

BAT SURVEY AND MITIGATION PLAN
FOR PROPOSED DEVELOPMENT AT RAHEEN, TUAMGRANEY,
COUNTY CLARE
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Contents

1	Bat Survey	2
1.1	Introduction.....	2
1.2	Purpose of survey	2
1.3	Derogation License justification.....	3
1.4	Scope of works	3
1.5	Competences and limitations.....	3
2	Methodology.....	5
2.1	Equipment.....	5
3	Results.....	6
3.1	Desktop	6
3.2	Desktop results.....	6
3.2.1	Visual inspection.....	8
3.2.2	Emergence survey 9 th May 2024	8
3.2.3	Static detector results.....	8
3.3	Evaluation.....	9
4	Bat Mitigation Strategy	10
4.1	Impacts in absence of mitigation.....	10
4.1.1	Direct mortality	10
4.1.2	Habitat loss.....	10
4.1.3	Disturbance/displacement.....	10
4.2	Mitigation.....	10
4.2.1	Demolition Timing	10
4.2.2	Provision of integrated bat boxes and bat boxes on site boundary.....	11
4.2.3	Light levels.....	11
4.2.4	Disturbance/discovery of bat during construction.....	11
4.2.5	Habitat Creation and Enhancement	11
4.2.6	Landscape measures.....	11
4.2.7	Post construction and Operation Phase monitoring	12
4.3	Conclusion.....	13
	Bibliography	14
	Appendix A: Photographic Record.....	0

1 Bat Survey

1.1 Introduction

MEC Ltd were commissioned by Michael McMahon to undertake a bat survey in response to a request for Further Information by Clare County Council as follows Planning reg 24-36 as follows:-

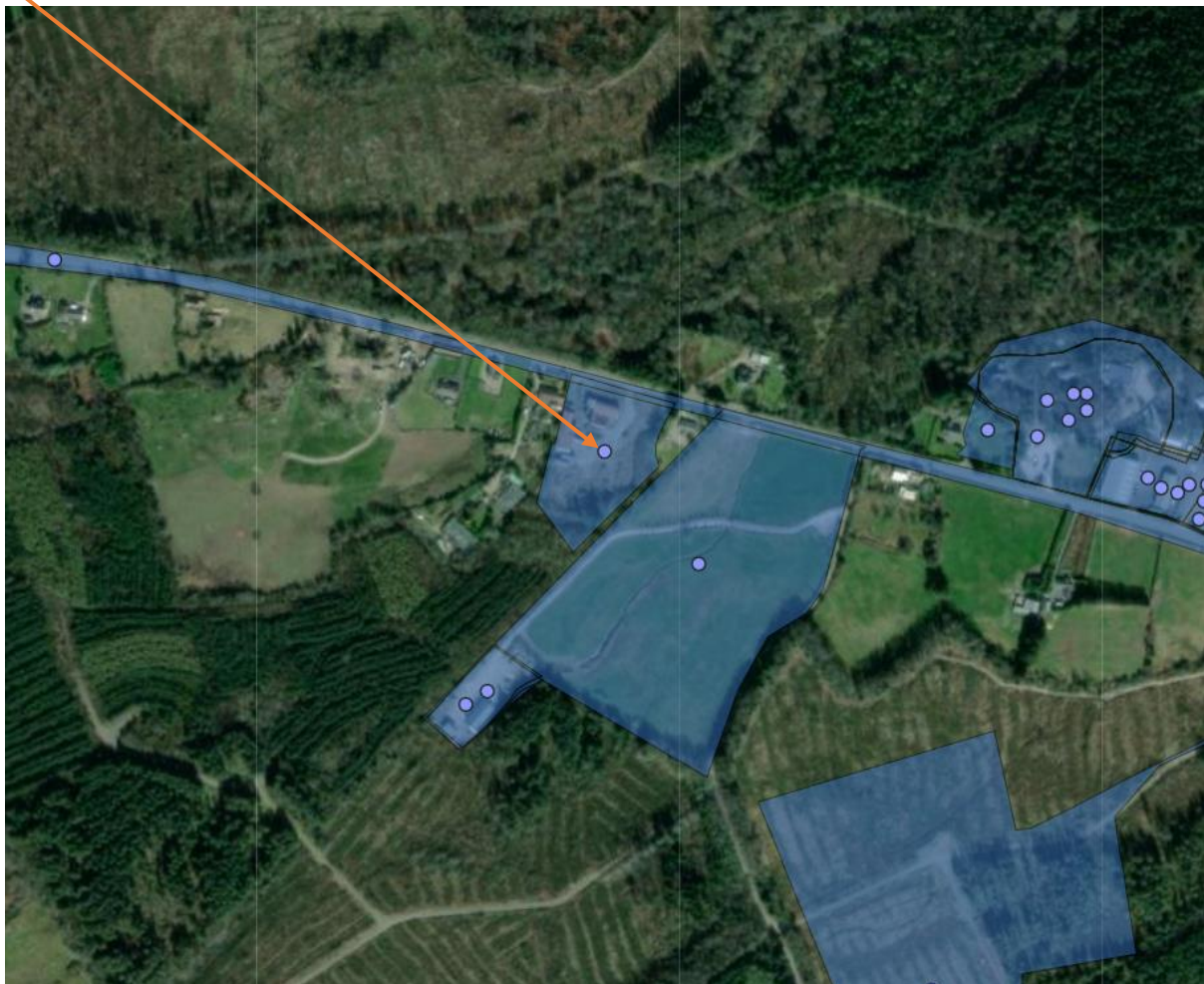
1. The proposal site is located in an area of *high suitability* for multiple bat species and is located in close proximity to two recorded bat roosts. The existing buildings on site, which are proposed for demolition, have potential to be used by roosting bat species. You are required to engage the services of a suitably qualified ecologist to assess the potential of the building for use by roosting bats, including the identification of potential roosting locations and evidence of bat activity / usage.

