PREMIMINARY AND DUSK-DAWN BAT SURVEY REPORT

Proposed application for the demolition of an old dwelling and construction of a dwelling,
Ballymakegoge, The Spa, Tralee, Co Kerry

Prepared by;
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on behalf of;
Cathal de Lacy

16 September 2024

Oakwin Ltd.

Annascaul,
Co. Kerry
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Contents

1. Introduction

Oakwin Ltd. has been commissioned by Cathal De Lacy to provide ecological consultancy services for the proposed development at Cahervalish, Ballymakegoge, The Spa, Tralee, Co.Kerry. The proposed development is to (a) demolish existing dwelling house (b) construct a new dwelling house (c) decommission existing septic tank and install a mechanical treatment unit and polishing filter and all associated site works.

The purpose of the bat roost survey report was to determine the presence or absence of bat roosts on site and if roosts are found to be present, to ascertain what type of roosts they are (maternity, satellite, transitional etc.). Oakwin ecologists were present on site on the 21st, 28th and 29th of August 2024 for preliminary surveys including dusk and dawn emergence and re-entry surveys.

1.1 Site Owner/Manager

Cathal and Katherine De Lacy

1.2 Site Address

Cahervalish, Ballymakegoge, The Spa, Tralee, Co.Kerry.

1.3 Site GPS Co-Ordinates

52°16'24.9"N 9°47'26.0"W

1.4 Scope of Survey

This survey covered the following items:

- A preliminary roost assessment to ascertain presence or roosting of any bats within the property.
- Dusk and dawn emergence and re-entry surveys to record and observe any bats emerging or returning to roosts. Data records on species, numbers, access points and roosting locations.

- If bat roosts are confirmed to be present, recommendation of mitigation measures is provided as appropriate to prevent adverse effects on the local bat populations and to ensure no net loss of roosts.

1.5 Statement of Authority

This report has been prepared by Maurice O'Connor. Maurice holds BSc (Hons) degree in Wildlife Biology from Munster Technological University (MTU), MSc in Ecological Assessment from National University of Ireland Cork (UCC) and he is a full member of the Chartered Institute of Ecology and Environmental Management, (MCIEEM). Maurice is an experienced ecological consultant with over 10 years' professional experience in Ireland, working independently and within consultancy. He has strong generalist ecological field skills in terrestrial and riparian environments and through his experience can demonstrate undertaking a range of ecological surveys including habitat, invasive and protected species survey, delivering initial site appraisals and identification of ecological constraints to inform environmental reports including EIAR, EcIA, SEA and AA. Maurice has undertaken ecological assessments and surveys on a variety of project types (e.g. road schemes, waste, water, energy, and housing) involving survey, mitigation and enhancement. During his time as an environmental consultant, Maurice has completed numerous environmental assessments for both plans and projects.

2. Methodology

2.1 Site description

The site is located at Cahervalish, Ballymakegoge, The Spa, Tralee, Co.Kerry. The property consists of a large vacant three storey semi-basement detached house. Access to the site is via a small unnamed road off the R558. The site comprises of a garden, wall perimeter to the north of the property and well established treelines (WL2) in and surrounding the property. Adjacent land use is a mixture of agricultural fields, residential housing and the Tralee Bay Complex SAC to the south. It is also of note that the grounds/garden surrounding the house is itself used for sheep grazing.

The house was in a severely dilapidated state at the time of surveying. Large portions of the ceiling on the ground floor had fallen down, ivy growing on the outside wall was growing through the window frames and inside the window, and the basement which had flooded a number of years ago had roots of vegetation growing through the ceiling.

The site is not adjacent to any rivers or streams, but is connected to a small network of broadleaved trees and treelines to the west.

2.2 Bats in Ireland

All species of bats in Ireland are listed in Annex IV of the Habitats Directive (92/43/EEC) which requires their strict protection within their natural range. It is prohibited under Article 12 of the Directive to deliberately capture, kill, or disturb these species or to destroy or damage breeding sites or resting places of such listed species. The Habitats Directive is transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). Similarly, the Wildlife Act 1976 and subsequent amendments provides protection to animals of national importance, including bats.

Bats roost in trees, buildings, bridges and anywhere where suitable crevices remain for them to enter and exit. Bats tend to roost in old, abandoned buildings, attics, roof

cavities and crevices. During this assessment a number of guidance documents were assessed, including;

- Andrews, H. & Gardener, M., (2016). Bat Tree Habitat Key – Database Report 2016. Bridgwater: AEcol. Conservation Trust, London
- Kelleher, C. & Marnell, F., (2006). Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. Dublin: National Parks and Wildlife Service, Department of Environment, Heritage and Local Government.

2.3 Desktop assessment

An ecological desktop review was undertaken on 20th August 2024 to appraise existing documentation and data sets containing information on bat observations, bat related protected sites and bat habitat potential within the area. Sources, publications and datasets consulted included;

- Species and habitat records from the National Biodiversity Data Centre;
- Aerial photography and 1:50000 mapping;
- Bat Habitat Suitability Index maps (Lundy *et al.,* 2011);
- Details and Qualifying Interests of protected European sites.

