NPWS
An tSeirbhís Páirceanna Náisiúnta agus Fiadhúlra
National Parks and Wildlife Service

Application for Derogation

Under Regulation 54 & 54A of the European Communities (Birds and Natural Habitats) Regulations 2011, as amended

Revision 2.0 – July 2025

- This form can be used by any individual or Company applying for a derogation under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011 ("the Regulations") **or** any individual applying on behalf of the Minister for Housing, Local Government and Heritage under Regulation 54(A) of the Regulations.

- Note this application form is not for Domestic Dwelling Derogations (bats within private homes) which can be found here > (3D Application Form)

- Please ensure that you answer questions fully in order to avoid delays and/or your application being rejected on the basis that it does not contain sufficient information and detail for the application to be considered further.

- Please read and familiarise yourself with the NPWS Guidance on Applications for Regulation 54 Derogations for Annex IV species: Guidance for Applicants

- Please read and familiarise yourself with the European Commission's Guidance document on the strict protection of animal species of Community interest under the Habitats Directive

- Please also note that the responses to these questions are supplementary to the documentation required for the NPWS to be in a position to consider your application. A complete application should include both the application form and an associated report. Failure to supply either will result in your application being returned and/or refused.

- In circumstances in which a derogation is given on foot of this application, the Applicant is responsible for ensuring compliance with the conditions of any such derogation, even though they may employ another person to act on their behalf. To carry out any activity without, or not in accordance with, a derogation granted under regulation 54 or 54A of the Regulations constitutes a criminal offence, subject to prosecution.

- If you experience any problems filling in this form, please contact the Wildlife Licensing Unit: reg54derogations@npws.gov.ie

- Please note – applications, associated reports and derogations will be published on the NPWS website and/or the Department's Open Data website.

- Where any applicant is applying for a derogation to carry out surveys, please ensure to list all qualified ecologists and trainees under their supervision. See section 1(c) of Part A.

Part A: The Applicant - Personal Details

These questions relate to the person responsible for any proposed works and who will be the **Applicant**.
If this application is being submitted on behalf of a third party, please also complete Part B below.

1. (a) Name of Applicant

Title (Mr/Mrs/Miss/Ms/Dr)	Forename(s)	Surname
Ms.	Maeve	Mahon
(b) Company Name, if applicable	Catholic Education An Irish Schools Trust (CEIST)	
(c) Address Line 1	Summit House	
Address Line 2	Embassy Office Park	
Town	Kill	
County	Co. Kildare	
Eircode	W91 VK0T	
(d) Contact number	[redacted]	
(e) Email address	[redacted]	
(f) Address where works are to be carried out if different from (b) above.		
Address Line 1	Coláiste na Toirbhirte	
Address Line 2	Ard Aoibhinn, Cloghmacsimon	
Town	Bandon	
County	Co. Cork	
Eircode	P72 FW28	

Details of Person Submitting Application on Behalf of Applicant/Derogation Holder

Information relating to the person (e.g. ecologist) responsible for submitting the application on behalf of the applicant should be entered below:

1. (b) Name of Person/Ecologist

Title (Mr/Mrs/Miss/Ms/Dr)	Forename(s)	Surname
Ms	Aisling	Walsh
(b) Company Name	Ash Ecology and Environmental Ltd	
Address Line 1	Monine	
Address Line 2	Kilfinane	
Town		
County	Limerick	
Eircode		
(c) Contact number	[redacted]	
(d) Email address	[redacted]	
(e) Relationship to Applicant	Sub Contractor Ecologist	

For Survey Derogations Only

1. (c) Please Indicate the Names to Appear on the Derogation Along with the Position Held e.g. Supervisor/Trainee

Forename(s)	Surname	Supervisor or Trainee
Aisling	Walsh	Supervisor

Part B: Species covered by the Derogation

1. **Species of Animal:** Please indicate which species is/are the subject of the application:

- Bat ☒
- Otter ☐
- Kerry Slug ☐
- Natterjack Toad ☐
- Dolphin ☐
- Whale ☐
- Turtle ☐
- Porpoise ☐

2. Please detail the exact species (scientific name): Pipistrellus pipistrellus and Pipistrellus pygmaeus

3. Please provide the maximum number of individuals affected* 6-8

4. Please provide the maximum number of breeding or resting sites affected* 1

5. Please provide the maximum number of eggs to be taken*

6. Please provide the maximum number of eggs to be destroyed*

*If no figures can be provided for the maximum number of individuals, breeding sites, resting places and eggs to be covered by the derogation please provide reasons why.

7. **Species of Plant:** Please indicate which species is/are the subject of the application:

- Killarney Fern ☐
- Slender Naiad ☐
- Marsh Saxifrage ☐

8. If you previously received a derogation for any species of animal or plant, please state derogation number and confirm that you have made a return to NPWS on the numbers actually affected by that derogation.

DER/BAT 2020 – 46 EUROPEAN, DER/BAT 2020 – 48 EUROPEAN, DER/BAT 2021 – 89 EUROPEAN, DER/BAT 2022 – 12 EUROPEAN, DER/BAT 2023 – 23 EUROPEAN, DER/BAT 2023 – 106 EUROPEAN, DER/BAT 2023 – 135 EUROPEAN, DER/BAT 2024 - 25 EUROPEAN, DER/BAT 2024 - 130 EUROPEAN, DER/BAT 2024 - 183 EUROPEAN – Returns submitted

DER/BAT 2025 - 17 EUROPEAN and DER/BAT 2025 - 25 EUROPEAN – to be submitted early 2026

9. **Proposed Dates for Activities:** Please indicate the timeframe that you propose to carry out the activities. Dates set by NPWS may differ from dates proposed here. *A derogation will only be issued with a start and end date within a calendar year.*

Start Date:	January 1st 2026
End Date:	February 28th 2026

Part C: Nature of the Derogation.

1. Please tick which prohibition(s) the application for a derogation relates to:

Regulation 51	
Deliberately capture or kill any specimen of the relevant species in the wild	☐
Deliberately disturb these species particularly during the period of breeding, rearing, hibernation and migration	☐
Deliberately take or destroy eggs of the relevant species in the wild	☐
Damage or destroy a breeding or resting place of such an animal, or	☒
Keep, transport, sell, exchange, offer for sale or offer for exchange any specimen of the relevant species taken in the wild, other than those taken legally as referred to in Article 12(2) of the Habitats Directive.	☐
Regulation 52	
Deliberately pick, collect, cut, uproot or destroy any specimen of these species in the wild, or	☐
Keep, transport, sell, exchange, offer for sale or offer for exchange any specimen of these species taken in the wild, other than those taken legally as referred to in Article 13(1)(b) of the Habitats Directive.	☐

Further information should be provided in the format set out in Part E: Template for Supporting Information

Part D: Derogation Tests

Note: The following <u>summary</u> information must be provided by the applicant in all cases, and will be used to determine if a derogation can be provided. Further information must be provided in the format set out in Part E: Template for Supporting Information

Test 1: Reason for the Derogation

1. Please tick which reason(s) below explains how this application qualifies under Regulation 54(2)(a-e) or Regulation 54A(2)(a-e) of the European Communities (Birds and Natural Habitats) Regulations: Please provide a summary of how the application meets the 3 conditions required to provide a derogation. Note that in all cases additional information must be provided (see Part E).

a.	In the interests of protecting wild flora and fauna and conserving natural habitats **(proceed to 2a)**	☐
b.	To prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property **(proceed to 2b)**	☐

c.	In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment **(proceed to 2c)**	☒
d.	For the purpose of research and education, of re-populating and re-introducing these species and for the breeding operations necessary for these purposes, including artificial propagation of plants **(proceed to 2d)**	☐
e.	To allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species to the extent specified therein, which are referred to in the First Schedule **(proceed to 2e)**	☐

2a. In the interests of protecting wild flora and fauna and conserving natural habitats:

i) Please state the wild flora, fauna or habitats that require protection and /or conservation.

ii) Please summarise how the interests of protection and conservation of the species/habitat concerned justify affecting another species under strict protection.

2b) To prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property:

i) Please summarise the nature of the potential damage, why it is considered “serious” and how this outweighs the conservation interest of the species under strict protection.

2c) In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment:

i) Where the reason is for public health and public safety, summarise the evidence provided to support this reason (e.g. documentary evidence of the risk from a chartered structural engineer, tree surgeon, Garda Síochána, qualified health professional etc.)

The removal of Tree Group TG002 which contains a tree roost within is to achieve mandatory traffic layout modifications serving Gaelscoil Droichead Bandon and Coláiste na Toirbhirte (900+ students) as per Cork County Council, Cork National Road Design Office and TII requirements.