Should evidence of bat usage be confirmed then a comprehensive bat survey of the buildings must be carried out by a suitably qualified person during the appropriate season (May to September inclusive).

1.2 Purpose of survey

The purpose of the survey was to respond to the above RFI. Figure 1.1. presents the project site and boundary at Raheen, Tuamgraney, Co Clare. Location: 56.4562,-6.82524)

Figure 1-1 Project location and boundary- Planning ref 24-36



1.3 Derogation License justification

This Section addresses the requirement for the derogation to be issued only under specific qualifying circumstances as set out in Regulation 54(2). The existing structures no longer function as warehouses and the roofing has collapsed across much of the buildings. The applicant wishes to demolish and reconstruct similar structures and will incorporate similar roost spaces in the new build.

Alternatives considered for the derogation application process include:

- Retention of existing building that is in poor condition with missing roof in parts, this is not viable as it is not in line with the existing landuse zoning, and
- Without demolition works to the structure it continues to be in a perilous and dangerous conditions
- The ongoing deterioration of the building increases the risk of collapse and complete alteration of existing ambient conditions including light, draughts, temperatures that is currently provided.
- The proposal allows for demolition of current structures and integrated bat boxes in the new build.

This derogation is therefore being sought on the basis that there are no satisfactory alternatives.

The species identified were common pipistrelle – 4 individuals. The presence of Common pipistrelle roosting at the project site is not unexpected. This species are widespread and commonly occurring throughout the country and are “commonly encountered during bat surveys” (NPWS, 2019). Common and Soprano pipistrelle are also “very general in *their* habitat preference, foraging in woodland, riparian habitats and parkland, along linear features in farmland, and in towns and cities” (NPWS, 2019). The national population of this species is increasing and no existing pressures or threats to the conservation status of this species at a national level have been identified. Overall, the future prospects for this species in terms of range, population and habitat are Good (NPWS, 2019). The derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range.

1.4 Scope of works

- Demolition of existing structures
- Building of new garage and warehouse space
- Landscape and ancillary works.

1.5 Competences and limitations

Ruth Minogue MCIEEM undertook the survey work, Ruth has been undertaking bat surveys since 2013 and has attended bat training and conferences as part of CPD. She has previously undertaken full season activity survey work on Newhall and Edenvale SAC (Newhall Stables) over 2013 and more recently bat surveys over 2021 at Ballaghfadda for Clare County Council. Ruth undertakes bat surveys over the active bat season from May to early September for planning applications, master planning and the Acres Traditional Farm Building Schemes and is a licensed ecologist (Bat License Der -Bat 23-96).

