
TAKA ARCHITECTS

**HOUSING DEVELOPMENT
MUNSTER AVENUE
CO. GALWAY**

PRELIMINARY BAT ROOST ASSESSMENT SUITABILITY REPORT

February 2024

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MAYO COUNTY COUNCIL
PRELIMINARY BAT ROOST SUITABILITY SURVEY REPORT

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1 INTRODUCTION

1.1 Background

Jennings O'Donovan & Partners Limited have been commissioned by Taka Architects to carry out a Preliminary Bat Roost Assessment Suitability Survey. The purpose of this study was to assess the potential of Bat roosts at a house located at Muster Avenue, Galway City. A site visit was carried out by two experienced ecologists on Tuesday 16th January 2024. In total, one semi-detached house was evaluated and assessed for potential bat roost suitability.

1.2 Site location

The Property which was evaluated is located on Munster Avenue, north of Fr. Burke Park. It is located off William Street West, within Galway City with the River Corrib to the northeast. (Figure 1).



Figure 1: Site location of the property and grounds at Munster Avenue

1.3 Site description

The site is comprised of one semi-detached house situated on a brown field site with a front and back garden area. The garden areas are filled with a stone material restricting native floral growth. It was noted that a few young willow trees scattered around the front and back garden areas. The other main floral species present is Butterfly Bush (*Buddleja davidii*) a non-native species in Ireland which can be invasive in nature. There were patches of recolonised ground which contained native species such as Ribwort Plantain (*Plantago lanceolata*) and Creeping Buttercup (*Ranunculus repens*). The site is situated in close proximity to the River Corrib which acts as a natural corridor for bats and a food resource.

2 LEGISLATION

2.1 Irish Legislation

Wildlife Act 1976 – In the Republic of Ireland, under Schedule 5 of the Wildlife Act 1976¹ all bats and their roosts are protected by law. It is an offence to disturb either without the appropriate licence. This Act was further strengthened by the Wildlife Amendment Act 2000².

2.2 E.U. Legislation

Under the Habitats Directive 1992 (EEC 92/43)³, each member state of the E.U. was requested to identify habitats of national importance and priority species of flora and fauna. These habitats are now designated as Special Areas of Conservation (SAC). In Ireland, all bat species, except one are classified as Annex IV species under the Habitats Directive. Annex IV species are species in need of strict protection. The exception is the Lesser Horseshoe bat which is an Annex II species (Priority Species). Annex II species are species requiring the designation of Special Areas of Conservation specifically for their protection.

All species of bat in Ireland are strictly protected under the Habitats Directive to include deliberate disturbance of these species, particularly during the periods of breeding, rearing and hibernation. It also specifies deterioration or destruction of breeding or resting places.

2.3 International Legislation

Ireland has ratified two international wildlife laws pertaining to bats.

(a) The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention, 1982)⁴ – part of this convention stipulates that all bat species and their habitats are to be conserved.

(b) The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, Enacted 1983)⁵. This was instigated to protect migrant species across all European boundaries.

3 METHODOLOGY

The Survey work was carried out in accordance with the methods set out in the Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' 3rd edition, (Collins, J. (ed) 2016).

3.1 Pre-survey data search

The desk top study includes a web-based sources of information were examined, principally the National Biodiversity Data Centre (<https://maps.biodiversityireland.ie/Map>) and EPA maps (<https://gis.epa.ie/EPAMaps/>). An area of approximately 5km from the centre of the proposed housing development was searched (virtually) in relation to bat suitability in the local area.

¹ Wildlife Act 1976 pp 1-209. Dublin: Government Publications.

² Wildlife Amendment Act 2000. Dublin: Government Publications.

³ Council of the European Communities (1992). EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora

⁴ Bern Convention (1982) Convention on the Conservation of European Wildlife and Natural Habitats.

⁵ Bonn Convention (1979) Convention on the Conservation of Migratory Species of Wild Animals. In particular: The Agreement on the Conservation of Populations of European Bats.

3.2 Site visit survey methodology

A site walkover survey was carried out and an overall habitat assessment was made. A bat roost suitability survey was subsequently carried out, incorporating the preliminary bat potential roosting suitability feature assessment. Trees were surveyed from ground level following Good Practice Guidelines, 3rd Edition. Bat Conservation Trust (BCT), Collins, J. (2016)⁶ and methods from British Standard 8596-2015 Surveying for bats in trees and woodland – guide (2015)⁷.