Supporting Evidence:

1. **Cork County Council Request for Further Information (2025)** - Items 3, 4, 6 and 11 specifically mandate:
    - 50-metre sight distance compliance with TII Standard DN-GEO-03060
    - Relocation of all bus bay requirements within school grounds
    - Safe autotrack turning circles for longer school buses within the site
    - Extension of the Coláiste na Toirbhirte set-down area northwards
    - Stage 1/2 Road Safety Audit compliance
2. **Transport Infrastructure Ireland Standards** - TII Publications Standard DN-GEO-03060 (Geometric Design of Junctions) requires 50m sight distance triangle from both sides at school exit. This is a mandatory safety standard, not a discretionary guideline.
3. **Cork National Road Design Office** - Has confirmed that substandard sight lines cannot be mitigated through traffic signals or speed reduction measures on a National Secondary Road. Relocation of all bus bay requirements within school grounds following Cork National Road Design Office rejection of bus bays on the N71.
   necessitating substantial internal layout reconfiguration
4. **School Transport Requirements** - Bus bays cannot be provided on the N71 (per road authority), requiring all buses to enter the site safely.

Risk Assessment:

Without adequate traffic layout modifications, there is significant collision risk at this high-traffic school junction used by:

- 900+ students daily (pedestrian and vehicular)
- School transport vehicles
- Parent drop-off/collection traffic
- Staff vehicles

These mandatory traffic safety requirements cannot be achieved whilst retaining TG002, as the tree group is positioned precisely within the required sight distance triangles and bus set down and expanded junction area. Following the Request for Further Information, the TG002 must now be removed to achieve mandatory traffic layout modifications as per Cork County Council, Cork National Road Design Office and TII requirements

ii) Where the reason is for "other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the

environment", summarise the nature of the public interest and how this outweighs the conservation interest of the species under strict protection.

2d) For the purpose of research and education, of re-populating and re-introducing these species and for the breeding operations necessary for these purposes, including artificial propagation of plants:

i) Please summarise the objective(s) of the proposed activities making reference to those listed above and how the the purpose of such activities overrides the interests of strict protection of the species. [1]

2e) To allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species to the extent specified therein, which are referred to in the First Schedule

i) Please clearly state the objective of the activity and verify that this reason is being chosen as the objective of the activity does not match reasons a-d listed above.

ii) Please summarise how the activity will result in the taking or keeping of limited numbers of specimens of the species, how it will be applied on a selective basis and to a limited extent, and how it will be done under strictly supervised conditions.

Test 2: Absence of Alternative solutions

2. Please summarise the alternative solutions that have been considered and why these solutions are deemed unsatisfactory. This must include the option of the "do-nothing" alternative and evidence

[1] Note that this reason may be appropriate for when research involves surveys that may cause disturbance of species under strict protection. But the sole purpose of the surveys should be for research and education or the other reasons listed above under 1d.

should be objective and robust. Note that in all cases further information must be provided in the format set out in Part E: Template for Supporting Information.

Test 2: Absence of Alternative Solutions

Alternative Solution	Reasons for "Unsatisfactory"
Do-Nothing	Fails to address existing safety deficiencies; school operates under substandard access conditions; no educational improvements delivered; Cork County Council RFI explicitly requires sight line compliance for planning approval.
Relocate Main Entrance	Requires Compulsory Purchase Order of third-party land; new junction on N71 needs TII approval (uncertain); fragments school campus across N71; disproportionate cost (€1.2-1.5M) and timeline (24-36 months including CPO); creates additional safety risks with split campus. Both CCC and DOEY highlighted the vulnerability of primary school students walking to school during the design stage.
Underground Pedestrian Access	Does not resolve vehicular sight line issue (primary safety concern) or provide the required bus set-down areas; major engineering work with flooding risk in low-lying area; cost disproportionate (€3-4M); only addresses pedestrian movement, not school transport/vehicular access requirements.
Traffic Signals/Speed Reduction	TII policy explicitly prohibits signals as mitigation for substandard geometry; Cork National Road Design Office has confirmed this is not acceptable on National Secondary Road; The junction with N71 is already a signalised junction, it is being modified and upgraded as per requirements in the RFI. Raised tables are proposed to reduce speed in the area. These measures do not exclude the requirements for increased set-down and sight lines at the school entrances.
One-Way System	Creates two substandard junctions instead of one; requires additional land acquisition; doubles impact on roadside habitats; Conflicts with existing residential properties; inadequate space for bus turning; TG002 still obstructs northern sight lines; increases complexity for school transport operations.
Partial Tree Removal (TG002)	Remaining trees would be isolated, trees subject to windthrow creating ongoing safety hazard; root damage during construction likely to destabilise remaining trees; creates greater long-term ecological impact through gradual deterioration.
Complete Removal TG002	**ONLY SATISFACTORY SOLUTION** - Achieves mandatory sight distance requirements; allows safe bus turning movements within the mandatory traffic layout modifications; meets all RFI requirements; limited to minimum trees necessary; comprehensive mitigation provided.

Note: Full technical assessment and proportionality analysis provided in supporting documentation (Part E)

Test 3: Impact of a Derogation on Conservation Status

3. Please summarise the possible impacts on the population of the species that is subject to this application, taking into account all the mitigation and/or compensation measures that are to be undertaken. Evidence that such mitigation has been successful elsewhere should be provided where relevant. Mitigation measures being relied upon must ensure that the derogation will not be

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. Note that in all cases further information must be provided in the format set out in Part E: Template for Supporting Information.

Species: Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*P. pygmaeus*)

Conservation Status: Both species "Least Concern" (Ireland Red List 2019) with "Favourable" status maintained (Article 17 Report 2019).

Impact Assessment:

- **Historical use:** Maximum 6-8 individuals in non-maternity roost (August 2023)
- **Current status:** No bats using TG002 (October 2025 thermal survey confirmed)
- **Population context:** <0.2% of local population (estimated 5,000-10,000 within 10km square W45)
- **Reproductive impact:** None - no maternity use recorded

Mitigation/Compensation:

1. **Pre-emptive installation:** 6 woodcrete boxes installed before felling
    - Capacity: 90-180 bats (compensation ratio 1:11-22)
    - Exceeds Mitchell-Jones (2004) minimum 1:3 recommendation
    - Installation verified during ecological supervision
2. **Timing:** January-February 2026 (hibernation period, minimal disturbance)
3. **Soft felling:** 24-hour retention protocol with ecological supervision
4. **Habitat connectivity:** All boundaries/commuting routes retained

Evidence of Success:

- Bandon Bypass: 85% box occupation achieved
- Dodds & Bilston (2013): 76% occupation within 2 years for similar schemes
- Marnell et al. (2022): Common pipistrelles readily adopt woodcrete boxes

Verification: Supervising ecologist will confirm correct implementation during works, with compliance report to NPWS within 14 days. Front-loaded mitigation (boxes installed before impact) ensures no gap in roost availability.

Conclusion: Derogation will not affect FCS as: (1) species common with stable populations, (2) roost currently unoccupied, (3) compensation exceeds impact 11-22 fold, (4) proven mitigation methods employed.
Full assessment in Part E supporting documentation

Part E: Template for Supporting Information

This application form should provide a summary of the evidence that the applicant has provided. In all cases, it is necessary to provide separate supporting information so that the assessment of the application can be undertaken in a robust and comprehensive manner. Applicants should refer to guidance provided by the NPWS and the European Commission whilst preparing this application form and the supporting information.

It is essential that supporting information is prepared in a consistent manner using the template below so that NPWS officials assessing the application can locate the relevant evidence to determine if the three Tests can be met. Failure to provide sufficient evidence will result in the application being refused.

The structure of the Supporting Information should be as follows:

1) Table of Contents

2) Introduction
    a. Objective of the proposed works (for example, as part of construction of a national road, repair of roofing, undertaking surveys etc.)
    b. Name, qualifications and relevant experience of scientific staff, including trainees, (e.g. ecologist) involved in the preparation of the application and those responsible for carrying out the proposed activity.
    c. If this application is for the carrying out of surveys that may cause disturbance, qualifications of all involved must be provided and trainees must be clearly identified.

3) Background to proposed activity including location, ownership, type of and need for the proposed activity, planning history, policy context, zoning in relevant Development plan (or equivalent), etc.

4) Full details of proposed activity to be covered by the derogation (including a site plan). The site may be inspected by an NPWS representative, so the details given should clearly reflect the extent of the project. This information will be used to compare site conditions with the Method Statement.

