ALTEMAR
Marine & Environmental Consultancy

Bat Fauna Impact Assessment for a proposed Residential Development at Mount Saint Mary's, Dundrum Road, Dublin.

7th March 2025

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Dun Laoghaire Rathdown County Council

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

Document Control Sheet			
Client	Dun Laoghaire Rathdown County Council		
Project	Bat Fauna Impact Assessment for a proposed Residential Development at Mount Saint Mary's, Dundrum Road, Dublin.		
Report	Bat Fauna Impact Assessment		
Date	7th March 2025		
Version	Author	Reviewed	Date
Draft 01	Bryan Deegan	Frank Spellman	24th October 2024
Final	Bryan Deegan	Gayle O'Farrell	7th March 2025

Summary

Structure/features:	No structures are present on site. The survey area consists primarily of grassland, built land, scattered trees, and treelines.
Location:	Mount Saint Mary's, Dundrum Road, Dublin.
Bat species in the site outline:	Soprano Pipistrelle (*Pipistrellus Pygmaeus*) roosting onsite. Foraging activity of Leisler's Bat (*Nyctalus leisleri*) and Soprano Pipistrelle (*Pipistrellus Pygmaeus*) noted onsite.
Proposed work:	Residential Development.
Impact on bats:	The proposed development will change the local environment as new lights and structures are to be erected and the existing vegetation will be removed. A Soprano Pipistrelle (*Pipistrellus pygmaeus*) bat roost within an Ash tree along the western boundary of the site will be lost. Foraging activity on site may be reduced due to the presence new buildings and lighting. It would be expected that, with a sensitive public lighting strategy, foraging activity will continue on site. A pre-construction inspection will be carried out on onsite trees with bat roosting potential that are to be removed. The proposed development will result in a long term/low adverse/not significant/negative impacts on bats. A derogation licence is required for the proposed development.
Surveys by:	Frank Spellman
Survey dates:	19th September 2024 & 25th September 2024.

Competency of Assessors

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 30 years of experience providing ecological consultancy services in Ireland. He has extensive experience in carrying out a wide range of bat surveys including dusk emergence, dawn re-entry and static detector surveys. He also has extensive experience reducing the potential impact of projects that involve external lighting on Bats. Bryan trained with Conor Kelleher author of the Bat Mitigation Guidelines for Ireland (Kelleher and Marnell (2022)) and Bryan is currently providing bat ecology (impact assessment and enhancement) services to Dun Laoghaire Rathdown County Council primarily on the Shanganagh Park Masterplan. The desk and field surveys were carried out having regard to the guidance: Bat Surveys for Professional Ecologists – Good Practice Guidelines 3rd Edition (Collins, J. (Ed.) 2016) and Marnell, Kelleher and Mullen (2022), Bat Mitigation Guidelines for Ireland V2 (which update and replace the Bat Mitigation Guidelines for Ireland published in 2006).

Frank Spellman (MSc Zoology, BSc Zoology) has extensive experience in carrying out a wide range of fauna surveys as both a sub-contractor and employee for environmental consultancies and organisations in Ireland and the US. These include both roving and static acoustic bat surveys, terrestrial non-avian mammal surveys, breeding/wintering bird surveys, freshwater ecology surveys as well as flora/invasive plant surveys. Frank has been lead surveyor on numerous development projects within Ireland carrying out full avian/non-avian mammal, wintering bird and breeding bird assessments.

Legislative Context

Wildlife Act 1976 (as amended by, inter alia, the Wildlife (Amendment) Act 2000).

Bats in Ireland are protected by the Wildlife (Amendment) Act 2000. Based on this legislation it is an offence to wilfully interfere with or destroy the breeding or resting place of any species of bat. Under this legislation it is an offence to "*Intentionally kill, injure or take a bat, possess or control any live or dead specimen or anything derived from a bat, wilfully interfere with any structure or place used for breeding or resting by a bat, wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose. "*

Habitats Directive- Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora has been transposed into Irish Law, including, via, *inter alia*, the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). See Art.73 of the 2011 Regulations which revokes the 1997 Regulations.