The Bat Habitat Suitability Index provides maps which detail the suitability of habitat for bats within Ireland and helps predict where bat species might occur (Lundy *et al.,* 2011). The maps are constructed using spatial units of the OSi National Grid whereby these spatial units are given a Bat Habitat Suitability Index ranging from 0 to 100 with 0 being the least favourable and 100 being the most favourable for bats.

The area encompassing the proposed development site of Cahervalish, Ballymakegoge, The Spa, Tralee, Co.Kerry holds an overall bat suitability index of 26.11 for all bat species. Such index is averaged between all potential species occurring within Ireland

and further detail shows a higher probability may be present for at least five species listed.

The Habitat Suitability Indices for each of these species are shown in Table 1 below:

Table 1. Habitat suitability index of higher probability of species listed

Common Name	Scientific Name	Habitat Suitability Index
Soprano pipistrelle	*Pipistrellus pygmaeus*	37
Brown long-eared bat	*Plecotus auritus*	40
Common pipistrelle	*Pipistrellus pipistrellus*	31
Lesser noctule	*Nyctalus leisleri*	31
Daubenton's bat	*Myotis daubentonii*	42
Natterer's bat	*Myotis nattereri*	31

Bat species records from the National Biodiversity Data Centre (NBDC) were assessed within the 1km grid squares that border the proposed development site. This data search returned no records for any bat species, however, this does not mean that such species are not present.

2.4 Survey methodology

2.4.1 Preliminary Roost Assessment (Collins, 2016)

A preliminary roost assessment is a detailed inspection of the exterior and interior of a structure to look for potential features that bats may use for entry/exit and roosting purposes, and to search for signs of bat presence (Collins, 2016). The overall aim of this survey is to determine the presence of bats and the need for further survey and mitigation as a result. In many cases it is not possible to access all sections of a structure, therefore an absence of bat evidence does not equate to an absence of bats.

A detailed examination of features should be carried out during daylight, systematically through all parts of the structure. External feature searches should include stonewalls windows, gaps under wall caps, piers etc. During both internal and external searches evidence of droppings, dead specimens, urine splashes, fur-oil stains, feeding remains, etc. should be looked for.

This survey type can be carried out at any time of the year under any weather condition. Once roosting features are noted, their suitability to hold roosting bats is then determined. Table 2 details the description of the characteristics of roosting features as per their bat suitability.

Table 2 Suitability of roosting features (Collins, 2016)

Suitability	Description of Roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

2.4.2 Emergence/re-entry survey (Collins, 2016)

Presence/absence surveys include dusk and dawn visits to assess for bats exiting and entering bat roosting sites. If the presence of bats is confirmed, a more in-depth characterisation survey is required. Presence/absence surveys are required if;

1. The preliminary roost assessment has not ruled out the reasonable likelihood of a roost being present but holds no definitive evidence of the presence of bats;
2. The potential roosting feature survey for trees has noted moderate and high suitability;
3. If an inspection survey is not possible;
4. There is a risk that bat evidence has been removed from the site.

Dusk and dawn, (emergence and re-entry), surveys are utilised to assess the presence of bats, the roosting features utilised and the species utilising the roosts. Sufficient numbers of ecologists are required, when surveying a structure, in order to observe all potential access points during a single survey but too many ecologists may result in the double counting of bats. Generally, one ecologist can cover two sides of a single structure, (on the corner of a building), with more complex structures requiring more ecologists and a number of consecutive nights of survey effort.

Surveys are weather and date dependant. The appropriate dates for assessment of roosts during emergence and re-entry surveys are outlined in Table 3.

Table 3. Recommended timing for present/absence surveys (Collins, 2016)

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) **No further surveys required (trees)**	May to September with at least one of the surveys between May and August	May to September with at least two of the surveys between May and August

Table 4 details the required start and end times for dusk emergence and dawn re-entry surveys.

Table 4. Start and finish times for emergence/ re-entry surveys (Collins, 2016)

Survey Type	Start time	End time
Dusk emergence	15 minutes before sunset	1.5-2 hours after sunset
Dawn re-entry	1.5-2 hours before sunrise	1.5-2 hours before sunrise

Table 5 details the minimum recommended numbers of survey visits to give confidence in negative result for potential bat roost structures.

Table 5. Minimum Recommended Survey Visits (Collins, 2016)

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk or dawn re-entry survey, with no further surveys for trees.	Two separate survey visits. One dusk and a separate dawn survey.	Three separate survey visits. At least one dusk emergence and a separate dawn survey, with the third being either dusk or dawn.

Bats require specific weather conditions in order to become active, emerge from the roost and feed. The weather conditions for such dusk emergence and dawn re-entry survey are required to be a sunset temperature of 10 ℃ or more with no rain or strong winds.

3. Survey findings

Evaluation of the Further Information Request detailed a submission received by the NPWS. The submission detailed an investigation carried out by NPWS which identified a bat roost present on site. An ecologist from Kerry County Council (KCC) in a further survey observed bats emerging from the roost, located within the ivy attached to the south-eastern (front) side of the building and the submission further noted 'considerable' bat activity along the western site boundary.