The following equipment was used, a heavy-duty torch, a head torch, Glysion 12x50 Professional HD Binoculars and a Pulsar Axion 2 XG35 Thermal Imaging Scope for observation to assist with examination of the property to look for evidence of bats and potential bat roosting features. A telescopic ladder was used to enter the loft spaces to carry out the required assessment and evaluation in this section of the building.

Access was facilitated to all interior areas of the building by Galway County Council. This included all rooms on floor one and two and both sections of the loft space on the ground floor.

3.3 Survey area

The survey was carried out on one semi-detached house and associated gardens to the front and rear of the dwelling at Munster Avenue, Galway.

3.4 Timings, types, and weather conditions of Field Surveys

Survey: Preliminary Bat Roost Assessment

Temperature: 6°C

Wind Speed: Low

Cloud Cover: 100%

Precipitation: No

Visibility: Good

3.5 Limitations

The survey data is accurate on the date that the survey took place, i.e., the 16th January 2024 and is based upon observations of the site as it currently exists. The attic space was inspected on the ground floor of the property, where the proposed demolition works will take place. The attic space located above the 1st storey was not inspected, due to no proposed works being carried out on this section of the property and health and safety concerns.

Please note that trees are dynamic and complex organisms and are subject to change over time.

⁶ Collins (2016) Bat Surveys for Professional Ecologists: Good Practice guidelines

⁷ British Standard (2015) 8596-2015: Surveying for bats in trees and woodland – guide

4 BAT ECOLOGY

4.1 General ecology

There are a total of 9 species of Bat on the Isle of Ireland, each bat species utilises a different niche within the environment. For example, Daubenton's roost close to still or running bodies of water, either in trees or structures such as bridges. Natterer's bats have a similar habitat to brown long-eared bats but are less common. Pipistrelles use trees and man-made structures to roost and can be found in both a rural and urban setting. Brown long-eared bats may roost in trees or often in old buildings with large attics, preferring buildings associated with mature woodland in which they can forage.

Bats are renown for hibernating, and they often utilise the safe secure winter/hibernation roost as they are particularly vulnerable to disturbance. These winter roosts are usually in trees, unheated buildings with thick stone walls and caves. They usually begin to emerge in April/May the female bats often roost together in a colony, in a summer roost from May until the autumn. The female bats usually have one baby in June which is reliant on its mother for 2 months and will remain in the roost whilst the mother feeds. In the autumn, the colony will move from their warm summer roost to the cooler winter roost. The Male bats live in smaller groups or individually in cooler roosts such as steadings or tree holes and can be found in maternity colonies in the early autumn when mating takes place.

4.2 Bats roosting and trees

Bats are dependent on the availability of naturally occurring tree features which can be utilised for roosting, as Bats do not have the physical capacity to build nests or create cavities for roosting. The removal of trees and structures which have bat roosting features can have significant adverse effects on the local bat populations.

A single bat such as a small pipistrelle may roost under loose bark, in branch splits or behind ivy, such sites are frequently found in most areas. In contrast larger bats may prefer cavities, such as old woodpecker holes, rot hole cavities which will accommodate larger numbers of bats. These Large features are less common and found generally on mature trees and their availability could influence the local diversity of bats.

Bats appear to show no preference for the size, age or species of tree they use for roosting, however some tree species do appear to have a tendency of having features that are favoured by bats as roost sites. For example, Ash, Beech and sycamore tend to be associated with cavities in their trunk and main branches. Whereas tree species like oak, pine and sweet chestnut are prone to developing splits in their branches and trunks.

Some Bats have been recorded using more than 30 different roost sites over the course of one summer season, with some species having been observed moving roosts every 2-3 days, while others show commitment to a few favoured sites. This may be an indication of species preferences, availability of suitable tree features, or even a means of avoiding predation. However, other species exhibit loyalty to a smaller number of significant roost sites that are used preferentially over others that may offer similar conditions.

5 RESULTS

5.1 Desktop study results

The Desktop study reviewed bats recorded from the surrounding 5km (**Figure 2**) using the National Biodiversity Data Centre (NBDC)⁸ available data. There are 71 bat records in the surrounding 5km of the site, on the National Bat Database of Ireland displayed on NBDC. The bat species which have been recorded in the surrounding area include Daubenton's bat (*Myotis daubentonii*) which was last recorded in 2012 and soprano pipistrelles (*Pipistrelle pygmeus*) also last recorded in 2012. This is not a true reflection of the bat species present in the surrounding area, however, it gives a definitive list of species recorded.