Limitations: the weather for the evening surveys was conducive to bat activity and surveys were undertaken during the bat activity season. The small building fronting the main road is not accessible having been closed off with concrete blocks and no access from the side door. This is the only limitation noted.

2 Methodology

The following surveys were undertaken:

- Emergence bat survey 9th May 2024
- Internal inspection of buildings 11th May 2024
- Deployment of static bat detectors 9th/ 10th May 2024

Table 2.1 presents details on the surveys.

TABLE 2-1 BAT SURVEY DATES CONDITIONS AND SUNSET

Date	Sunset/sunrise duration of survey	Weather conditions
9 th May 2024	Sunset:21:16 21:16 to 23:00	14C, calm Relative humidity 69% 7/8 cloud cover
9 th to 10 th May 2024	Static detector	

2.1 Equipment

Ruth Minogue led the survey effort with one other surveyor. The team used the following survey equipment:

- Elekon Batlogger M2 x 2
- Elekon Batlogger S2
- Torches

Results were analysed using Elekon Batexplorer software. The surveyors were located at the side and back of the buildings with one surveyor focusing on the eastern gable and rear building; the second surveyor on the garage and front elevation of the main building. Surveyors remained in position for the duration of the emergent survey.

Preliminary roost surveys were undertaken on the interior ground floor of the buildings on 11th May 2024. Access to the upper part of the office of the garage was not possible due to the poor condition of stairs, and open roof.

Bats were identified in the field to species level, *Myotis* sp. were identified to family level. During hand-held bat surveys species were identified in real time by recording peak frequency. Notes were also made on the time of recording and type of behaviour of each bat encountered during the activity surveys.

3 Results

The site is located on the main Killaloe to Portumna Regional Road, outside the village of Tuamgraney.

To the immediate south is the regional road and short distance is the woodland associated with Raheen Wood a mix of broadleaved woodland some well established woodland with streams present also.

The site is bounded to the south, north and west by vegetation from shrubs to established hedgerows. Much of the site is built land and artificial surfaces with some recolonising bare ground along the southern part.

3.1 Desktop

A desktop review of publicly available relevant data was undertaken on the National Biodiversity Data Centre (NBDC) and National Parks & Wildlife Service (NPWS) websites. The National Biodiversity Data Centre was reviewed for relevant data, specifically:

- i) existing species records for the 2km square in which the study site is located (R68) and
- ii) an indication of the relative importance of the wider landscape in which the study site is located, based on Model of Bat Landscapes for Ireland (Lundy et al. 2011). In the latter, the index ranges from 0 to 100, with 0 being least favourable and 100 most favourable for bats. See Figure 3.1 below which shows the project site is located within an area of high suitability for all bat species.
- iii) The National Bat Database of Ireland and the Lesser Horseshoe Bat roost database was also consulted with the following results presented in Figures 3.2 respectively. A long brown eared bat roost has been recorded nearby at Raheen Woods in a building since 2017-2020; this is located less than 300m east of the site. Other roosts within a 1km buffer of the site are long brown eared, common and soprano pipistrelle roost in Tuamgraney from 2003 c400m west of the site and nearest recorded LSH bat roost is in the townland of Fortane More south west of the project site c 12km. This surveyor also recorded LSH in the estate of Tinerana in low numbers over 2023 around 6km to the southeast, outside the core sustenance zone of the Lesser Horseshoe Bat.