5) Ecological Survey and site assessment (Not required for applications to carry out surveys)
    a. Pre-existing information on species at location and environs.
    b. Status of the species in the local/regional area (relevant to the consideration of the impact on the population at the relevant geographic scale (Test 3))
    c. Objective(s) of survey
    d. Description of Surveys Area
    e. Survey methodology (including evidence as to how the methodology represents best practice and is appropriate to the Objective). Methodology should include survey maps, details of timing, climate, equipment used and identify any uncertainties or difficulties encountered.
    f. Survey results including raw data, any processed or aggregated data, and negative results as appropriate. Photographs and maps must be provided where site-specific features are referred.
    g. Population size class assessment.

6) Evidence to support the Derogation Tests

    a. Test 1 - Reason for Derogation:
        i. There should be a clear explanation as to why a specific reason(s) has been selected in the application form.

ii. Applicants are advised to read the guidance published by the NPWS 'Guidance on Applications for Regulation 54 Derogations for Annex IV species: Guidance for Applicants" with specific reference to Section 3.1.

b. Test 2 - Absence of Alternative Solutions
   i. Applicants must list the alternatives to the proposed activity that have been considered, including the do-nothing alternatives in a clear and objective manner. A basic requirement is that these alternatives should be compared in terms of their impact on the species subject to strict protection. It should be clear to NPWS officials as to why the chosen approach has been selected.
   ii. Applicants are advised to read the guidance published by 'Guidance on Applications for Regulation 54 Derogations for Annex IV species: Guidance for Applicants" with specific reference to Section 3.2.

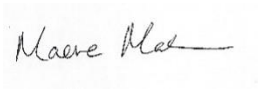
c. Test 3 - Impact of a derogation on Conservation Status
   i. Applicants should include details of the population at the appropriate geographic scale and an evaluation of how the proposed activity will affect the conservation status both before and after mitigation measures have been applied.
   ii. Full and detailed descriptions of proposed mitigation measures that are relevant to the potential impact on the target species. Evidence that such mitigation has been successful elsewhere should be provided, where available.
   iii. Applicants are advised to read the guidance published 'Guidance on Applications for Regulation 54 Derogations for Annex IV species: Guidance for Applicants" with specific reference to Section 3.3.

7) Monitoring the impacts of the derogations
   a. Applicants must include details of how they propose to verify whether the derogations have been implemented correctly and whether they achieved their objective, using scientifically based evidence, and, if necessary, how the applicant will take corrective measures where required.
   b. Applicants should provide details of proposed reports to be submitted to the NPWS including the results of monitoring.
   c. Applicants are advised to read the guidance published by the European Commission "Guidance document on the strict protection of animal species of Community interest under the Habitats Directive" with specific reference to Section 3.4.

Part F. Declaration

I declare that all of the foregoing particulars are, to the best of my knowledge and belief, true and correct. I understand that the deliberate killing, injuring, capturing or disturbing of protected species, or damage or destruction of their breeding sites or resting places or the deliberate taking or destroying of eggs is an offence without a derogation and that it is a legal requirement to comply with the conditions of any derogation I may be granted following this application. I understand that NPWS may visit to check compliance with a derogation.

Please note that under Regulation 5 of the European Communities (Birds and Natural Habitats) Regulations 2011-2021 an authorised officer may enter and inspect any land or premises for the purposes of performing any of their functions under these Regulations or for obtaining any information which they may require for such purposes.

Signature of the Applicant  **Date** **5/11/2025**

Name in BLOCK LETTERS MAEVE MAHON

PRIVACY STATEMENT

See Privacy Statement at www.npws.ie/licences

npws.ie

Department of Housing, Local Government and Heritage

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

October 2025

Bat Derogation Licence Application Report

Gaelscoil Droichead Bandon & Colaiste na Toirbhirte Cloghmacsimon, Bandon, Co. Cork

ASH Ecology & Environmental

Ash Ecology & Environmental Ltd.
Directors: Aisling Walsh, Robert Morrison
[redacted] Company Reg: 630819 /
Office: Monine Kiltinane, Co. Limerick
Full membership of the CIEEM

Contents

Tables

Figures

Appendices

1. INTRODUCTION

1.1 Purpose of the Report

This report has been prepared by Ash Ecology and Environmental Ltd (AEE) to accompany a bat derogation licence application under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011 for works at Gaelscoil Droichead Bandon & Coláiste na Toirbhirte, Cloghmacsimon, Bandon, Co. Cork. The application is submitted on behalf of the Board of Management (BOM) of the schools in relation to planning application 25/05372 to Cork County Council (CCC).

The requirement for this derogation licence arose following a Request for Further Information (RFI) dated 29th August 2025 from Cork County Council, which necessitates the removal of Tree Group TG002 to achieve mandatory sight distance and traffic circulation requirements for traffic safety at the school entrances. The RFI (items 3 and 6) specifically requires:

- Removal of proposed bus bays from the N71
- Accommodation of all bus and school traffic within the site boundary
- Extension of the Coláiste na Toirbhirte set-down area northwards
- Minimum 50 metre sight distance at the exit/entrance from both sides
- Relocation of fire tender access within the site boundary

These mandatory requirements result in the following proposed works:

- Removal of Tree Group TG002 (confirmed bat roost trees) comprising existing green areas required for the extended bus set-down and circulation area
- Removal of two additional trees to accommodate fire tender access within the site boundary (previously proposed on N71 in conjunction with the now-refused bus bays)
- Junction modifications to achieve 50 metres sight distance onto the N71
- Extended set-down areas and bus circulation modifications within the school grounds as required by Cork County Council, Cork National Road Design Office and TII
- All associated development works as per the revised site layout

The site currently serves Coláiste na Toirbhirte and, with the future relocation of Gaelscoil Dhroichead na Banndan, the traffic and road layout will serve both schools.

Initial bat surveys were conducted in August 2023, which confirmed the presence of bat roosts in TG002. Following the RFI requirements, a follow-up survey was conducted on 25th October 2025 using advanced Audio-Visual Aid (AVA) equipment to assess current roost status. The combination of these surveys provides comprehensive baseline data for this derogation application.

The revised layout (requiring TG002 removal) is shown as Figure 4. The RFI requirements necessitating these changes are detailed in Section 1.4.

