to a bat box, as well as contractors and ecologists entering the bat roosting areas.

14.1.2 The fungus that causes white-nose syndrome (WNS), has been identified on a number of bats in at least 17 European countries. In the UK a case was detected from a Daubenton's bat at a hibernation site in Kent in February 2013 and a second positive case from another Daubenton's bat at a hibernation site in Norfolk in March 2014 and there has been a small number of subsequent cases. Cases in the UK and Europe have not appeared to cause high levels of mortality, unlike in North America where mass mortalities have been recorded.

14.1.3 Transmission in the UK is most likely to arise due to the increasing trend of 'International Bat Work' with bat ecologists from the UK travelling to other countries where the disease is known to be present. The fungal spores can be persistent on equipment and clothing.

Table 14.1 Biosecurity risk assessment for white nose syndrome and Covid19 in relation to bats

Risk	Transmission Vector	Level of Risk	Consequences	Control Measures
Introduction of White Nose Syndrome to the bat population.	Bat ecologists, their equipment & clothing	High if ecologists have taken part in bat work in areas of known infection outside the UK. Low if ecologists have not taken part in bat work in areas of known infection outside the UK.	The spread of the disease throughout the bat population. Due to bats being very mobile animals the infection could eventually spread throughout the UK.	The most effective way of preventing the spread of White Nose Syndrome is to use 'site specific' equipment such as gloves and holding bags. This is the approach that will be adopted for this site. Avoid capturing and/or handling bats unless absolutely necessary. The Bat Conservation Trust guidelines for reducing the risk of transmission of White Nose Syndrome will be adhered to at all times.
Covid 19	Bat ecologists	Low	A risk of passing Covid 19 on to bats. The virus that causes COVID-19 hasn't been isolated from any of the UK's 17 resident breeding bat species.	When handling bats, practice good hygiene and wear a facemask to reduce the risk of possible transmission. No surveyors showing any Covid symptoms or feeling generally unwell will attend site.

14.2 ***General Biosecurity Procedures***

14.2.1 The following points are a summary of the biosecurity procedures, which must be followed at all times by all workers who visit the sites.

14.2.2 Prior to accessing the site, and before leaving:

- All footwear and outerwear must be cleaned to remove any organic material, for example leaves and soil, when entering and prior to leaving the site. Clean brushes are to be carried for this purpose.

- Following the removal of organic material all footwear must be sprayed or dipped in disinfectant (Virkon or bleach) until it runs off. See disinfection procedure, below.

- Mud and other organic material to be cleaned from vehicle tires, tracks, wheels and wheel arches prior to entering and leaving the site. This is especially important when working near water courses.

- Vehicles will keep to established tracks. All vehicles not specifically required for the works – (i.e. any vehicle other than the 3-tonne machine) must be restricted to hard standing areas of the site at all times.

- Storage of fuel must follow best working practise and machinery provided with drip trays, especially when refuelling. Refuelling and storage of potential pollutants should be restricted to the nearby roads and hardstanding areas, well away from the ditches and field drains, so that runoff can be prevented from entering the watercourse.

- Clean and disinfect tools and equipment before accessing site.

14.2.3 **Disinfection Procedure:**

1. Brush off all debris, plant fragments, and all organic material e.g. soil.
2. Rinse with water.
3. Disinfect by spraying with a solution of Virkon disinfectant, (10mg/ml or as printed instructions, if for example using tablets) until the spray runs off; or soak in a bleach solution (1 measure of household bleach to 9 measures water) for 15 minutes. Boots should be stood in a bucket or other container of solution, especially prior to entering and leaving the site. Wheel arches, tyres and tracks to be cleaned and sprayed. Ensure as much mud as possible is removed and good coverage obtained.
4. Spraying should take place away from vegetation.
5. Leave for at least 1 minute.
6. Rinse with clean water, brought to site for this purpose.

14.2.4 Virkon solution should ideally be kept and flushed into a sink or drain with water. If on site disposal is required, the solution should be disposed of on a large hard standing area away from vegetation.

15.0 Legislation

15.1 *Bats*

15.1.1 *International Law*

The UK is a contracting party to the 1979 Convention of the Conservation of European Wildlife and Natural Habitats (commonly referred to as the Bern Convention). The Bern convention has been described as the "European Treaty for the conservation of nature". Its provisions with regards to bats are transposed into law as follows:

- In England and Wales via the Conservation of Habitats and Species Regulations 2017 (as amended) (the England and Wales Habitat Regulations) and the Wildlife and Countryside Act 1981 (as amended) (the W&CA)

15.1.2 *Legislation in England and Wales*

All species of bat, their breeding sites and their resting places in England and Wales are protected through a 'dual' system of protection, under the England and Wales Habitats Regulations and W&CA. Because two regimes give legal protection to bats, the implications of both regimes must be fully understood.

Regulation (Reg.) 43 of the England and Wales Habitats Regulations makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats (which includes any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate or to affect significantly the local distribution or abundance of the species to which they belong);
- damage or destroy a breeding site or resting place of a bat; or
- possess, control, transport, sell or exchange, or offer for sale or exchange, any live or dead bat or part of a bat or anything derived from a bat or any part of a bat

Under Section 9 of the W&CA (s.9(4)(b), 9(4)(c) and 9(5) only), it is an offence (in relation to bats) to:

- intentionally or recklessly disturb a bat while it is occupying a structure or place of shelter or protection;
- intentionally or recklessly obstruct access to any structure or place used by a bat for shelter or protection; or
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead bat or any part of, or anything derived from a bat (or be responsible for adverts suggesting the intention to do this).

15.2 *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.

15.3 *Water Vole*

Under Section 9 of the Wildlife and Countryside Act 1981(as amended) (W and CA) it is illegal to:

- Intentionally kill, injure or take any wild water vole. 9(1)
- Possess or control any live or dead wild water vole or any part of, or anything derived from, such an animal. 9(2)
- Intentionally or recklessly damage or destroy, any structure or place which any wild water vole uses for shelter or protection. 9(4)(a)
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for that purpose. 9(4)(b)
- Intentionally or recklessly obstruct access to any structure or place which any wild water vole uses for shelter or protection. 9(4)(c)
- Sell, offer or expose for sale, or have in possession or transports for the purpose of sale, any live or dead wild water vole, or any part of, or anything derived from, such an animal. 9(5)(a)
- Publishes or causes to be published any advertisement likely to be understood as conveying that you buy or sell, or intend to buy or sell, any of those things 9(5)(b)

16.0 References

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Appendix

Appendix A

Cofnod Data Search

Appendix B

SureScreen Scientific bat dropping DNA analysis report