3.2 Desktop results

National Biodiversity Database was searched on 9th of May for 10km tetrad (R68) and the following records were returned:

- Brown Long-eared Bat (*Plecotus auritus*)
- Common Pipistrelle (*Pipistrellus pipistrellus sensu stricto*)
- Daubenton's Bat (*Myotis daubentonii*)
- Lesser Noctule (*Nyctalus leisleri*)
- Natterer's Bat (*Myotis nattereri*)
- Pipistrelle (*Pipistrellus pipistrellus sensu lato*)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*)
- Whiskered Bat (*Myotis mystacinus*)

Figure 3-1 Bat Landscapes

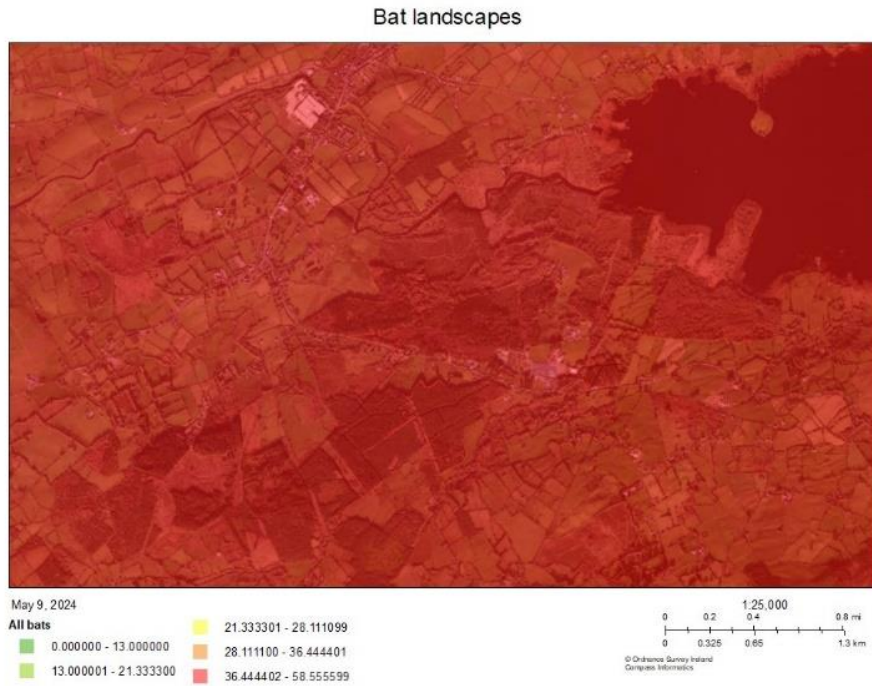
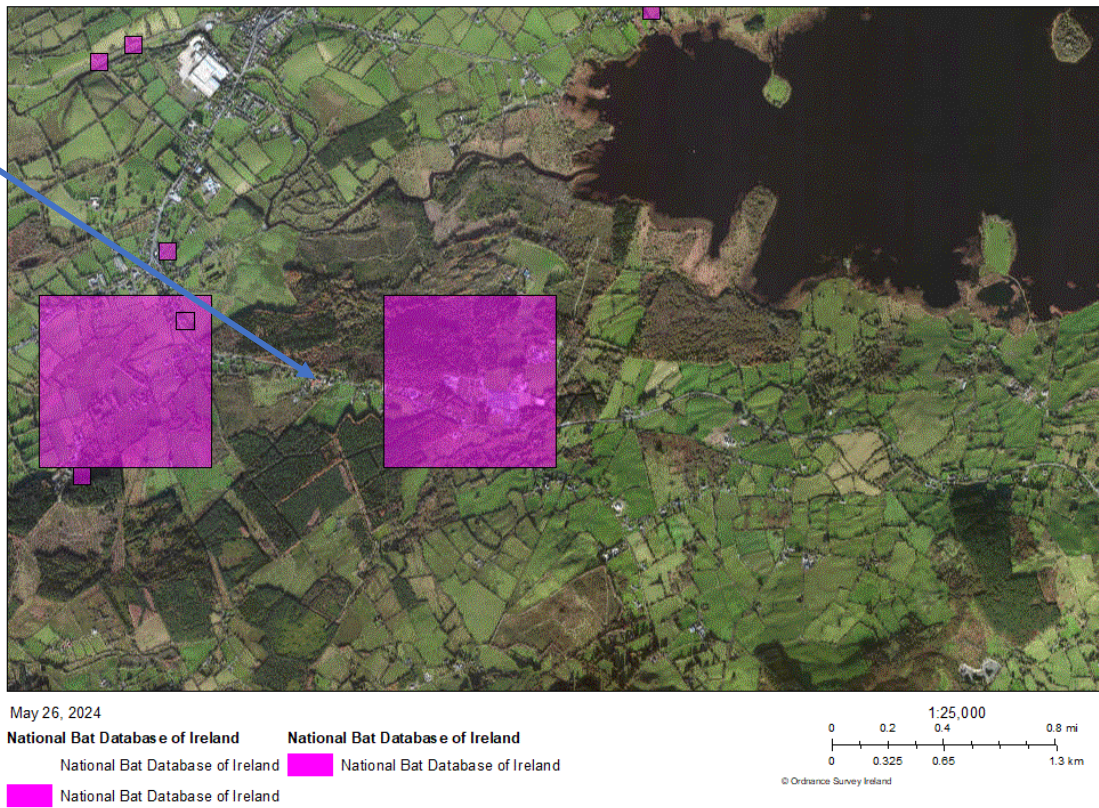