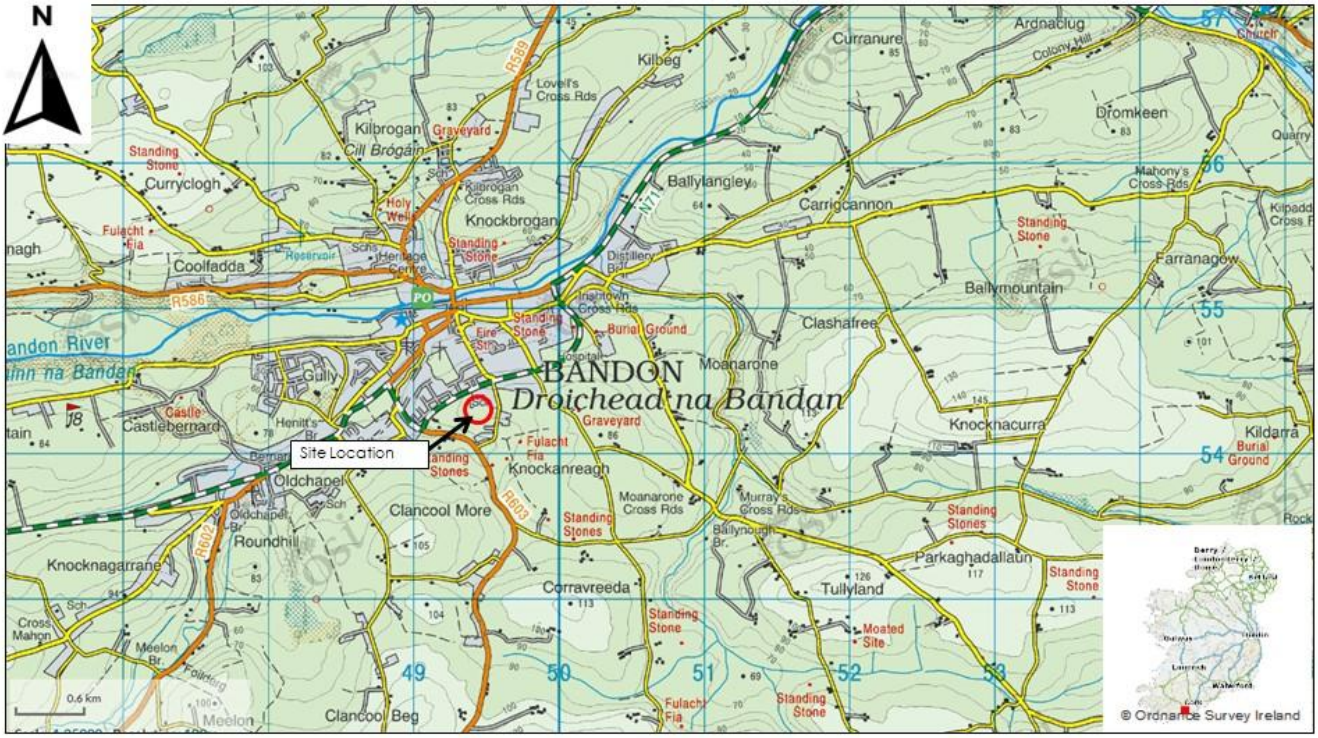


Figure 1 Site Location

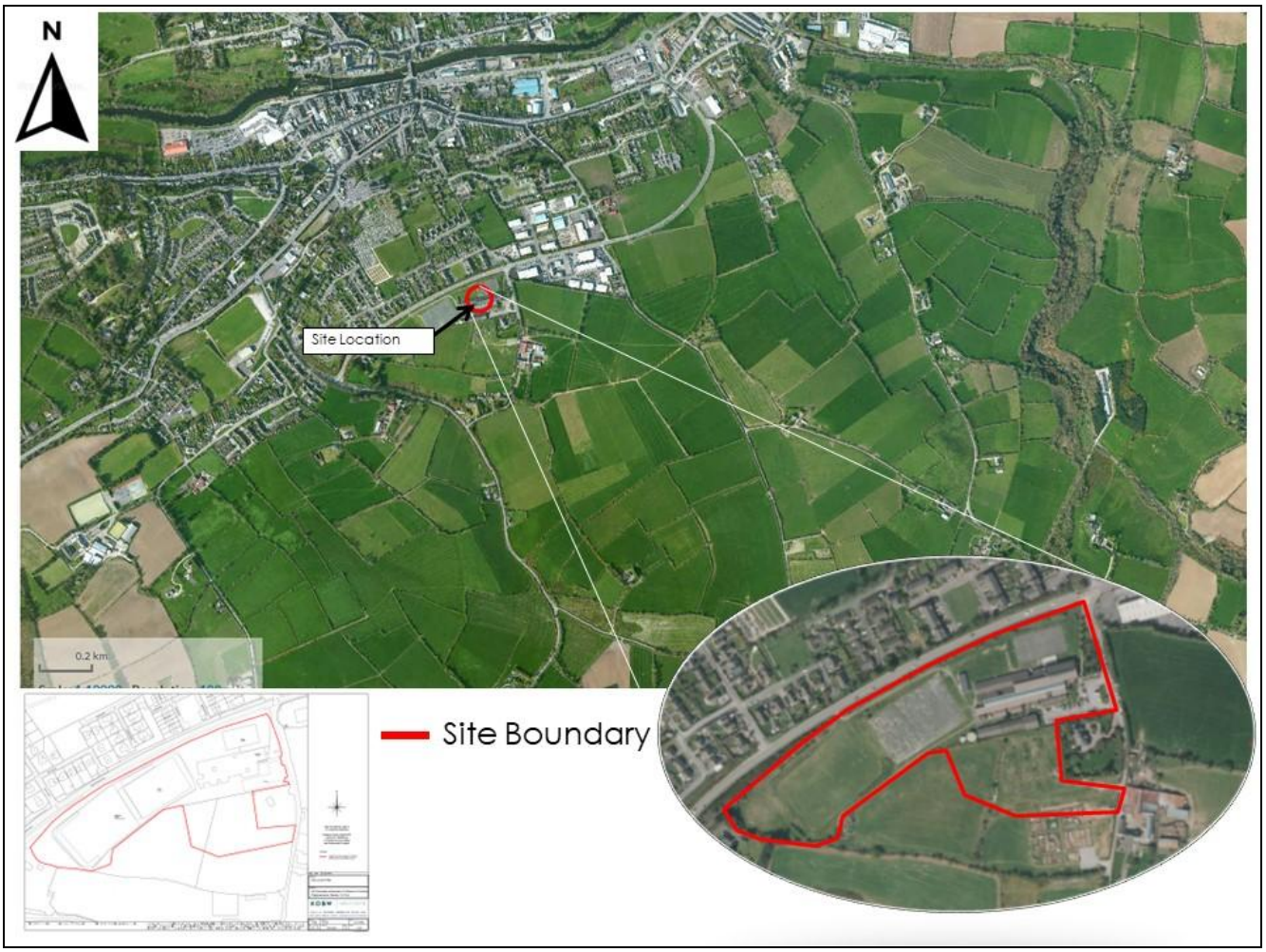


Figure 2 Existing Site Layout (Aerial Photo)

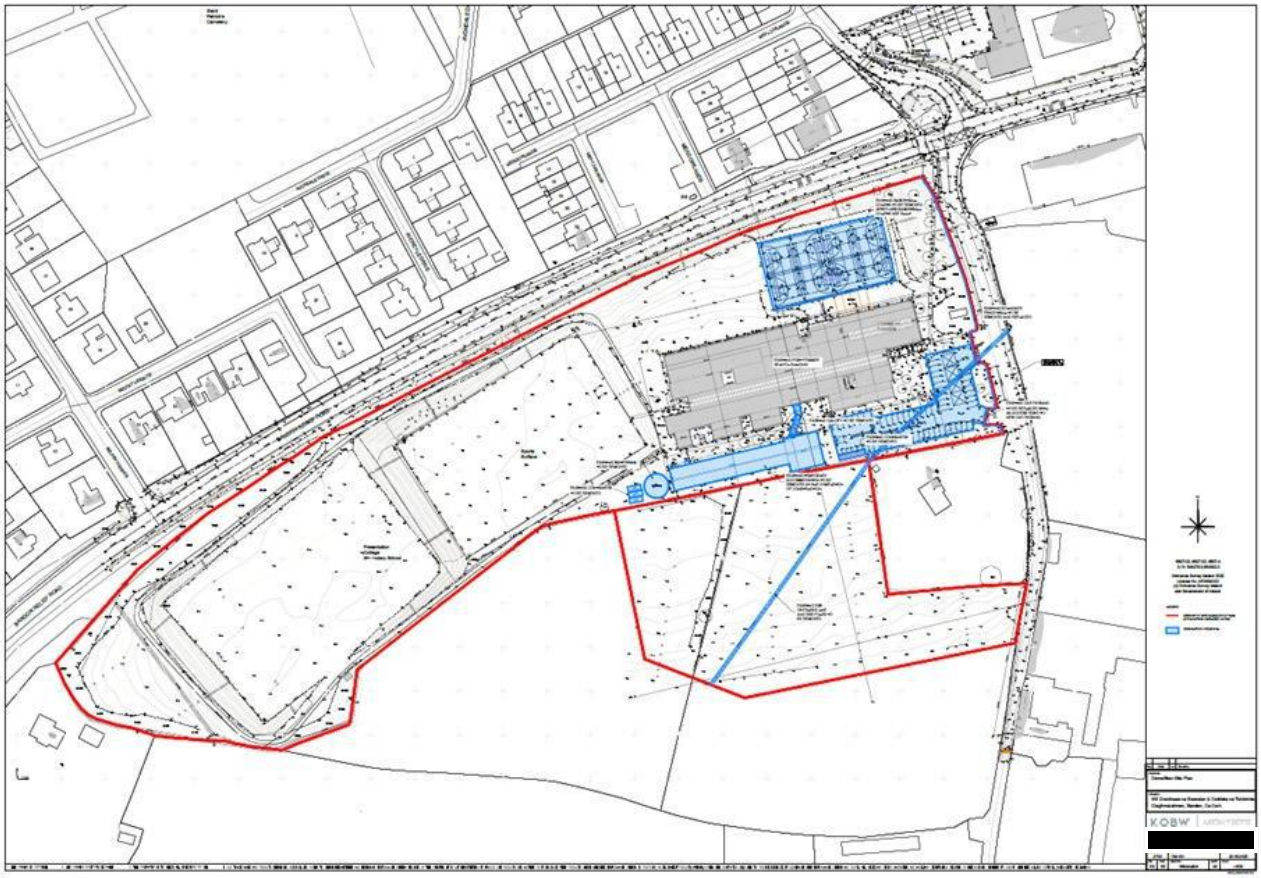


Figure 3 Existing Layout showing areas for Demolition/Removal in Blue (Schematic)