Annex II of the Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) lists animal and plant species of Community interest, the conservation of which requires the designation of Special Areas of Conservation (SACs); Annex IV lists animal and plant species of Community interest in need of strict protection. All bat species in Ireland are listed on Annex IV of the Directive, while the Lesser Horseshoe Bat (*Rhinolophus hipposideros*) is protected under Annex II which related to the designation of Special Areas of Conservation for a species.

Under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), all bat species are listed under the First Schedule and, pursuant to, *inter alia*, Part 6 and Regulation 51, it is an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat particularly during the period of breeding, hibernating or migrating;
- Damage or destroy a breeding site or resting place of a bat;
- Keep, sell, transport, exchange, offer for sale or offer for exchange any bat taken in the wild.

Description of the Proposed Project

Planning permission is being sought by Dun Laoghaire Rathdown County Council, for a Residential Development, on a site located at Mount Saint Mary's, Dundrum Road, Dublin.

The development will consist of 129 no. residential units together with associated infrastructure including open space and car/cycle parking and is a mixture of duplexes and apartments in 3 no. buildings ranging in height from two to part six stories.

The proposed site outline and site plans are seen in Figures 1 & 2.

Landscape

The landscape strategy for the proposed development has been prepared by RMDA to accompany this planning application. The proposed landscape plan is demonstrated in Figure 3.

Arborist

An Arboricultural Assessment and Impact Report has been prepared by CMK Hort & Arb Ltd. to accompany this planning application. The report outlines the following in relation to trees on site:

'The arboricultural impact assessment identified 20 trees which will need to be removed to facilitate the proposed development. This represents 28% of the existing trees. The categorisation of the trees to be removed is as follows:

2 category A trees will be removed, 15 category B trees and 3 Category C trees. No trees were considered of poor enough form to require removal at this time for arboricultural best practice.'

Category	TO BE REMOVED	% OF CATEGORY
A	2	28%
B	15	23%
C	3	25%

Table 3 - Impact on Categories

Tree Protection and Retention

The retention of the 51 trees identified by the impact section of this report will require methodical protection to ensure their continued success.

- *A site arborist shall be appointed to inspect tree protection measures throughout the development.*
- *Tree protection measures will be agreed with a site arborist and implemented prior to construction commencement.*
- *A post-construction assessment of the retained trees shall be undertaken by a site arborist.'*