Figure 1. Corner of house with ivy cover where NPWS and KCC confirmed a bat roost

The findings as gathered by NPWS and KCC were not fully complimented within our investigation, as no roost was identified within the ivy forementioned, however, a roost was identified on the north-western side of the property, and significant bat activity identified along the western site boundary in addition to the garden and surrounding area present.

3.1 Preliminary roost assessment

Both an external and internal preliminary roost assessment were undertaken on the 21st August 2024 by Oakwin Ltd. with the aim of assessing potential roosting features within the site. During the interior inspection, no potential pathways from the outside to the ceiling hollows were found and in general, no potential pathways were found for bats to enter the basement, ground or first floors. However, no inspection of the inside of the attic was possible. On the same day, a visual inspection of the exterior took place. Particular attention was paid to the corner of the house with ivy cover, and an entry point could not be ruled out, as part of the wooden fascia board had rotted away.

No other obvious points of entry were identified on this initial inspection apart from two missing roof slates on the western side of the roof. However, due to the previous

reporting of a roost and the fact a roost could not be ruled out from the initial inspection, it was decided to carry out an emergence/re-entry survey.

3.2 Dusk and Dawn surveys

Due to the findings of the preliminary roost assessment as outlined in section 3.1, roost potential was identified, and dusk and dawn bat surveys were conducted on the 28th August and 29th August 2024 to monitor the potential roost features (PRFs) for emergence and re-entry of bat species.

Table 8 details the time, date, and weather conditions of the dusk and dawn emergence and re-entry surveys.

Table 8. Weather conditions for dusk and dawn surveys

Date	Time	Wind	Precipitation (mm)	Temperature (°C)	Structure surveyed
28th August 2024	8.20pm to 10:05pm (Sunset @ 8.35pm)	Low	0	15	Main building
29th August 2024	5.15am to 7.00am (Sunrise @ 6:45am)	Low	0	13	Main building

Bats require specific weather conditions in order to become active, emerge from the roost and feed. The weather conditions for such dusk emergence and dawn re-entry survey are required to be a sunset temperature of 10 ℃ or more with no rain or strong winds.

3.3 Results of dusk emergence and dawn re-entry surveys:

Heterodyne bat detectors were used to record echolocation calls and the models used were Elekon Batscanner Stereos. Two ecologists stood at the southeastern and northwestern sides of the building in order to observe its exterior while conducting the emergent and re-entry surveys.

Bats were observed and recorded commuting and foraging on the property and surrounding area from approximately 20.40 at the North-western side of the house. At approximately 20.52 a single bat was identified as potentially exiting the roof of the house. This was confirmed at 20.59 when two bats clearly emerged from an identified cavity within the roof. Five bats in total were recorded as leaving from this cavity with potential for this number to be higher at an estimated 8 individuals. Three bats were recorded re-entering the property during the dawn survey of 29th August 2024. Approximately four different bat species were identified by use of bat detectors during the dusk and dawn surveys. Due to the nature of the site and suitable roosting and foraging potential of the surrounding area (mature hedgerows, tree lines, large trees) this was not unusual. The species of bat using the roof cavity was most likely Soprano pipistrelle *(Pipistrellus pygmaeus)*. This species of bat is widespread and common in Ireland (NBDC, 2024).

The four bat species recorded during the survey were Soprano pipistrelle (*Pipistrellus pygmaeus*), Common pipistrelle (*Pipistrellus pipistrellus*), Leisler's bat (*Nyctalus leisleri*) and Brown long-eared bat (*Plecotus auritus*).

The tables below show the results of all bat species, time, date and frequency recorded during surveys carried out.

Dusk: North-western area (Rear of property)

Block 1: 8.20 – 8.50 pm					
Dusk/Dawn	Date	Time	Frequency (Khz)	Species	Notes
Dusk – Rear of property	28.08.2024	20.40	-	-	First bat sighted circling west beside trees of property over fenced

					off vegetation
Dusk – Rear of property	28.08.2024	20.46	56	Soprano pipistrelle (*Pipistrellus pygmaeus*)	Bat circling at west side of house. Potential exit from roof.
Block 2: 8.50 – 9.20 pm					
Dusk – Rear of property	28.08.2024	20.50	21	Leisler's bat (*Nyctalus leisleri*) /Brown long-eared bat (*Plecotus auritus*).	No bat sighted, static on detector
Dusk – Rear of property	28.08.2024	20.52	-	-	Bat flew from house, potential exit point photographed.
Dusk – Rear of property	28.08.2024	20.59	-	-	2 bats exit. Area of exit confirmed.
Dusk – Rear of property	28.08.2024	21.03	55	Soprano pipistrelle (*Pipistrellus pygmaeus*)	Single bat exit

Dusk – Rear of property	28.08.2024	21.04	44 & 25	Common pipistrelle (*Pipistrellus pipistrellus*), Leisler's bat (*Nyctalus leisleri*)	Sighted over fenced vegetation
Dusk – Rear of property	28.08.2024	21.05	55	Soprano pipistrelle (*Pipistrellus pygmaeus*)	Two bats exit roof
Dusk – Rear of property	28.08.2024	21.06	58	Soprano pipistrelle (*Pipistrellus pygmaeus*)	1 bat exit
Dusk – Rear of property	28.08.2024	21.07	57	Soprano pipistrelle (*Pipistrellus pygmaeus*)	Single bat sighted foraging. Fly by overhead.
Dusk – Rear of property	28.08.2024	21.09	54	Soprano pipistrelle (*Pipistrellus pygmaeus*)	Sigle bat circled above
Dusk – Rear of property	28.08.2024	21.10	55	Soprano pipistrelle (*Pipistrellus pygmaeus*)	One bat exits
Dusk – Rear of property	28.08.2024	-	43 – 53	Common pipistrelle (*Pipistrellus pipistrellus*)	Flying around back garden. 2 bats swooping.