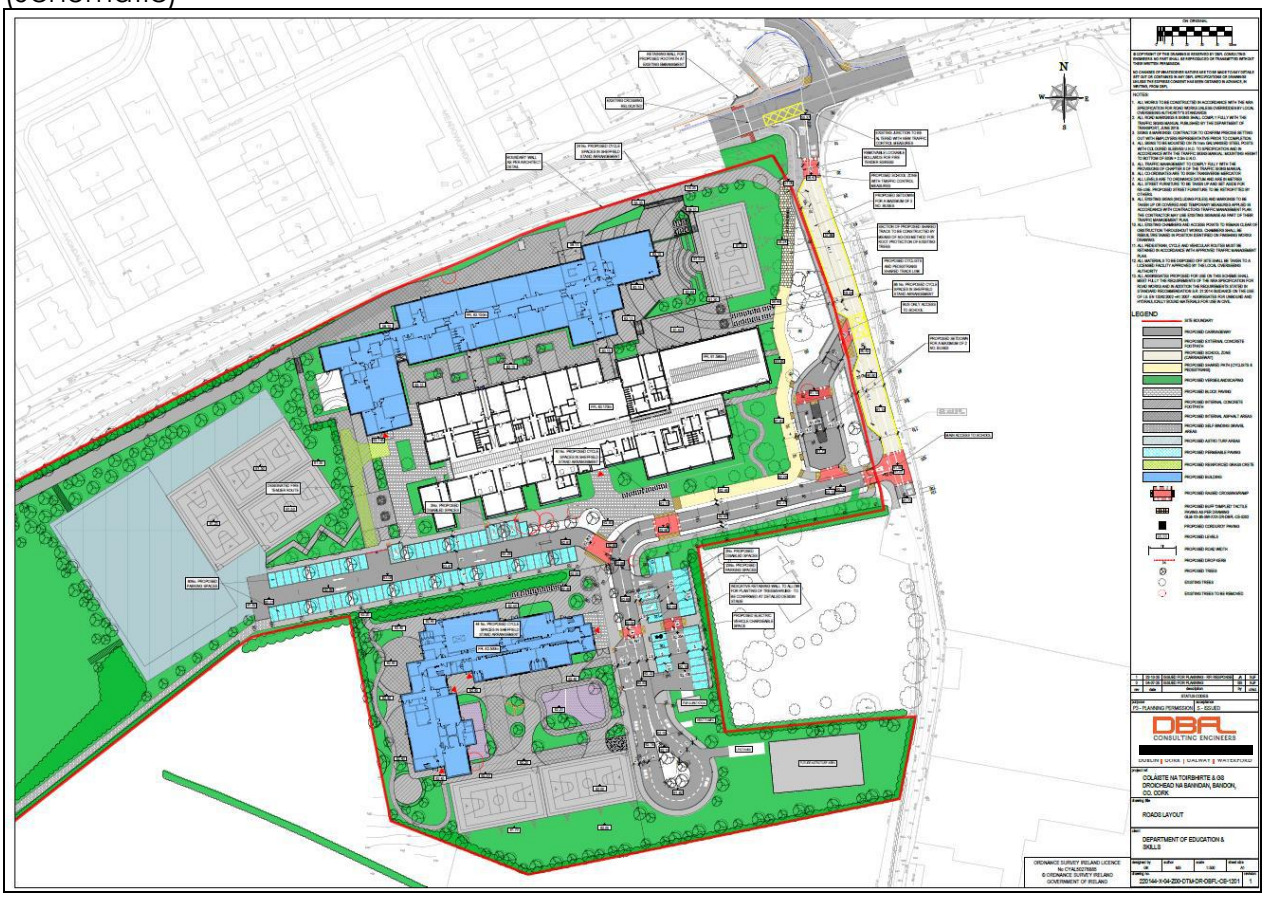


Figure 4 Proposed Site Layout (Schematic) – Updated 2025 due to RFI Response

1.2 Competency of Assessor

This report has been prepared by Ash Ecology & Environmental Ltd (AEE) whose managing director and leading ecologist is Aisling Walsh who is a full member of the Chartered Institute of Ecological & Environmental Management (CIEEM) while the company, AEE, is a Registered Practice by the CIEEM.

Aisling's qualifications include M.Sc. (Dist) in Biodiversity and Conservation (TCD) and B.Sc. (Hons) Zoology (NUIG), a Diploma in Applicated Aquatic Science (GMIT) and a Certificate in Applied Biology (GMIT).

Aisling is a licenced bat ecologist (example of recent: DER/BAT 2020 – 46 EUROPEAN, DER/BAT 2020 – 48 EUROPEAN, DER/BAT 2021 – 89 EUROPEAN, DER/BAT 2022 – 12 EUROPEAN, DER/BAT 2023 – 23 EUROPEAN, DER/BAT 2023 – 106 EUROPEAN, DER/BAT 2023 – 135 EUROPEAN, DER/BAT 2024 - 25 EUROPEAN, DER/BAT 2024 - 130 EUROPEAN, DER/BAT 2024 - 183 EUROPEAN, DER/BAT 2025 - 17 EUROPEAN and DER/BAT 2025 - 25 EUROPEAN) and a member of Bat Conservation Ireland and associate member of the Institute of Lighting Professionals (ILP).

1.3 Bat Legislation

All bat species are protected under the Wildlife Act 1976 to 2023 which make it an offence to wilfully interfere with or destroy the breeding or resting place of these species; however, the Acts permit limited exemptions for certain kinds of situations.

Section 23 of the Wildlife Act 1976 to 2023 contains several exemptions to the protection given to the species listed for protection on Schedule 5 (e.g. for agriculture or construction). In 2005 a further amendment through the European Communities (Natural Habitats) (Amendment) Regulations 2005 (S.I. No. 378 of 2005) removed all of the exemptions provided in Section 23(7) of the Wildlife Act 1976 to 2023 insofar as they relate to Annex IV species, including all species of bats. Those 2005 Regulations were revoked in 2011 except for Regulation 2 which brings about this strengthened protection for bats (and other Annex IV species). All species of bats in Ireland are listed on Schedule 5 of the 1976 Act, and are therefore subject to the provisions of Section 23, which make it an offence to:

- Intentionally kill, injure or take a bat;
- Wilfully interfere with the breeding or resting place of a bat

The Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("the Habitats Directive") seeks to protect rare and vulnerable species, including all species of bats, and their habitats and requires that appropriate monitoring of populations be undertaken. All species of bat found in Ireland are listed on Annex IV of the Directive. Member States are required to put in place a system of strict protection (as outlined in Article 12) for species listed on Annex IV ('European protected species'). The lesser horseshoe bat is further protected under Annex II. This Annex relates to the designation of Special Areas of Conservation (SACs). The Habitats Directive is transposed into Irish law by the European Communities (Birds & Natural Habitats Regulations) 2011 (S.I. No. 477 of 2011) ("the Habitats Regulations"). Under the Habitats Regulations (2011), all bat species are listed on the First Schedule and Regulation 51 makes it 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.

Across Europe, bats are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (CMS, Bonn Convention 1979) was instigated to protect migrant species across all European boundaries. EUROBATS (a daughter Agreement under CMS) is of particular relevance in relation to cooperation across international borders for the conservation of bats, many of which are known to migrate long distances. The Irish government has ratified both of these conventions as well as the EUROBATS Agreement.

1.4 Derogation licences

It is an offence, under Regulation 51 of the European Communities (Birds and Natural Habitats) Regulations, 2011 ('the 2011 Regulations') to:

a) Deliberately capture or kill a bat in the wild;
b) Deliberately disturb a bat particularly during the period of breeding, rearing, hibernation and migration;
c) Damage or destroy a bat's breeding site or resting place, or;
d) Keep, transport, sell, exchange, offer for sale or offer for exchange any bat taken in the wild, other than those taken legally before the Habitats Directive before the Habitats Directive was implemented.

A person may apply to the Minister under Regulation 54 of the 2011 Regulations for a derogation licence to carry out one or more of these prohibited activities. But, the Minister may only grant such a derogation licence if three criteria are met.

Firstly the Minister may only grant a derogation licence if it is for one of the following specified reasons listed in Regulation 54:

a) In the interests of protecting wild fauna and flora and conserving natural habitats;
b) To prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property;
c) In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and the beneficial consequences of primary importance for the environment;
d) For the purpose of research and education, of repopulating and introducing these species and for the breeding operations necessary for these purposes, including the artificial propagation of plats, or;
e) To allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of bats.

Secondly, the Minister may only issue a derogation if there is no alternative to carrying out the prohibited activity. The first aim of the developer, whether from a

private company or a public authority, working with professional advice, should be to entirely avoid any potential impact of a proposed development on bats and their breeding and resting places. Alternatives may involve redesigning a development so that bat roosts, and associated commuting routes and feeding areas are kept intact and that bats are not disturbed, for example by inappropriate lighting. It should be noted that the European Commission has a specific understanding of satisfactory alternative solution. "An alternative solution cannot be deemed unsatisfactory merely because it would cause greater inconvenience or compel a change in behaviour" (European Commission, 2021, page 13)[1]. Decisions about what solution is satisfactory must be science-based and should solve the problem of how to strictly protect the bats in light of the development.