Figure 3-2 National Bat Database

Bat Activity and roosts (BCI)



3.2.1 Visual inspection

No evidence of roosting bats was noted associated with the daytime inspection of the office building however 3 pairs of swifts were observed flying in and to the office upstairs so it is likely that they were nesting in this location.

Bat droppings were noted on the ground on the garage building in two locations and it is possible that bats were roosting up between the timber space between the galvanised sheet roofing. See photos in Appendix A.

3.2.2 Emergence survey 9th May 2024

The first bat recorded from the eastern side of the site was common pipistrelle flying from the north over to the woodland at Raheen at 21:38. Thereafter relatively low numbers of bats were observed at this side of the site.

On the western aspect of the site between the office and garage building, four bats were visually confirmed existing the garage building at the following location:

Plate 3-1 Confirmed exit point during emergent survey



These were common pipistrelles and emerged early in the evening at 21:43, 21:44 and 21:59 . No other bats were confirmed existing the building after 22:06.

This was the area of the site most frequently used by bat species principally commuting from the woodland to the north of the site across the site towards Raheen wood. Species recording during the evening survey were common and soprano pipistrelles and a leisler bat at 22:38.

3.2.3 Static detector results

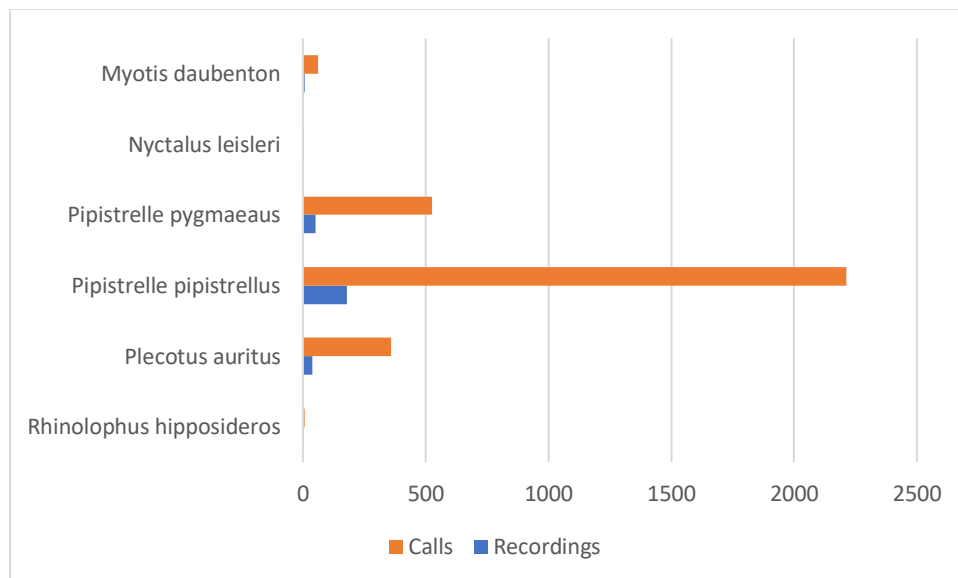
Based on the emergent activity, the static detector was deployed for one night at the front of the garage where it could record the bat activity. The most frequently recorded species were common pipistrelles (178 calls), followed by soprano pipistrelles (50), and much less frequently recordings of

Long brown eared bats (37) Daubenton bats(18), and one recording of each of Leisler and a Lesser Horseshoe bat; the latter recorded at 00:31. Table 3.1 and Figure 3.3 presents the overall results of activity over the static survey.