Figure 1. *Proposed site outline and survey area.*

***Figure 2**. Proposed Site Plan*

Figure 3. *Proposed Landscape Masterplan*

***Figure 4**. Tree Survey & Constraints Plan*

***Figure 5**. Tree Impact Assessment*

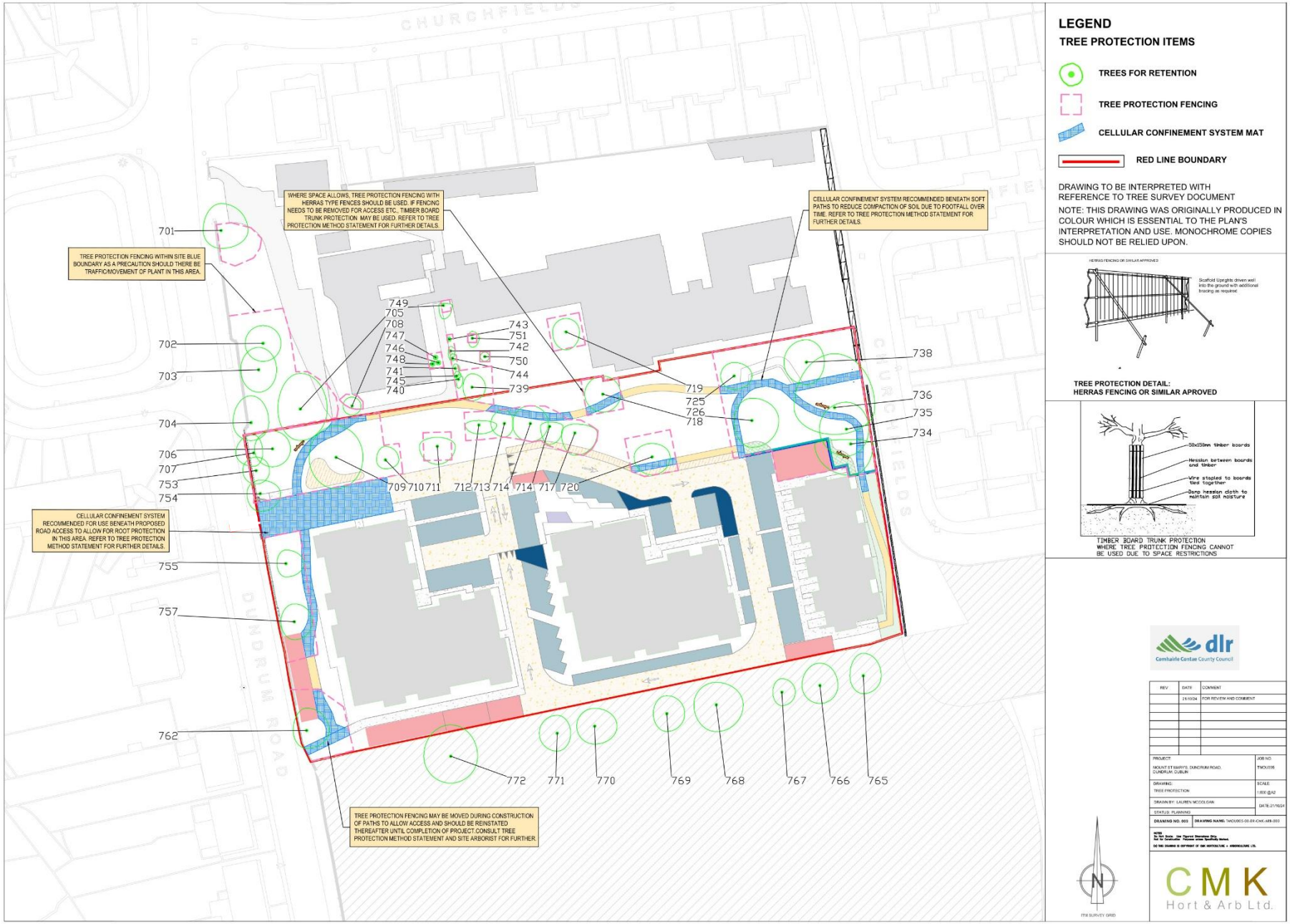

***Figure 6**. Tree Protection Plan*

Lighting

A Public Lighting Report has been prepared by Fallon Design Ltd. to accompany this planning application. Consultation took place between Fallon Design and Altemar to provide bat foraging areas with reduced light spill and low-level light fittings. As outlined in the lighting report:

*'**Detailed Design***

The design now uses the following:

13 x City Streetlight 27w LED 2700K (4 x Forward Throw A Optic and 9 x Street Optic R01) mounted on 6m columns with no tilt

7 x City Streetlight 19w LED 2700K Street Optic R03 with black shield mounted on 6m columns with no tilt along the perimeter pathways

The average light level is 5.5 lux with a minimum of 1.0 lux (0.20 uniformity). This complies with IS EN 13201-2:2015 / BS 5489-1:2020 for residential roads & paths – class P4 (5.0 lux average, 1.0 lux minimum).

*'**Ecological Impact Design Considerations***

- *Careful consideration has been given to the design of Public Lighting with regard to the existing natural habitat and the wildlife. The chosen luminaire Veelight Tech Series has a full cut off lantern type, that offers with a G6 Glare rating and no upward light making it dark sky friendly.*
- *An inbuilt multi step dimming program within this luminaire allows for night time hours to be dimmed by up to 25%. This means during peak hours of nocturnal foraging, feeding and activity the adjacent public lighting can be further designed to minimize impact on the local wildlife.*
- *The colour rendering of the selected light fitting is 2700k making the LED fittings a warmer light, helping to further minimize the impact on the local wildlife.*
- *Greater energy savings will also result using the inbuilt multi-step dimming program during late hours of darkens along the public lighting spaces.*
- *Unnecessary light spill controlled through a combination of directional lighting and luminaire optics design.*
- *No floodlighting will be used on the scheme.'*

Public lighting on walkways and circulation routes around the developments shall be selected with full shut off lanterns, back plate diffusers, reduced height poles and colour rendering of 2700k to preserve and minimize the lighting impact on the local ecological habitats as much as possible. The 1.0 lux contour lines on the lighting designs issued shows the low impact outside the target lighting area, while still providing safe walkways for the scheme's functionality.