Figure 2. A 5km polygon data search for bats from the centre of the site

⁸National Biodiversity Data Centre Maps (<https://maps.biodiversityireland.ie/Maps>)

There are no Special Protection Areas (SPAs) or Special Areas of Conservation (SACs) within 5kms of the Proposed Project Site. There is one Natural Heritage Area (NHA), namely, the Moycullen Bogs NHA situated approx. 3.4km northwest and 4.21km northwest. This NHA is located 191m east of the Galway Bay Complex pNHA. No bat species have been identified as a qualifying interest (QI) species for this NHA.

5.2 Field survey results

5.2.1 Description of habitats and potential value to bats

The site is situated on a brown field site which constitutes a front and back garden area. These garden areas are filled with a stone material restricting native floral growth that require soil. There are a few young self-germinated willow trees growing in the front and back garden areas. Butterfly bush (*Buddleja davidii*) was dominant in the front and back garden areas, a non-native species in Ireland which can be invasive in nature. There were patches of recolonised ground which contained native species such as ribwort plantain (*Plantago lanceolata*) and creeping buttercup (*Ranunculus repens*). Overall, this habitat provides negligible potential for bat roosting, and foraging habitat. In addition, there is negligible vegetative connectivity consisting of hedgerows and fence lines into the wider landscape for commuting bats.

5.3 Preliminary Bat Roost Assessment of Derelict Buildings

The site is comprised of one semi-detached house outlined in **Figure 3** with associated front and back gardens. The criteria by which the building was assessed is outlined in **Table 1**, this is in line with the Collins (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*.

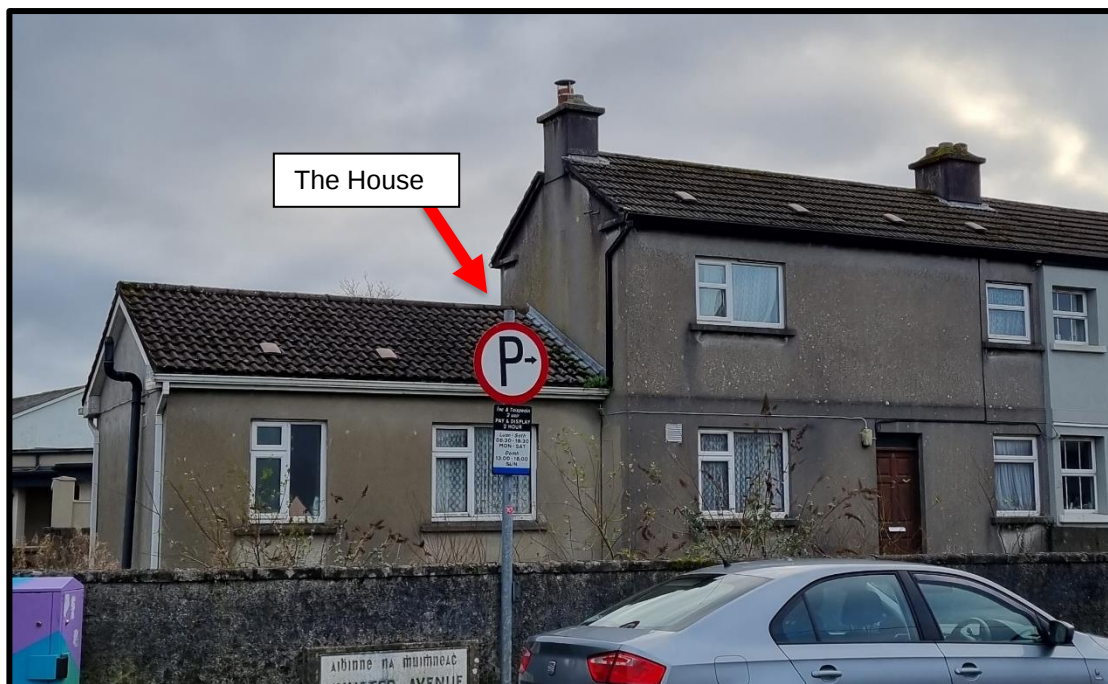


Figure 3. The semi-detached house located at Munster Avenue

Table 1. Scoring system for assessing suitability of structure for bats.