Thirdly the Minister may only grant a derogation if it is not detrimental to the maintenance of the populations of bats at a favourable conservation status (FCS) in their natural range. There is case law from the Court of Justice of the European Union (CJEU) to back this up. One example is the Finnish Wolf Case C-674/17. The ruling establishes that the Member State must "clearly and precisely" identify in the derogation what the objectives of the derogation are. It must also establish that the derogation is capable of achieving those objectives and demonstrate that there is no satisfactory alternative. Cumulative effects of derogations must be taken into account when issuing derogations. The maximum number of all derogations must not be detrimental to the maintenance or restoration of the population at FCS. Consideration must be given to other human causes of mortality. Any risk to FCS must be ruled out by detailed conditions based on the level of population, its conservation status and its biological characteristics. The conditions must be precisely defined and they must be monitored to ensure they are implemented.

If any of these three criteria are not satisfied, the Minister cannot issue a derogation licence. It must never be assumed that a derogation licence will automatically be granted.

In summary, it is clear that a developer must first look to avoid all impacts on bats. This may mean looking at alternative solutions and redesigning the project accordingly. If this is not possible, the developer needs to check whether there are grounds to apply for a derogation licence, based on the reasons given in Regulation 54 of the Habitats Regulations. When applying for a derogation licence the developer must clearly state the reason and describe in detail all alternative solutions which were given serious consideration. Any mitigation intended to ensure that there is no impact or minimal impact on the bats must be clearly described in detail, giving examples of how it worked in other places.

If a derogation licence has been refused by the Minister, any aspect of the development for which the derogation licence was sought, must not go ahead, no matter what other permissions are in place.

A derogation licence is required when on the basis of survey information and specialist knowledge, it appears that:

- The site in question is a breeding site or resting place for bats and/or;

[1] https://op.europa.eu/en/publication-detail/-/publication/bbc7ace0-27e2-11ec-bd8e-01aa75ed71a1/language-en

- The proposed activity could impact on a breeding site or resting place of a bat.

No licence is required if the proposed activity is unlikely to result in an offence. The advice given in this document (and see also Mullen et al. 2021)[2] should assist the proponent, or those acting on their behalf, in arriving at a decision on this matter, though it must be recognised that determining whether a particular site is used as a breeding or resting place can be problematic for such mobile animals as bats.
Determining whether an activity undertaken near to a roost might impact on that roost (e.g. by removing important flight lines or foraging areas) will also require specialist assessment. Note that if the proposed activity can be timed, organised and carried out so as to avoid committing an offence then no licence is required.

Examples of works that are likely to need a licence because they may result in the destruction of a breeding or resting place and/or disturbance of bats include:

- Demolition of buildings known to be used by bats;
- Conversion of barns or other buildings known to be used by bats;
- Restoration of ruined or derelict buildings;
- Maintenance and preservation of heritage buildings;
- Introduction of artificial lighting inside a roost or near a roost entrance;
- Change of use of buildings resulting in increased ongoing disturbance;
- Removal of trees known to be used by bats;
- Significant alterations to roof voids known to be used by bats.

Examples of works that, if carefully planned, may not need a licence include:

- Works near to or at roosts (e.g. re-roofing) if carried out while bats are not present and the access points and roosting area are not affected;
- Remedial timber treatment, carried out with the correct (non-toxic to bats) chemicals while bats are not present.

[2] Mullen, E., Marnell, F & Nelson, B. (2021) Strict protection of animal species. Guidance for public authorities on the application of Articles 12 and 16 of the EU Habitats Directive to development/works undertaken by or on behalf of a public authority. Unpublished Report, National Parks and Wildlife Service. Department of Housing, Local Government and Heritage, Dublin. https://npws.ie/sites/default/files/files/article-12- guidance-final.pdf

1.5 Request for Further Information Context

Following the submission of planning application 25/05372 to Cork County Council in July 2025, a Request for Further Information (RFI) was issued in August 2025 requiring significant modifications to the proposed school access arrangements. The RFI mandated compliance with Transport Infrastructure Ireland (TII) sight distance standards and Cork National Road Design Office requirements, fundamentally altering the proposed site layout.

The critical RFI requirements affecting Tree Group TG002 include:

- Item 3: Relocation of all bus bay requirements within school grounds following Cork National Road Design Office rejection of bus bays on the N71, necessitating substantial internal layout reconfiguration
- Item 4: Provision of revised autotrack details for longer school buses through both junctions and internal set-down areas, requiring expanded turning circles
- Item 6: Extension of the Coláiste Na Toirbhirte set-down area northwards with mandatory provision of "not less than 50 metres unobstructed sight distance triangle from both sides" at the exit point
- Item 11: Completion of a Stage 1/2 Road Safety Audit in compliance with TII guidance (GE-STY-0124), with all recommendations to be implemented prior to planning approval

These mandatory traffic safety requirements cannot be achieved whilst retaining TG002, as the tree group is positioned precisely within the required sight distance triangles and bus set down and expanded junction area. The original proposed layout (Figure 2) had retained TG002 based on the 2023 bat survey findings. However, the RFI requirements necessitate the revised layout (Figure 3), which requires removal of TG002 and the removal of two additional trees is as a result of the rejection of bus bays to the N71, which also served as fire tender access. This fire tender access must be designed within the site boundary, thus resulting in the removal of two additional trees.

1.6 Assessment Against Three Tests

Under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, a derogation licence may only be granted where three strict tests are satisfied[3]. This application has been prepared to demonstrate compliance with all three tests as required by National Parks and Wildlife Service (NPWS) guidance[4].

Test 1: Reasons for Derogation - The application must demonstrate that the activity falls under one of the five specified reasons in Regulation 54(2)(a-e). This application is made under Regulation 54(2)(c): "In the interests of public health and public safety, or for other imperative reasons of overriding public interest". The mandatory traffic

[3] NPWS (2021) *Guidance on Strict Protection of Certain Animal and Plant Species under the Habitats Directive in Ireland*. National Parks and Wildlife Service Guidance Series No. 1. Department of Housing, Local Government and Heritage.

[4] NPWS (July 2025) *Applications for Regulation 54 Derogations for Annex IV Species - Guidance for Applicants Version 1.0*. Department of Housing, Local Government and Heritage.

safety requirements at a school serving over 600 students clearly constitute public safety imperatives.[5]

Test 2: No Satisfactory Alternative - The applicant must demonstrate that all alternative solutions have been examined and found unsatisfactory[6]. Section 4.2 provides detailed analysis of alternatives considered, including retention of TG002, alternative junction designs, and the "do nothing" option. Each alternative fails to achieve the mandatory sight distance requirements specified in the RFI.

Test 3: Favourable Conservation Status - The derogation must not be detrimental to maintaining the populations of affected species at favourable conservation status[7]. The October 2025 survey using AVA equipment confirmed no current bat use of TG002, whilst the comprehensive mitigation package (6 woodcrete bat boxes, timing restrictions, ecological supervision) ensures the local bat population will not be adversely affected. The net result will be neutral or potentially positive through provision of purpose-built roosting opportunities.

Detailed assessment against each test is provided in Section 4, demonstrating that this application fully satisfies the strict requirements for granting a derogation licence under the Habitats Directive[8].

2. METHODOLOGY

2.1 Information Sources

A desk-based review of information sources was completed. Information contained on the websites of the National Parks and Wildlife Service (NPWS)[9] and the National Biodiversity Data Centre (NBDC)[10] was reviewed.

The following publications and websites were also reviewed and consulted:

- Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management (CIEEM), Ampfield.
- 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.
- Mullen, E., Marnell, F & Nelson, B. (2021) Strict protection of animal species. Guidance for public authorities on the application of Articles 12 and 16 of the EU Habitats Directive to development/works undertaken by or on behalf of a public authority. Unpublished Report, National Parks and Wildlife Service.