Table 3-1 Results of activity survey 9th/10th May

Species	Recordings	Calls
Rhinolophus hipposideros	1	6
Plecotus auritus	37	358
Pipistrelle pipistrellus	178	2214
Pipistrelle pygmaeus	50	526
Nyctalus leisleri	1	4
Myotis daubenton	18	214

Figure 3-3 presents the results of the static survey over 9th/10th May 2024.



3.3 Evaluation

Based on the above results, the corrugated building (not office building) supports roosting bats – common pipistrelles. An analysis of the time of species activities suggests activity by common and soprano pipistrelle throughout the night with passes throughout the night be low numbers of other species. Long Brown eared bats were recorded with highest level of activity between 04:16 to 04:49 (20 out of 37 recordings). One Lesser Horseshoe was recorded at 00:31. Daubentons were recorded mostly between 04:07 to 04:53 (10 out of 18 recordings) with the earliest recording at 23:13 indicating no roosting activity at emergent period.

Therefore, the garage building has been identified as a roost for Common pipistrelles, in order to comply with legislation it will be necessary to apply for a derogation license under the Wildlife (Amendment) Act 2000 permitting the disturbance to the building during the demolition works. Works will only proceed upon receipt of a derogation licence.

The following section is provided for information and comprises the Bat Mitigation Strategy for the derogation license application process.

4 Bat Mitigation Strategy

The most critical issues for mitigating the potential impact to roosting bats include the maintenance of a suitable structure at the new buildings and adjacent treelines, with appropriate bat access points that is free from routine disturbance during the operation phase of the buildings. The timing of demolition activity will also be critical in ensuring bats are not significantly disturbed. Mitigation measures proposed to achieve minimal disturbance during demolition works and provision of roost spaces during construction and operation.

Potential impacts and mitigation measures are outlined in the following sections of this report.

4.1 Impacts in absence of mitigation

4.1.1 Direct mortality

As a suitable roosting feature and confirmation of roost was confirmed during survey, in the absence of mitigation relating to timing of works, there would be a risk of direct mortality to bats during demolition. Mitigation is provided in Section 3.2 to address this impact.

4.1.2 Habitat loss

As above, roosting features were identified and the woodland habitat at the site boundaries may support roosting bats. No proposed vegetation removal is part of the project and therefore no possibility of significant effects arising from the loss of roosting habitat. Irish bat species tend to be most strongly associated with woodland habitats, including treelines and hedgerows (Roche *et al.*, 2014).

4.1.3 Disturbance/displacement

Light levels are not anticipated to increase during the construction phase of the proposal, as works will be largely confined to daylight hours, and therefore there will not be a requirement for long-term lighting of the development site which could affect suitable bat foraging habitat in the vicinity. For this reasons disturbance / displacement impacts during construction will not be significant at any geographic scale.

The highest recorded activity was attributed to common and soprano pipistrelles, that are the most common species in Ireland and tend to be associated with edge habitats, they are also relatively light tolerant. Notwithstanding the above, low numbers of activity was recorded for species with low light tolerance including Long Brown eared, Daubenton and lesser horseshoe bats. Therefore additional mitigation and low light levels/dark corridors form part of the mitigation strategy to avoid disturbance to the aforementioned light sensitive bat species.

4.2 Mitigation

4.2.1 Demolition Timing

The timing of the demolition works is of significant importance to ensure disturbance to bats is avoided.

- Any demolition works must be undertaken outside the bat maternity season; i.e. 1st October-1st May is the optimum period for carrying out works.
- A pre demolition survey will be undertaken immediately prior to the demolition works to ensure no bats are present in the garage building.

4.2.2 Provision of integrated bat boxes and bat boxes on site boundary.

Given the roost requirements of common pipistrelles, it is considered appropriate that woodcrete bat boxes be provided as part of the new works and also at the treeline to the rear of the site. The following locations are indicated below and the following bat boxes.