Adapted from Collins (2016, p.35)⁹

Suitability	Description of Potential Roosting structure
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites 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.
Medium	A structure with one or more potential roost sites could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat. However unlikely to support a roost of high conservation status.
High	A structure with one or more potential roost sites that are obviously suitable for use by large 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.

5.4 Munster Avenue semi-detached house

The house located at (Grid Reference: M 29392 24845) was inspected for the bat roost suitability, the house appeared to be structurally sound and not in a state of disrepair (**Figure 4**). All the window frames, tiles and guttering all appear to be in good condition. There are no obvious gaps or broken features allowing access into the property. The external windows and walls were searched for signs such as droppings staining; none were found during the site visit.



Figure. 5 The rear of the house located at Munster Avenue

⁹ Collins (2016) Bat Surveys for Professional Ecologists: Good Practice guidelines

The building was then assessed internally. All rooms and attic space on the lower floor were accessed and evaluated for any signs of bats. The results of the internal bat survey evaluation are outlined in **Table 2**. No further evidence such as droppings, food debris or any hibernating bats were discovered during the assessment.

Area	Description of Potential Roosting habitat and evidence for bats
Lower Floor	The lower floor was examined first, all windows and doors were well-sealed with no bat access to the internal areas observed (Figure 6 & 7). Internal surfaces were inspected for droppings and feeding signs. No evidence of bats were discovered.
Upper Floor	All windows were well-sealed on this level (Figure 8 & 9) and did not allow access to the internal building. Internal surfaces were inspected for droppings and feeding signs. No evidence of bats were discovered.
Attic Space lower floor	Access to this roof space was achieved with a telescopic ladder and climbing into a hatch. The loft space was filled with insulation, providing limited/negligible available space for bats to reside (Figure 10 & 11). The second attic space hatch was accessed with a telescopic ladder. This area of the attic was more spacious. No evidence of bats or an associated roost were detected. Thermal imaging and extensive searching did not detect any roosting bats or signs of bats in this space.
Attic Space upper floor	Due to no works being proposed on this section of the building was not inspected. In addition, there was health and safety concerns climbing into the attic space with the telescopic ladder, due to the positioning of the high attic hatch which was situated directly above the stair well. The external examination showed the roof structure being in good condition, there were no visible access points for bats. The probability of a population of bats being present in this section of the property is negligible.