				/Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Dusk – Rear of property	28.08.2024	21.12	44	Common pipistrelle (*Pipistrellus pipistrellus*)	Flyover
Dusk – Rear of property	28.08.2024	21.13	46	Common pipistrelle (*Pipistrellus pipistrellus*)	Single bat flying
Dusk – Rear of property	28.08.2024		26	Leisler's bat (*Nyctalus leisleri*)	Recorded on detector, bat not sighted
Dusk – Rear of property	28.08.2024	21.16	57	Soprano pipistrelle (*Pipistrellus pygmaeus*)	2 bats sighted, presence and calls continue into third block.
Block 3: 9:20 – 9:50 pm					
Dusk – Rear of property	28.08.2024	21.20	54 – 57	Soprano pipistrelle (*Pipistrellus pygmaeus*)	2 bats present, continuation on from second block. Swooping and chasing each other.

Dusk – Rear of property	28.08.2024	21.28	20-23	Leisler's bat (*Nyctalus leisleri*) /Brown long-eared bat (*Plecotus auritus*).	Pips also continue. Range up to 63.
Dusk – Rear of property	28.08.2024	-	-	-	Bat calls and sightings continuous and active, less than 1 minute intervals. 1-4 bats at a time, 2 bats mostly constant with others swooping in. 55-59 khz.
Dusk – Rear of property	28.08.2024	21.39	22, 60, 33	Leisler's bat (*Nyctalus leisleri*), Soprano pipistrelle (*Pipistrellus pygmaeus*)	Lying over and around house, around back garden, swooping. 56khz calls continuous, 20s coming

					in less frequently but still present.
Dusk – Rear of property	28.08.2024	21.47	-	-	Break in calls until 21.51
Block 4: 9:50 – 10:05 pm					
Dusk – Rear of property	28.08.2024	21.53	21, 53 - 60	Leisler's bat (*Nyctalus leisleri*), Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Dusk – Rear of property	28.08.2024	21.55	63 & 22	Leisler's bat (*Nyctalus leisleri*), Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Dusk – Rear of property	28.08.2024	21.58	-	-	Break in calls until 22.04, static call on recorder, bat not visible.
Dusk – Rear of property	28.08.2024	22.05	-	-	Pips back as survey concludes

Dusk: South-eastern area (Front of property)

Block 1: 8.20 – 8.50 pm					
Dusk/Dawn	Date	Time	Frequency (Khz)	Species	Notes
Dusk – Front of property	28.08.2024	20.37	21	Brown long eared bat (*Plecotus auritus*) / Leisler's bat (*Nyctalus leisleri*)	Low sound
Block 2: 8.50 – 9.20 pm					
Dusk/Dawn	Date	Time	Frequency (Khz)	Species	Notes
Dusk – Front of property	28.08.2024	8.50 – 9.20	45	Common pipistrelle (*Pipistrellus pipistrellus*)	• Fly past • Figure 8 swooping • No visual • Bat flying slowly around house • Fly past
Dusk – Front of property	28.08.2024		59	Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Dusk – Front of property	28.08.2024		54	Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Dusk – Front of property	28.08.2024		56	Soprano pipistrelle	

				(*Pipistrellus pygmaeus*)	
Dusk – Front of property	28.08.2024		55	Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Block 1: 9.20 – 9.50 pm					
Dusk – Front of property	28.08.2024	9.20 – 9.50	60	Soprano pipistrelle (*Pipistrellus pygmaeus*)	• Fly past • Bat activity around house • Mostly 21 khz calls. Plenty of bats. Unable to tell if coming from house. • Things quieten down at 21.45
Dusk – Front of property	28.08.2024		58 – 60	Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Dusk – Front of property	28.08.2024		23	Leisler's bat (*Nyctalus leisleri*)/ Brown long-eared bat (*Plecotus auritus*)	
Dusk – Front of property	28.08.2024		57, 58	Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Block 4: 9.50pm – 10.05pm					
Dusk – Front of property	28.08.2024	9.50 – 10.05pm	56 & 21	Leisler's bat (*Nyctalus leisleri*), Soprano	

				pipistrelle (*Pipistrellus pygmaeus*)	
Dusk – Front of property	28.08.2024		55 – 57, 44 -45	Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*Pipistrellus pygmaeus*)	

Dawn: North-western area (Rear of property)