4.2.3 Light levels

Additional illumination can deter bats from using a roost. External lighting at the roost access points should be avoided as well as at the woodland habitat.

The current baseline light levels are low in natural conditions and should night time lighting be required this will be reviewed by the ecologist and the lighting of treelines/ hedgerows at the perimeter, and the location of the integrated bat boxes will be avoided. Dark corridors will be maintained around the site at the perimeter and front of the road where they are flying across the woodland.

More generally external lighting should be minimised and avoid light spill such as security flood lightings or excessive lighting along the new hedgerow planted and the woodland at the perimeter. Preferably there would be no external lighting on between May to October. If security requires same, this should be timed lighting.

Lux levels close to the roost exit and woodland habitat should aim to be less than 1lux where possible. External lighting should be designed in line with the Guidance Note GN08/23 Bats and Artificial Lighting At Night (2023) and Bat Mitigation Guidelines (2022). This is very important for the presence of Long Brown eared, Daubenton and Lesser Horseshoe Bats as these are very light sensitive species.

4.2.4 Disturbance/discovery of bat during construction

In the event that a bat(s) is discovered during any stage of the proposed works the following actions will be taken to ensure that no harm will be caused to the bat(s):

- All works within the vicinity of where the bat(s) is found will immediately stop;
- The bat(s) will be removed by a suitably qualified and licenced Ecologist and placed within a temporary bat box which will be kept under suitable conditions (dark, dry, warm, quiet location) for the duration of the day;
- Works will only commence once it has been established by the Ecologist that no other bats are present within the vicinity of where the previous bat(s) was found;
- Measures will be taken to ensure that the bat(s) cannot reuse the roost in which it was found (e.g. blocking/filling the hole in which it was found; and
- The bat(s) will be released from the temporary bat box by the Ecologist after sunset on the same day that it was removed from the buildings.

4.2.5 Habitat Creation and Enhancement

4.2.6 Landscape measures

It is noted that RFI Item 2 also requests information on landscaping proposals. The woodland habitat at the site boundary will be maintained and additional screening of native trees should be provided at the front road, whilst facilitating safety and access. These could be set back and comprise quick growing trees such as silver birch and occasional lime or beech.

The proposed landscape measures are indicated below along with location of bat boxes.



Figure 4-1 Green indicates additional planting and orange woodcrete bat boxes

4.2.7 Post construction and Operation Phase monitoring

On completion of the proposed development and bat mitigation measures a full report will be compiled and presented to the Wildlife Licensing Unit.

In order to monitor the success of the mitigation measures, monitoring of the bat boxes will be undertaken on the first, third and fifth year after the completion of the renovations. The monitoring will be undertaken by an experienced bat ecologist and will involve bat inspection surveys and bat activity surveys at the roost site to establish the roost size. The results of monitoring surveys will be provided to the NPWS.

4.3 Conclusion

The Bat surveys have recorded four common pipistrelle bats emerging from the garage building proposed for demolition at Raheen, Tuamgraney, County Clare.

The EU Habitats Directive 92/43/EEC states the conservation status of a species is favourable when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

An impact on the conservation status of a habitat or species is considered to be significant if it will result in a change in conservation status.

The presence of Common pipistrelle roosting at the project site is not unexpected. This species are widespread and commonly occurring throughout the country and are “commonly encountered during bat surveys” (NPWS, 2019). Common and Soprano pipistrelle are also “very general in *their* habitat preference, foraging in woodland, riparian habitats and parkland, along linear features in farmland, and in towns and cities” (NPWS, 2019). The national population of this species is increasing and no existing pressures or threats to the conservation status of this species at a national level have been identified. Overall, the future prospects for this species in terms of range, population and habitat are Good (NPWS, 2019).

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Websites:

www.biodiversityireland.ie

www.batconservationireland.ie

www.vincentwildlifetrust.ie

www.batsorg.uk

www.eurobats.org

Appendix A: Photographic Record

Photographic record -

Office building from main entrance



Inside of office (front facing) building





Arrow shows exit for bats





View through gap into side extension to above garage that is blocked off





Woodland habitat at northern boundary



Woodland habitat of Raheen woods, seen from rear of the office building