The lighting strategy for the proposed development complies with bat lighting guidelines and is set to 2700K. The public lighting layout is demonstrated in figure 7.

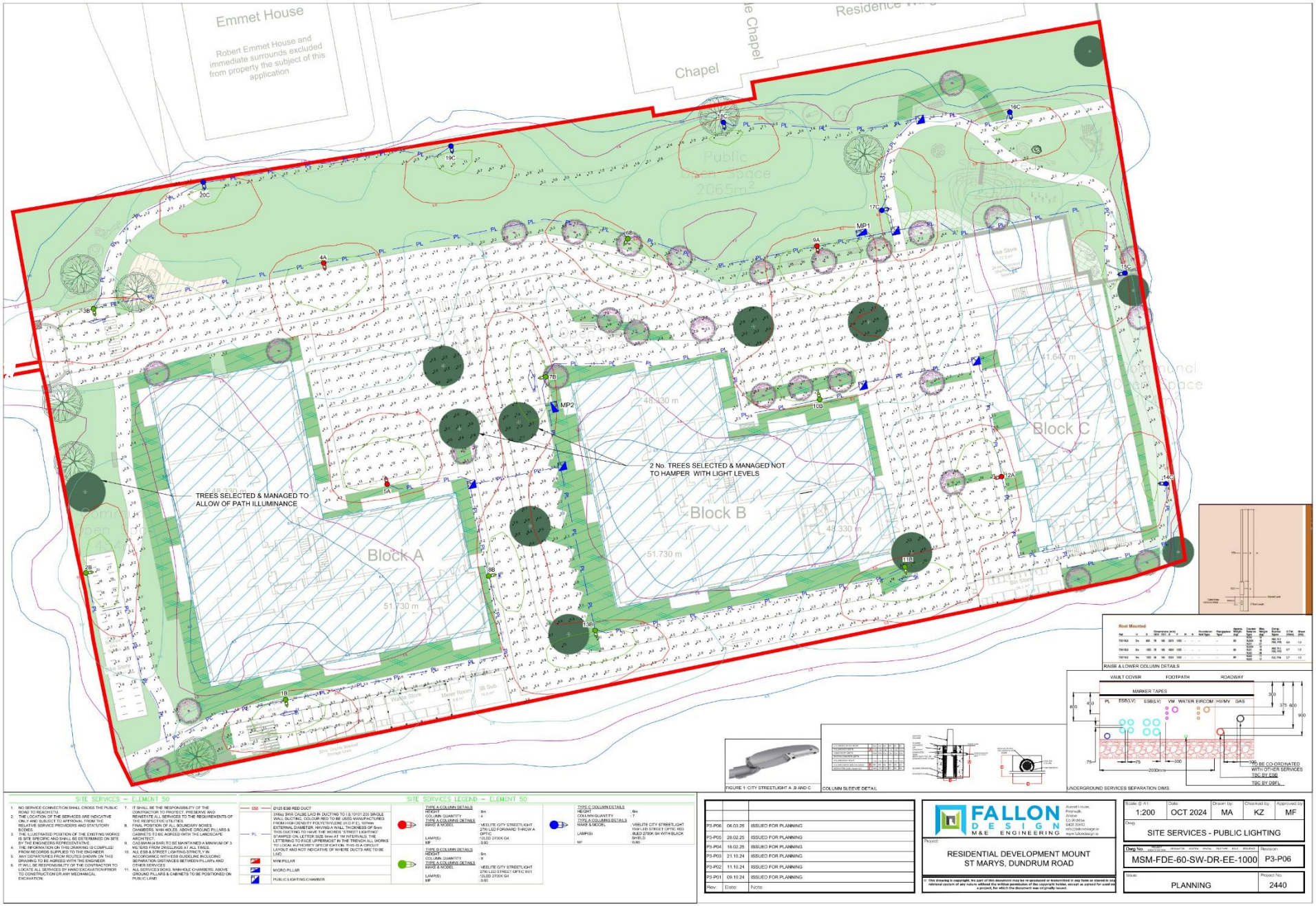

***Figure 7**. Public Lighting Layout*

Bat Survey

This report presents the results of two emergent and handheld detector surveys (19th & 25th September 2024), undertaken by Frank Spellman. Trees on site were examined for bat roosting potential. Bat detector and emergent detector survey used an Echo Meter Touch 2 Pro detector to determine bat activity.