Block 1: 5.15 – 5.45 am					
Dusk/Dawn	Date	Time	Frequency (Khz)	Species	Notes
Dawn – Rear of property	29.08.2024	5.15 – 5.45	57 – 56	Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Dawn – Rear of property	29.08.2024		24	Leisler's bat (*Nyctalus leisleri*) /Brown long-eared bat (*Plecotus auritus*)	
Dawn – Rear of property	29.08.2024		63	Soprano pipistrelle	

				(*Pipistrellus pygmaeus*)	
Dawn – Rear of property	29.08.2024		25	Leisler's bat (*Nyctalus leisleri*)	
Dawn – Rear of property	29.08.2024		43 - 45	Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*Pipistrellus pygmaeus*)	
Block 2: 5.45 – 6.15 am					
Dawn – Rear of property	29.08.2024	5.45 – 6.15	17	Leisler's bat (*Nyctalus leisleri*)	
Dawn – Rear of property	29.08.2024		43	Common pipistrelle (*Pipistrellus pipistrellus*)	Fly past
Dawn – Rear of property	29.08.2024	6.09			Single bat re-enters
Block 3: 6.15 – 6.45 am					
Dawn – Rear of property	29.08.2024	6.15			Single bat re-enters
Dawn – Rear of property	29.08.2024	6.25			Single bat re-enters
Block 4: 6.45 – 7.00am					
Dawn – Rear of property	29.08.2024	-	-	-	-

Dawn: South-eastern area (Front of property)

Block 1: 5.15 – 5.45am					
Dawn – Front of property	29.08.2024	-	-	-	-
Block 2: 5.45 – 6.15 am					
Dusk/Dawn	Date	Time	Frequency (Khz)	Species	Notes
Dawn – Front of property	29.08.2024	6.15	23 & 63	Leisler's bat, Soprano pipistrelle	3 bats observed
Dawn – Front of property	29.08.2024				Single bat east side of garden
Dawn – Front of property	29.08.2024	6.17	22	Leisler's bat/Brown long eared bat	
Dawn – Front of property	29.08.2024	6.21			Single bat, overhead flying westerly direction
Dawn – Front of property	29.08.2024	6.24	34	Leisler's bat/Brown	

				long eared bat	
Dawn – Front of property	29.08.2024	6.25	56	Soprano pipistrelle	Flew around rear direction of house (westerly)
Block 3: 6.15 – 6.45am					
Dawn – Front of property	29.08.2024	-	-	-	-
Block 4: 6.45 – 7.00am					
Dawn – Front of property	29.08.2024	-	-	-	-

3.3.1 Recorded Bat Roost

As described in Section 3.3, a bat roost was recorded at the rear of the house. In daylight, an entrance is not visible and is only identified by the emergence/re-entry of bats. When bats re-entered, they first landed on the Fascia, crawled to the end of it and climbed under it, therefore hidden behind the fascia.