[5] European Commission (2021) *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive*. Commission Notice C(2021) 7301.
[6] Case C-342/05 Commission v Finland [2007] ECR I-4713, establishing the proportionality principle for alternative solutions.
[7] Article 16(1) of Council Directive 92/43/EEC (Habitats Directive) and Case C-674/17 (Finnish Wolf Case) regarding favourable conservation status requirements.
[8] 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.
[9] The National Parks and Wildlife Services map viewer http://webgis.npws.ie/npwsviewer/
[10] The National Biodiversity Data Centre www.NBDC.ie

Department of Housing, Local Government and Heritage, Dublin. https://npws.ie/sites/default/files/files/article-12- guidance-final.pdf

- Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition
- Bat Conservation Ireland https://www.batconservationireland.org/
- Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-Care and Ecology Professionals (2018)
- Bat Conservation Trust (2018) Bats and artificial lighting in the UK Bats and the Built Environment series[11]
- Mitchell-Jones, A.J, & McLeish, A.P. (eds). 2004., 3rd Edition Bat Workers' Manual, JNCC, Peterborough, ISBN 1 86107 558 8
- Bat Conservation Ireland (2012) Bats and Appropriate Assessment Guidelines, Version 1, December 2012. Bat Conservation Ireland, www.batconservationireland.org[12]
- Bat Conservation Ireland (2010) Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers[13]
- Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes (National Roads Authority, 2005).
- Guidelines for the Treatment of Bats during the Construction of National Road Schemes (National Roads Authority, 2005).
- Bats and Lighting in the UK – Bats and the Built Environment Series (Institute of Lighting Professionals, September 2011
- Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland);
- The Eurobats Mitigation of Lighting Document
- Entwistle, A. et al (2001) Habitat Management for Bats A Guide for Land Managers, Land Owners and Their Advisors, Joint Nature Conservation Committee (JNCC, Great Britain)
- IPL and BCT (2023) Guidance Note GN08/23 Bats and Artificial Lighting At Night

2.2 Desk Study

2.2.1 Previous Records

A desktop review was carried out to identify the previous records of Bat species within the applicant site and its environs. The study area occurs in 10km^2 Grid Square W45. The website the NBDC (www.nbdc.ie) was accessed on 26/10/2025 to establish any previous bat records and shown below in Table 1.

As the Lesser Horseshoe Bat is within the 10km^2 Grid Ref W45 the closest record is shown in Figure 5, approx. 2km west of site.

Table 1 Historical Bat Records in 10km^2 Grid Ref W45

Species Name - Commo	*Species Name - Latin*	Last Documented Record W45
Common Pipistrelle	Pipistrellus pipistrellus	27/10/2022
Daubenton's Bat	Myotis daubentonii	30/08/2019
Leisler's Bat	Nyctalus leisleri	11/08/2016

[11] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

[12] https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIreland-AA-Guidelines_Version1.pdf

[13] https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIrelandGuidelines_Lighting.pdf

Species Name - Commo	*Species Name - Latin*	Last Documented Record W45
Lesser Horseshoe Bat	Rhinolophus hipposideros	07/07/2009
Soprano Pipistrelle	Pipistrellus pygmaeus	20/10/2015
Whiskered Bat	Myotis mystacinus	20/10/2022
Brown Long-eared Bat	Plecotus auritus	20/10/2022

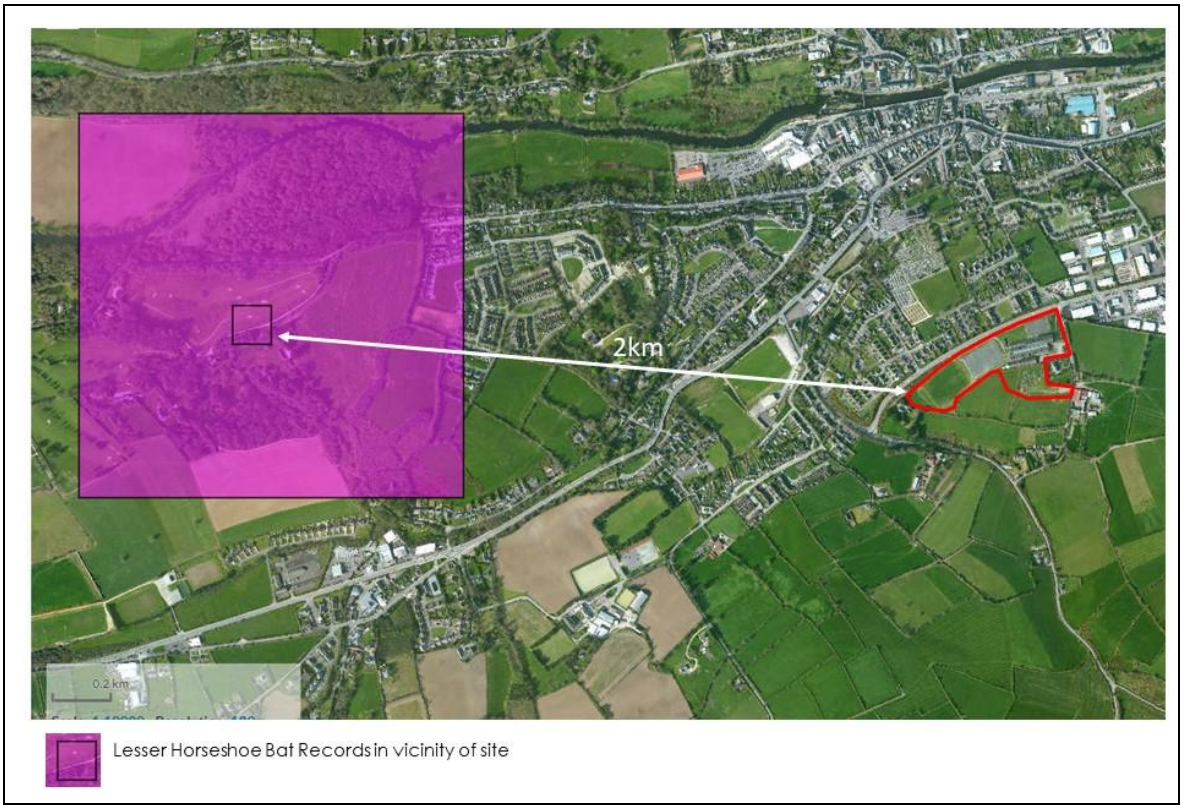


Figure 5 Lesser Horseshoe Bat Records in Vicinity of Site

2.2.2 Species Background

Ireland had ten known bat species until February 2013, when a single live greater horseshoe bat (*Rhinolophus ferrumequinum)* was found roosting in Co. Wexford[14]. On 8th June 2020, a single audio recording was confirmed in the Glendaough area, Co. Wicklow. It was found on two more occasions in the same area in early July 2020 (Bat Conservation Ireland, July 2020).

The ten species (excluding the greater horseshoe) are briefly described overleaf. For a more comprehensive overview see McAney, 2006.[15]

The dependence of Irish bat species on insect prey has left them vulnerable to habitat destruction, land drainage, agricultural intensification and increase use of pesticides. Also, their reliance on buildings as roosting sites has made them particularly vulnerable to renovation works and the use of timber chemical treatment. Buildings are highly important as roosting sites for bats and all Irish bat species use buildings for all roost types. Most significant in terms of roosts in houses are maternity roosts, but cellars and even attics may serve as hibernation sites for bats. Roosts within buildings can far exceed the numbers encountered in trees,

[14] National Biodiversity Data Centre http://www.biodiversityireland.ie/new-bat-species-found-in-ireland/

[15] McAney, K. (2006) *A Conservation Plan for Irish Vesper Bats.* Irish Wildlife Manual No.20. National Parks and Wildlife Service, Department of the Environment, Heritage and Loca lGovernment.

bridges, caves or cliffs and roosts of over 1,000 bats have been recorded in buildings.[16]

2.2.2.1 Family Vespertilionidae:

Common pipistrelle *Pipistrellus pipistrellus*
This species was only recently separated from its sibling, the soprano or brown pipistrelle P. pygmaeus[17], which is detailed below. The common pipistrelle's echolocation calls peak at 45 kHz. The species forages along linear landscape features such as hedgerows and treelines as well as within woodland.

Soprano pipistrelle *Pipistrellus pygmaeus*
The soprano pipistrelle's echolocation calls peak at 55 kHz, which distinguishes it readily from the common pipistrelle on detector. The pipistrelles are the smallest and most often seen of our bats, flying at head height and taking small prey such as midges and small moths. Summer roost sites are usually in buildings but tree holes and heavy ivy are also used. Roost numbers can exceed 1,500 animals in mid-summer.

Nathusius' pipistrelle *Pipistrellus nathusii*
Nathusius' pipistrelle is a recent addition to the Irish fauna and has mainly been recorded from the north-east of the island in Counties Antrim and Down[18] and also in Fermanagh, Longford and Cavan. It has also recently been recorded in Counties Cork and Kerry.[19] However, the known resident population is enhanced in the autumn months by an influx of animals from Scandinavian countries. The status of the species has not yet been determined.