Survey Methodology

As outlined in Marnell et al. 2022 '*The presence of a large maternity roost can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others. However, most roosts are less obvious. A visit during the summer or autumn has the advantage that bats may be seen or heard. Buildings (which for this definition exclude cellars and other underground structures) are rarely used for hibernation alone, so droppings deposited by active bats provide the best clues. Roosts of species which habitually enter roof voids are probably the easiest to detect as the droppings will normally be readily visible. Roosts of crevice-dwelling species may require careful searching and, in some situations, the opening up of otherwise inaccessible areas. If this is not possible, best judgement might have to be used and a precautionary approach adopted. Roosts used by a small number of bats, as opposed to large maternity sites, can be particularly difficult to detect and may require extensive searching backed up by bat detector surveys (including static detectors) or emergence counts.'* In relation to the factors influencing survey results the guidelines outlines the following *'During the winter, bats will move around to find sites that present the optimum environmental conditions for their age, sex and bodyweight and some species will only be found in underground sites when the weather is particularly cold. During the summer, bats may be reluctant to leave their roost during heavy rain or when the temperature is unseasonably low, so exit counts should record the conditions under which they were made. Similarly, there may be times when females with young do not emerge at all or emerge only briefly and return while other bats are still emerging thus confusing the count. Within roosts, bats will move around according to the temperature and may or may not be visible on any particular visit. Bats also react to disturbance, so a survey the day after a disturbance event, may give a misleading picture of roost usage.'*

The survey involved the methodologies outlined in Collins (2016) which included the roost inspection methodologies i.e. external methodology outlined in section 5.2.4.1 and the internal survey outlines in section 5.2.4.2 of the guidelines. In addition, the methodologies for Presence absence surveys (Section 7) was carried out for dust emergent surveys.'

As outlined in Collins (2016) 'The bat active period is generally considered to be between April and October inclusive (although the season is likely to be shorter in northern latitudes). However, because bats wake up during mild conditions, bat activity can also be recorded during winter months.'

Survey Constraints

The emergent / detector surveys on the 19th & 25th September 2024 were within the active bat season and the transects covered the entire site multiple times during the night. Weather conditions were good with mild temperatures of 10°C after sunset. Winds were light and there was no rainfall. Insects were observed in flight during the survey.

As outlined in Collins (2016) in relation to weather conditions '*The aim should be to carry out surveys in conditions that are close to optimal (sunset temperature 10°C or above, no rain or strong wind.), particularly when only one survey is planned…. Where surveys are carried out when the temperature at sunset is below 10°C should be justified by the ecologist and the effect on bat behaviour considered.*' There were no constraints in relation to the surveys carried out. All areas of the site were accessible, and weather conditions were optimal for bat assessments.

Survey Results

Trees as potential bat roosts.

A ground level roost assessment was carried and used to examine the trees on site for features that could form bat roosts. Potential roosting features include heavy ivy growth, broken limbs, areas of decay, vertical or horizontal cracks, cracks in bark etc. All trees on site were assessed for bat roosting potential. A Soprano Pipistrelle bat roost was noted within an ivy-clad Ash *(Fraxinus excelsior)* in the southwestern portion of the site (Plate 1). This tree is to be felled as part of the proposal.

***Plate 1**. Soprano Pipistrelle (Pipistrellus pygmaeus) roost in ivy-clad ash tree*

Emergent / Detector Surveys.

At dusk, bat detector surveys were carried out onsite using a*n Echo meter touch 2 Pro* detector to determine bat activity. Bats were identified by their ultrasonic calls coupled with behavioural and flight observations.

Two bat species were noted on site:

- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Lesser Noctule (*Nyctalus leisleri*)

A single Soprano pipistrelle was observed emerging from an ivy-clad Ash (Tree 759) along the western boundary of the site. Foraging activity of Lesser Noctule (*Nyctalus leisleri*) and Soprano pipistrelle (*Pipistrellus pygmaeus*) was also noted on site. The removal of the trees on site will result in a loss of foraging areas and a potential loss in a bat roost.