Figure 2. Map of location of bat roost

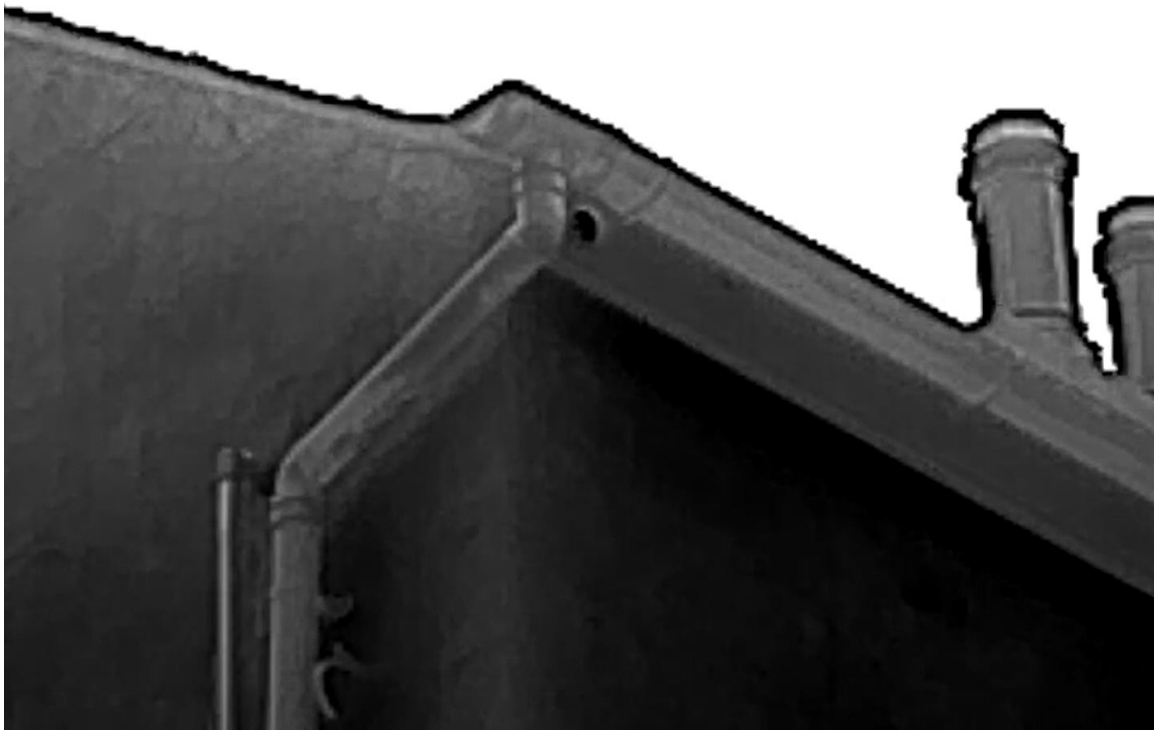

Figure 3. Bat captured crawling on fascia towards entrance on thermal camera

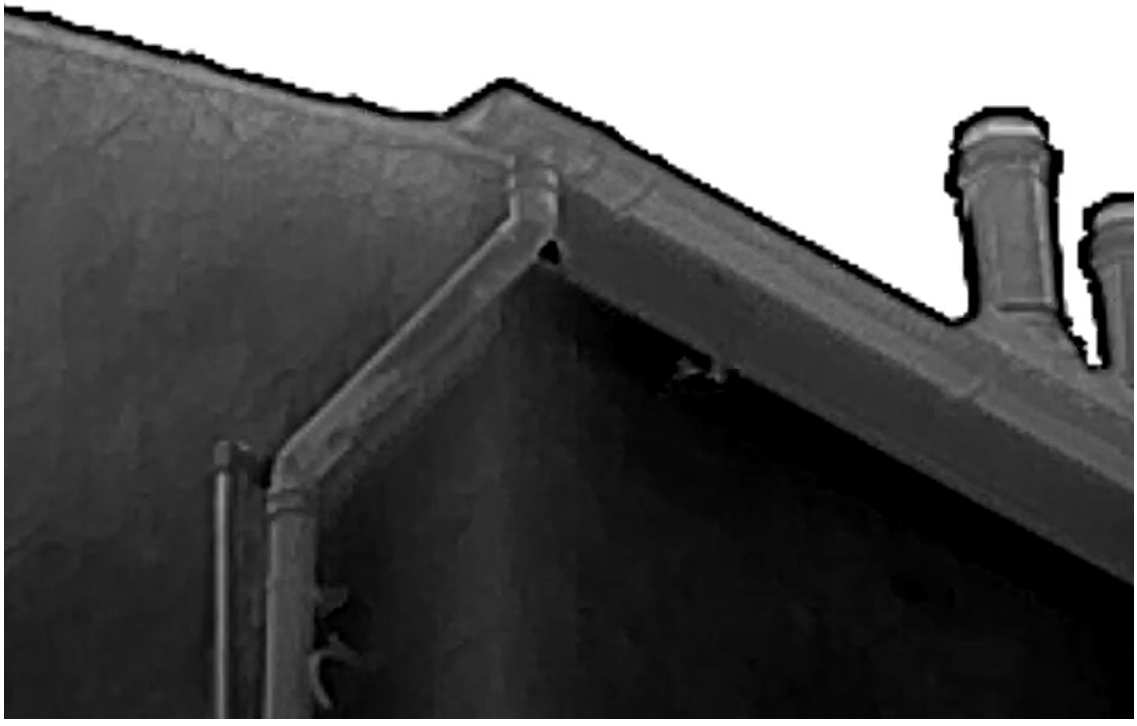

Figure 4. Second bat captured entering bat roost seconds after the first

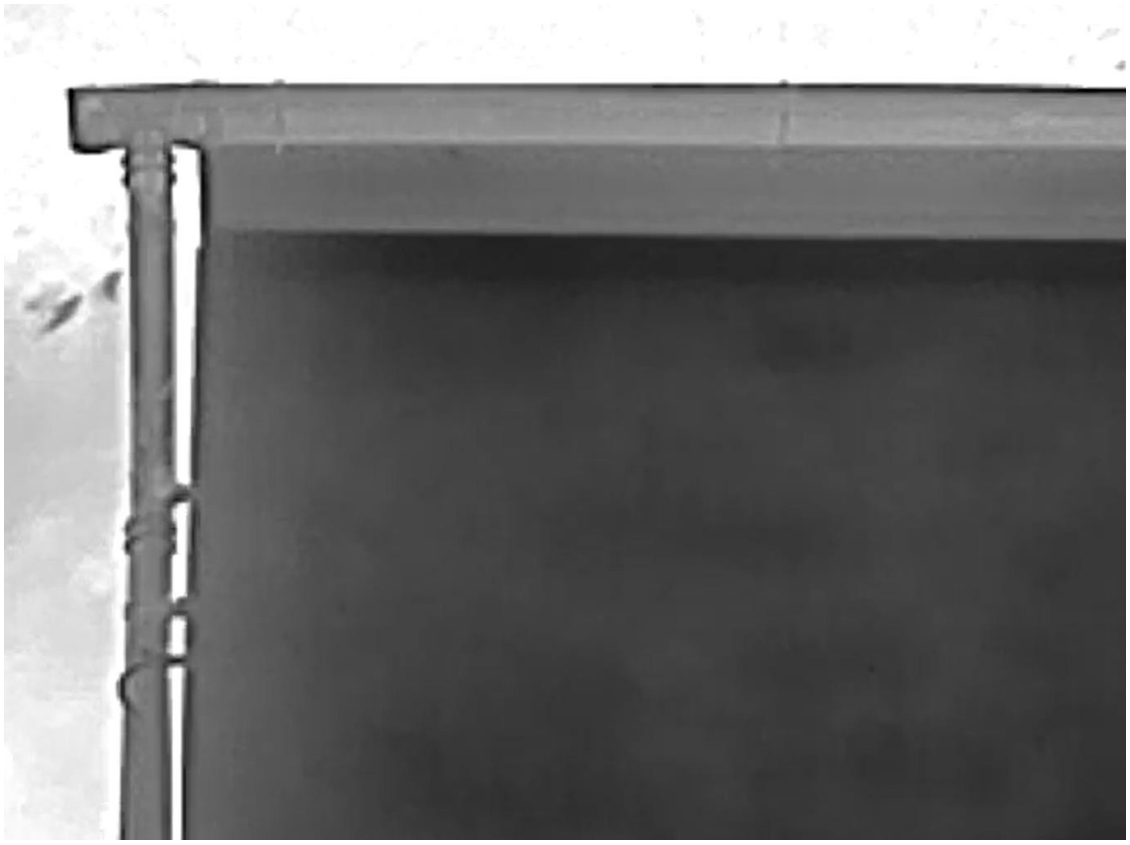

Figure 5. Third bat captured flying towards same roost entrance (different camera angle)

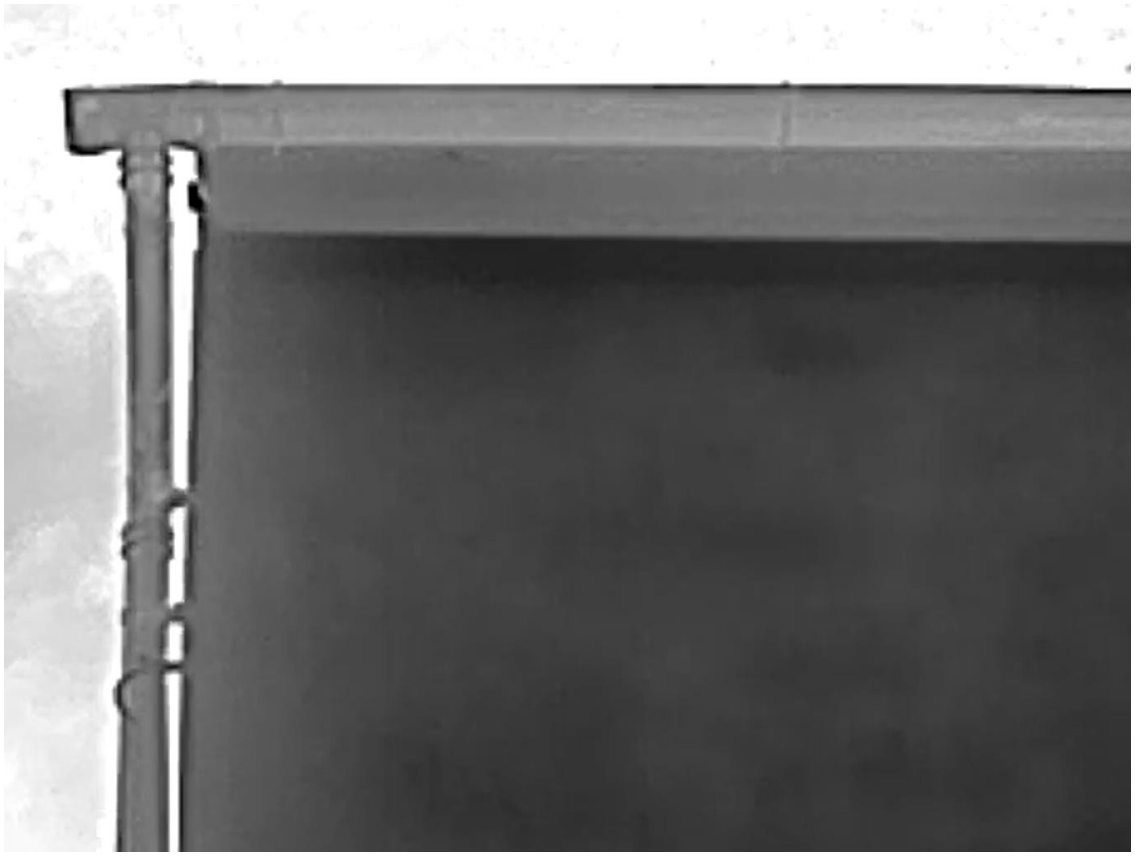

Figure 6. Same bat lands and disappears behind fascia

Figure 7. View of rear of the house, arrow indicates bat roost entrance

Figure 8. Torch highlighting exact location of roost entrance

Figure 9. Arrow indicates where bats climb under the fascia

4. Recommendations & Mitigations

4.1 Mitigation measures

Mitigation measures to prevent adverse effects on the local bat populations and to ensure no net loss of roost opportunities are prescribed with reference to Kelleher & Marnell (2006). Mitigation and compensation measures have three distinct outcomes. These outcomes are as follows, in decreasing order of preference:

- Avoidance of impact: where no negative impacts on bat populations or existing roosts are encountered from construction works.
- On site mitigation: where compensation by the improvement of existing roosts or the provision of new roost opportunities within the site or building is achieved.
- Off-site compensation: where on-site mitigation is not possible, the creation of new roosts of an appropriate type in an appropriate nearby location.