Figure 6. Secure window on ground floor

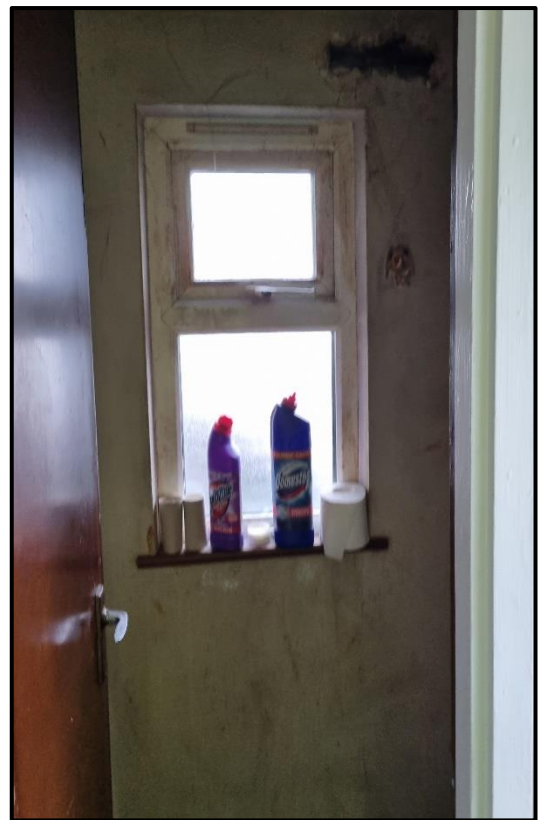


Figure 7. Secure window on ground floor



Figure 8. Secure window on 1st floor

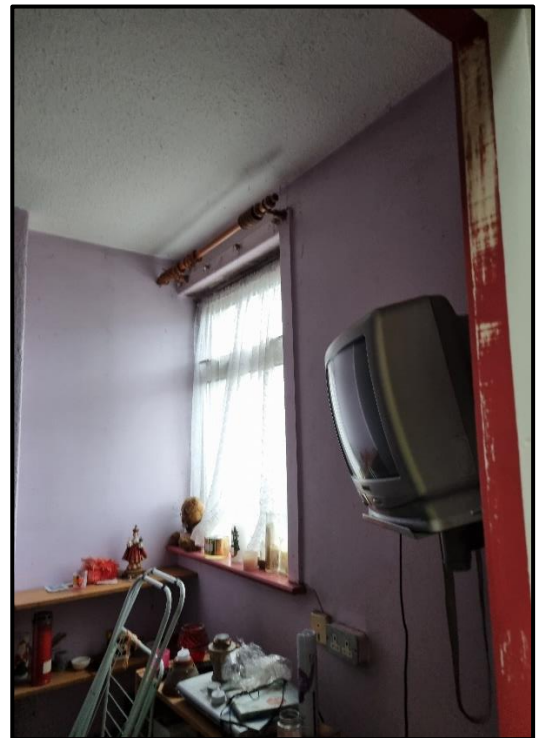


Figure 9. Secure window on 1st floor



Figure 10. First loft hatch filled with insulation

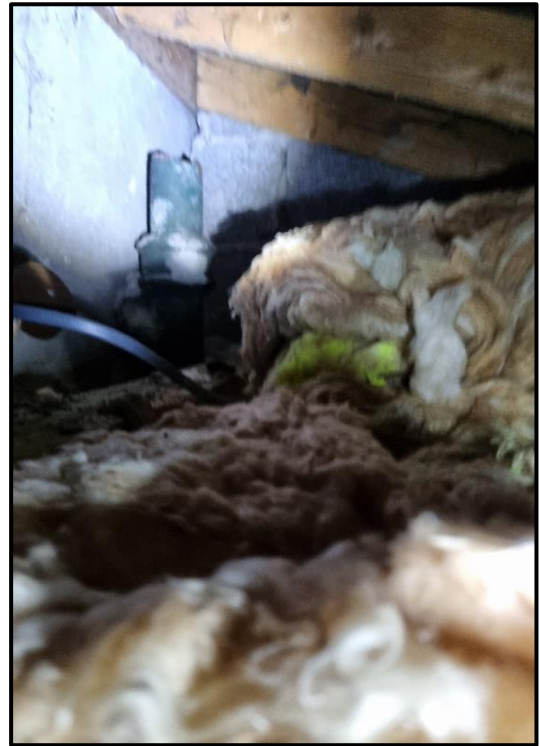


Figure 11. View inside second loft hatch

In accordance with the Collins (2016) Bat Surveys Guidelines, this structure has a negligible ranking, as the property has no visible external entrances and no signs of bats within the property.

Assessment Score: Negligible Roost Suitability

5.5 Tree assessment at Munster Avenue

All the trees within the redline boundary of the property they were assessed for Bat Roost potential; due to the size and age of these trees (**Figure 12**), they currently have no potential roosting features for Bats. In accordance with the Collins (2016) Bat Surveys Guidelines, all trees located on site have a negligible ranking.

Assessment Score: Negligible Roost Suitability



Figure 12. Young willow trees located at the rear of the property.

6 RECOMMENDATIONS

1. The eastern proportion (1st floor extension) of the property can be demolished with no further bat survey work required. However, if the building deteriorates and/or a two-year period elapses from the time of this survey, the property should be re-evaluated in full.
2. Any trees onsite (front and rear) which require felling can commence. All tree felling works must occur outside of the bird breeding season (March 1st – August 31st is bird breeding season).
3. It is recommended that bat boxes should be installed where trees/structures are removed to provide bat roost habitat.
4. Any artificial lighting installed in a newly proposed development should be directional, to reduce the impact on any bats which forage in the development area.
5. All trees should be re-assessed if a significant time period elapses.
6. Additionally, any proposed supplementary trees or shrub vegetation should be native species (strictly sourced from Irish nurseries and not abroad; this will reduce the potential of fungal pathogens entering Ireland) as these species have higher associated assemblages of invertebrates. These would provide some potential foraging habitat to mitigate for the scrub which will be removed from during the proposed demolition / construction works.

7 PROCEDURE IF BATS ARE DISCOVERED ON SITE DURING WORKS

If bats are discovered during any of the future proposed works, work must stop immediately, and the local NPWS conservation ranger or bat specialist contacted. As previously discussed in the report, bats are legally protected. The protection makes it an offence to kill or injure bats, or to disturb them, and to destroy or damage / modify a bat roost. If any bats need to be removed, they may only be handled by a licenced bat worker. Bats should be removed to an alternative suitable location.