***Figure 8**. Locations of bat activity on site*

Bat Assessment Findings

Review of local bat records

The review of existing bat records (sourced from Bat Conservation Ireland's National Bat Records Database) within a 2km^2 grid (Reference grid O13Q and O12U) encompassing the study area reveals that four of the nine known Irish species have been observed locally (Table 1 & 2). The National Biodiversity Data Centre's online viewer was consulted to determine whether there have been recorded bat sightings in the wider area. This is visually represented in Figures 9-11. The following species were noted in the wider area: Common Pipistrelle *(Pipistrellus pipistrellus*), Soprano Pipistrelle *(Pipistrellus pygmaeus),* Brown Long-eared Bat (*Plecotus auritus*), Daubenton's Bat (*Myotis daubentonii*) and Lesser Noctule (*Nyctalus leisleri*) and Nathusius's Pipistrelle ***(****Pipistrellus nathusii).*

Table 1. Status of bat species within a 2km² grid encompassing the subject site (Reference No. O12U)

Species name	Record count	Date of last record	Designation
Common Pipistrelle *(Pipistrellus pipistrellus sensu stricto)*	3	15/04/2011	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Lesser Noctule *(Nyctalus leisleri)*	2	04/09/2003	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Soprano Pipistrelle *(Pipistrellus pygmaeus)*	3	15/04/2011	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Table 2. Status of bat species within a 2km² grid encompassing the subject site (Reference No. O12Q)

Species name	Record count	Date of last record	Designation
Common Pipistrelle *(Pipistrellus pipistrellus sensu stricto)*	21	03/08/2013	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Daubenton's Bat *(Myotis daubentonii)*	126	30/08/2021	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Lesser Noctule *(Nyctalus leisleri)*	13	27/06/2013	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts
Soprano Pipistrelle *(Pipistrellus pygmaeus)*	24	03/08/2013	Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts

Figure 9. Brown Long-eared Bat (*Plecotus auritus*) *(purple),* Daubenton's Bat (*Myotis daubentonii*) (yellow) and both Brown Long-eared Bat and Daubenton's Bat (orange) *(Source NBDC) (Approximate proposed site location – red circle).*