Due to the nature of the works on the building as described i.e. demolition and reconstruction, disturbance of the bat species present and roosting within the structure is unavoidable.

The integrity of the current roof is in disrepair with the Engineers survey report describing the chimneys, guttering, soffit and fascia in a poor state which need rebuilding and replastering, though ultimately concluding that considering the lack of retainable walls in the house that demolition of the whole structure was the only option (Fitzgerald, 2016). A subsequent cover letter by the same engineer explains that after an additional survey in 2024, the integrity of the building has since significantly deteriorated, and that the building "*is unsafe and in need of total demolition and rebuilding*" (Fitzgerald, 2024). Works on the building as described would both impact and disturb any bat species present and as bats were observed emerging from the fascia of the roof, the avoidance of impact on bats due to this is not attainable.

The optimum period for carrying out works for summer roosts which are not a proven maternity site is from 1st September to 1st May. However, given that the survey found

multiple bats using the house on 28th August, it is recommended that works should not commence until at least October, by which significantly cooler weather causes bats to look for or return to suitable hibernation roosts.

Works should start with mitigation measures aimed at offsetting the damage to bat roosts caused by the demolition of the house. The level of mitigation (or in this case, strictly speaking it is compensation, but is seen legislatively under the umbrella term of 'mitigation') depends on the conservation significance of the bat roost concerned. In this case, referring to Irish Wildlife Manual 134 (2022), a roost of small numbers of common species that is not a maternity site means there is flexibility over the provision of bat boxes, access to new buildings, etc., and there are no conditions about timing of installation or monitoring. It is preferable that these boxes are placed in suitable locations on the surrounding trees, though other structures such as walls can be used when appropriate.

The same manual details the types of bat boxes that are suitable for the species concerned. Both Common and Soprano pipistrelles are crevice dwellers which sometimes enter roof voids. For a summer/non-breeding roost, a tree hollow-type box providing a void in which bats can cluster, or a tree crevice type box with 25-35mm crevices are the most suitable bat box type for these species.

The following mitigations are recommended:

- Timing of works: Works in relation to the demolition should not commence until October. However, works in relation to stripping out the interior of the building and other associated preparatory works will not interfere with the bat roost and can be carried out at any time.

  The proposed development (i.e. the new residential dwelling) is located at least 50 metres from the building containing the roost. Due to this significant distance, construction of the new house can commence at any time.
- Placement of bat boxes: Bat boxes should be installed in suitable locations, preferably on-site. A number of mature trees surround the site but are not part of the property. There is an old stone wall approximately 3 – 3.5m tall, behind which

mature trees stand which is located within 10 - 15 metres of the current roost site. Given that the wall is in a sheltered location, is in close proximity to the current roost and is beside a mature treeline along which bats were observed using to commute, it is recommended that three bat boxes be placed as high as possible on the wall under the supervision of a qualified ecologist. Since two types of bat box are suitable for the species concerned, it is recommended that at least one of both crevice and hollow-type boxes is installed.

Figure 10. Stone wall facing the rear of the house which is recommended for the installation of three bat boxes has a level of tree cover and height to provide a suitable mitigation measure

- Lighting: Since the new dwelling of the proposed development is located at a significant distance from the current roost and the planned bat boxes, lighting from the new dwelling will have a highly limited impact. Therefore:
    - Outdoor lighting will only be directed where necessary and will be of a modest output
    - All external security lighting will be activated with motion sensors and short timers (1 min)
    - LED luminaires will be used where possible due to their sharp cut-off, lower intensity, availability in colours other than white and dimming capability

- Low height bollard lighting with downlighters will be used along the drive and walls which will be set on motion sensors and short timers where possible
- All lighting of the proposed development will act on the recommendations made in IWM 134 and guidance set out by the Bat Conservation Trust (Bat Conservation Trust & Institution of Lighting Professionals, 2018) where possible

A derogation licence in respect of bat species under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) will be needed prior to any mitigation measures being implemented. Destruction of a roost can only proceed in accordance with such a derogation licence.

5. References

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Appendix 1 – Site Plan

Appendix 2 – Site Photos

Photo 1. Example of where ceiling has fallen down providing potential space for bats between ceiling and the floor

Photo 2. However, there was no evidence of a potential pathway for bats to enter from the outside. House in serious disrepair

Photo 3. Roots of vegetation braking through the ceiling of the basement

Photo 4. Ivy growing between window and window frame, but no gap for bats to enter first floor of the house

Photo 5. Front elevation of house to be demolished with significant ivy growth

Photo 6. Close-up of eastern corner of house where NPWS and KCC recorded a bat roost, was not occupied for this survey - possible entrance where fascia has rotted