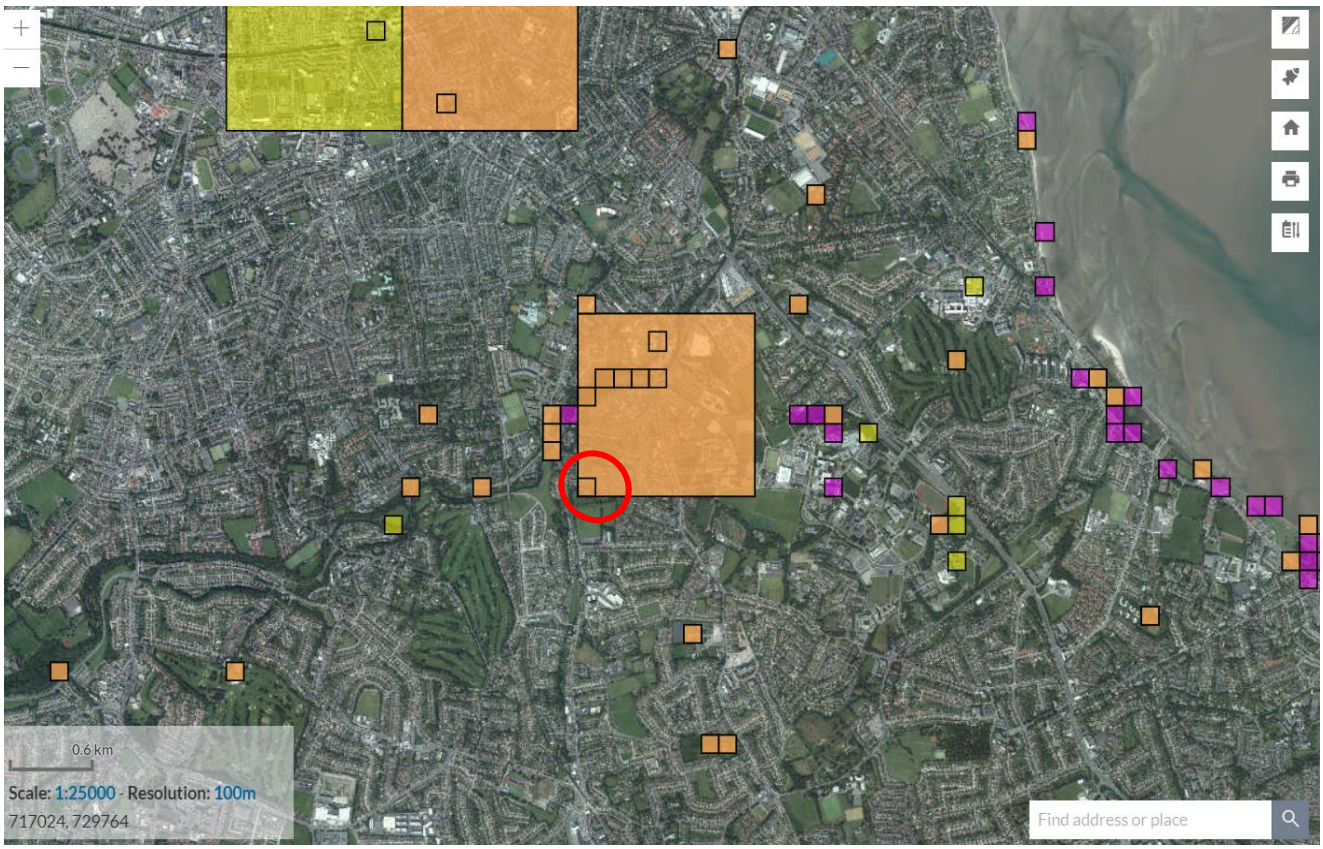

Figure 10. Common pipistrelle (*Pipistrellus pipistrellus*) *(purple),* Soprano pipistrelle (*Pipistrellus pygmaeus*) (yellow) and both Common and Soprano Pipistrelle (orange) *(Source NBDC) (Approximate proposed site location – red circle).*

Figure 11. Nathusius's Pipistrelle *(purple) and* Lesser Noctule (*Nyctalus leisleri*) *(yellow) (Source NBDC) (Approximate proposed site location – red circle).*

Specifically, NBDC records show sightings of bat species in locations proximate to the subject site:

1. Daubenton's Bat (*Myotis daubentonii*) in grid reference O170300. Recorded on 19/07/2007 within a 1 km^2 grid encompassing a portion of the subject site.
2. Common Pipistrelle (*Pipistrellus pipistrellus*) in grid reference O170300. Recorded on 19/07/2007 within a 1 km^2 grid encompassing a portion of the subject site.
3. Soprano Pipistrelle (*Pipistrellus pygmaeus*) in grid reference O170300. Recorded on 19/07/2007 within a 1 km^2 grid encompassing a portion of the subject site.
4. Lesser Noctule (*Nyctalus leisleri*) in grid reference O170300. Recorded on 19/07/2007 within a 1 km^2 grid encompassing a portion of the subject site.

Potential Impact of the Development on Bats

Two relatively common bat species (lesser noctule & soprano pipistrelle) were recorded on site. Several trees of moderate bat roosting potential are proposed to be felled including an Ash Tree (Tree 759) where a soprano pipistrelle roost is located. The removal of large trees on site will result in the loss of a confirmed bat roost in addition to reducing the sites foraging potential. Lighting during construction and operation could potentially lead to impacts on foraging, however the lighting has been designed to minimise light spill onto treelines. It would be expected that bats would continue to forage on site. Mitigation is required in relation to bat roosting and lighting on site.

Mitigation Measures

As outlined in Marnell et al. (2022) "*Mitigation should be proportionate. The level of mitigation required depends on the size and type of impact, and the importance of the population affected*." In addition as outlined in Marnell et. al (2022) '*Mitigation for bats normally comprises the following elements:*

- *Avoidance of deliberate, killing, injury or disturbance – taking all reasonable steps to ensure works do not harm individuals by altering working methods or timing to avoid bats. The seasonal occupation of most roosts provides good opportunities for this*
- *Roost creation, restoration or enhancement – to provide appropriate replacements for roosts to be lost or damaged*
- *Long-term habitat management and maintenance – to ensure the population will persist*
- *Post-development population monitoring – to assess the success of the scheme and to inform management or remedial operations.*'

The following mitigation will be put in place:

- A pre-construction inspection of trees to be felled will be carried out. A derogation licence will be acquired for the Ash tree (Tree 759).

- A pre felling inspection of the trees will be carried out by a bat specialist. If no bats are present during the inspection the tree will be felled in sections and lowered to the ground, where the sections will remain for 24 hours. If a bat is, or bats are, found, a specialist, licenced in manual handling of bats, will oversee the removal of the bat from the tree and the safe relocation of the bat to a suitable site within the site outline. This may include the placing or the bat in a cardboard box for release at night or placing the bat in a safe suitable temporary roosting location, depending on weather conditions.
- Lighting at all stages will be done sensitively on site with no direct lighting on perimeter treelines and will comply with the sensitive public lighting design. Lighting will follow the Bat Conservation Ireland "Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers (December 2010).
- Lighting will comply with bat lighting guidelines
- A post construction lighting assessment will be carried out by the project ecologist.
- 3 Bat boxes will be placed on site in consultation with the project ecologist.

Predicted Residual Impact of Planned Development on Bats

The proposed development will change the local environment as new lights and structures are to be erected and the existing vegetation will be removed. A Soprano Pipistrelle (*Pipistrellus pygmaeus*) bat roost within an Ash tree along the western boundary of the site will be lost. Foraging activity on site may be reduced due to the presence new buildings and lighting. It would be expected that, with a sensitive public lighting strategy, foraging activity will continue on site. A pre-construction inspection will be carried out on onsite trees with bat roosting potential that are to be removed. The proposed development will result in a long term/low adverse/not significant/negative impacts on bats. A derogation licence is required for the proposed development.

References

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

Marnell, F., Kelleher, C. & Mullen, E. (2022). *Bat mitigation guidelines for Ireland V2. Irish Wildlife Manuals, No. 134*. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

Chartered Institute of Ecology and Environmental Management (2021). *Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Beta version.* Chartered Institute of Ecology and Environmental Management, Winchester.

Chartered Institute of Ecology and Environmental Management (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.

Institution of Lighting Professionals (2018). *Bats and Artificial Lighting in the UK – Bats and the Built Environment Series: Guidance Note 08/18.* Institution of Lighting Professionals and the Bat Conservation Trust.

Department of Housing, Planning and Local Government (December, 2018). *Urban Development and Building Heights Guidelines for Planning Authorities***.**

Bat Conservation Trust (May 2022). *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.* The Bat Conservation Trust, London.

Bat Conservation Ireland 2004 on-going, *National Bat Record Database.* Virginia, Co. Cavan

Boyd, I. and Stebbings, R.E. 1989 Population changes in brown long-eared bats (*Plecotus auritus*) in Bat Boxes at Thetford Forest*. Journal of Applied Ecology* **26**: 101 - 112

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

Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992

Jefferies, D.J. 1972 Organochlorine insecticide residues in British bats and their significance. *Journal of Zoology*, London **166**: 245 - 263

Kelleher, C. 2004, Thirty years, six counties, one species – an update on the lesser horseshoe bat *Rhinolophus hipposideros* (Bechstein) in Ireland – *Irish Naturalists' Journal* **27**, No. 10, 387 – 392

Kelleher, C. 2015 *Proposed Residential Development, Church Road, Killiney, Dublin: Bat Fauna Study*. Report prepared for Altemar Marine and Environmental Consultants

Marnell, F., Kingston, N. and Looney, D. 2009 *Ireland Red List No. 3: Terrestrial Mammals.* National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin

Marnell, F., Kelleher, C., & Mullen, E. (2022), BAT MITIGATION GUIDELINES FOR IRELAND – V2 https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf

Racey, P.A. and Swift, S.M. 1986 The residual effects of remedial timber treatments on bats*. Biological Conservation* **35**: 205 – 214

Smal, C.M. 1995 *The Badger & Habitat Survey of Ireland.* The Stationery Office, Dublin

Wildlife Act 1976 and Wildlife [Amendment] Act 2000. Government of Ireland.