Leisler's bat *Nyctalus leisleri*
This species is Ireland's largest bat, with a wingspan of up to 320mm; it is also the third most common bat, preferring to roost in buildings, although it is sometimes found in trees and bat boxes. It is the earliest bat to emerge in the evening, flying fast and high with occasional steep dives to ground level, feeding on moths, caddis-flies and beetles. The echolocation calls are sometimes audible to the human ear being around 15 kHz at their lowest. The audible chatter from their roost on hot summer days is sometimes an aid to location. This species is uncommon in Europe and as Ireland holds the largest national population the species is considered as Near Threatened here.

Brown long-eared bat *Plecotus auritus*
This species of bat is a 'gleaner', hunting amongst the foliage of trees and shrubs, and hovering briefly to pick a moth or spider off a leaf, which it then takes to a sheltered perch to consume. They often land on the ground to capture their prey. Using its nose to emit its echolocation, the long-eared bat 'whispers' its calls so that the insects, upon which it preys, cannot hear its approach (and hence, it needs oversize ears to hear the returning echoes). As this is a whispering species, it is extremely difficult to monitor in the field as it is seldom heard on a bat detector.

[16] NRA (2005) Guidelines for the Treatment of Bats Prior to the Construction of National Road Schemes. National Roads Authority, Dublin
[17] Barratt, E. M., Deauville, R., Burland, T. M., Bruford, M. W., Jones, G., Racey, P. A., & Wayne, R. K. (1997) *DNA Answers the Call of Pipistrelle Bat Species. Nature* 387: 138 - 139.
[18] Richardson, P. (2000) *Distribution Atlas of Bats in Britain and Ireland 1980 - 1999*. The Bat Conservation Trust, London, England.
[19] Kelleher, C. (2005) *International Bat Fieldcraft Workshop, Killarney, Co. Kerry*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government.

Furthermore, keeping within the foliage, as it does, it is easily overlooked. It prefers to roost in old buildings.

Natterer's bat *Myotis nattereri*
This species has a slow to medium flight, usually over trees but sometimes over water. It usually follows hedges and treelines to its feeding sites, consuming flies, moths, caddis-flies and spiders. Known roosts are usually in old stone buildings but they have been found in trees and bat boxes. The Natterer's bat is one of our least studied species and further work is required to establish its status in Ireland.

Daubenton's bat *Myotis daubentonii*
This bat species feeds close to the surface of water, either over rivers, canals, ponds, lakes or reservoirs but it can also be found foraging in woodlands. Flying at 15 kilometres per hour, it gaffs insects with its over-sized feet as they emerge from the surface of the water - feeding on caddis flies, moths, mosquitoes, midges etc. It is often found roosting beneath bridges or in tunnels and also makes use of hollows in trees.

Whiskered bat *Myotis mystacinus*
This species, although widely distributed, has been rarely recorded in Ireland. It is often found in woodland, frequently near water. Flying high, near the canopy, it maintains a steady beat and sometimes glides as it hunts. It also gleans spiders from the foliage of trees. Whiskered bats prefer to roost in buildings, under slates, lead flashing or exposed beneath the ridge beam within attics. However, they also use cracks and holes in trees and sometimes bat boxes. The whiskered bat is one of our least studied species and further work is required to establish its status in Ireland.

Brandt's bat *Myotis brandtii*
This species is known from five specimens found in Counties Wicklow (Mullen, 2007), Cavan, and Clare in 2003, a specimen in Kerry in 2005[20] and another in Tipperary in 2006.[21] No maternity roosts have yet been found. It is very similar to the whiskered bat and cannot be separated by the use of detectors. Its habits are similar to its sibling.

2.2.2.2 Family Rhinolophidae:

Lesser horseshoe bat *Rhinolophus hipposideros*

This species is the only representative of the Rhinolophidae or horseshoe bat family in Ireland. It differs from our other species in both habits and looks, having a unique nose leaf with which it projects its echolocation calls. It is also quite small and, at rest, wraps its wings around its body. Lesser horseshoe bats feed close to the ground, gleaning their prey from branches and stones. It often carries its prey to a perch to consume, leaving the remains beneath as an indication of its presence.

The echolocation call of this species is of constant frequency and, on a heterodyne bat detector, sounds like a melodious warble. The species is confined to six counties along the Atlantic seaboard: Mayo, Galway, Clare, Limerick, Kerry and Cork. The current Irish national population is estimated at 12,500 animals. This species is listed on Annex II of the EC Habitats Directive and 41 Special Areas of Conservation have

[20] Kelleher, C. 2006a Nathusius pipistrelle Pipistrellus nathusii and Brandt's Bat Myotis brandtii - New Bat Species to Co. Kerry – Irish Naturalists' Journal 28: 258.
[21] Kelleher, C. 2006b Brandt's Bat Myotis brandtii, New Bat Species to Co. Tipperary. Irish Naturalists' Journal 28: 345.

been designated in Ireland for its protection. Where it occurs, it is often found roosting within farm buildings.

2.2.3 Landscape Suitability

The National Biodiversity Data Centre (NBDC) maps landscape suitability bats based on Lundy *et al.* (2011). The maps are a visualisation of the results of the analyses based on a 'habitat suitability' index. The index ranges from 0 to 100 with 0 being least favourable and 100 most favourable for bats. The overall assessment of bat habitats for the current study area is given as 25.67, a Moderate score with the maximum average for all bats being between 36.44 and 58.55. Table 2 gives the suitability of the study area for the bat species found in the study area (based on NBDC) along with their Irish Red List Status (from Marnell *et al.,* 2019).[22]

[22] Marnell, F., Looney, D. & Lawton, C. (2019) Ireland Red List No. 12: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.

Table 2 Suitability of the study area for the bat species found in the Bandon area (based on the NBDC data) with Irish Red list status indicated

Common name	Scientific name	Suitability index	Irish red list status
All bats	-	25.67	Least Concern
Soprano pipistrelle	*Pipistrellus pygmaeus*	36	Least Concern
Brown long-eared bat	*Plecotus auritus*	39	Least Concern
Common pipistrelle	*Pipistrellus pipistrellus*	36	Least Concern
Lesser-horseshoe bat	*Rhinolophus hipposideros*	1	Least Concern
Leisler's bat	*Nyctalus leisleri*	33	Least Concern
Whiskered bat	*Myotis mystacinus*	20	Least Concern
Daubenton's bat	*Myotis daubentonii*	26	Least Concern
Nathusius' pipistrelle	*Pipistrellus nathusii*	5	Least Concern
Natterer's bat	*Myotis nattereri*	35	Least Concern

2.2.4 Bat Roosts

Bats were originally cave and tree dwelling animals but many now find buildings just as suitable for their needs. Bats are social animals and most species congregate in large colonies during summer. These colonies consist mostly of females of every reproductive class, with some juvenile males from the previous year. Male bats normally roost individually or in small groups meeting up with the females in the late autumn-early winter, when it is time to mate. In summer, bats seek warm dry buildings in which they can give birth and suckle their young. In winter, they seek out places with a constant low temperature and high humidity where they can become torpid and hibernate during adverse weather conditions. However, bats do not hibernate continuously during winter and will awake and hunt during mild nights when there are insects available and it is energetically advantageous to forage.

2.2.4.1 Maternity Roosts

Maternity roosts are the most significant roosts and they are predominantly all-female aggregations that are formed from late May onwards and remain as a relatively cohesive unit until mid to late August. Not all female bats give birth annually. These females that do bear young in a given year avail of a suitable building, tree and sometimes cave (or equivalent). The young are flightless for several weeks and hence are vulnerable to dangers such as tree felling and restoration, reinforcement or demolition of structures such as buildings and bridges.

2.2.4.2 Mating Roosts

Most bat species mate in autumn but pregnancy does not occur until the following spring. During this time males will take possession of a cavity in a building, tree, bridge, cave or mine and attract females to these sites to establish a harem. Male bats call both from a perch and in flight in much the same manner that male birds sing.

2.2.4.3 Hibernation Roosts

Bats have a high metabolic rate and in temperate countries, such as Ireland, flying insects are not available in sufficient numbers during winter to sustain bats. Therefore, bats hibernate during winter. In hibernation sites, bats are often completely inactive for several days and are extremely vulnerable to disturbance by human activities due to the time taken for them to become sufficiently active to allow escape.

Hibernation may extend from November to the end of March, during which time bat activity will take place sporadically.

2.2.4.4 Night Roosts

These are roosts which are used as resting places for bats between foraging bouts. They also provide retreats for bats from predators or during inclement weather conditions. They also function as feeding perches and may be important for socialising.

2.3 Bat Survey

2.3.1 Bat Emergence Survey

Two bat emergence surveys were undertaken to assess the site comprehensively:

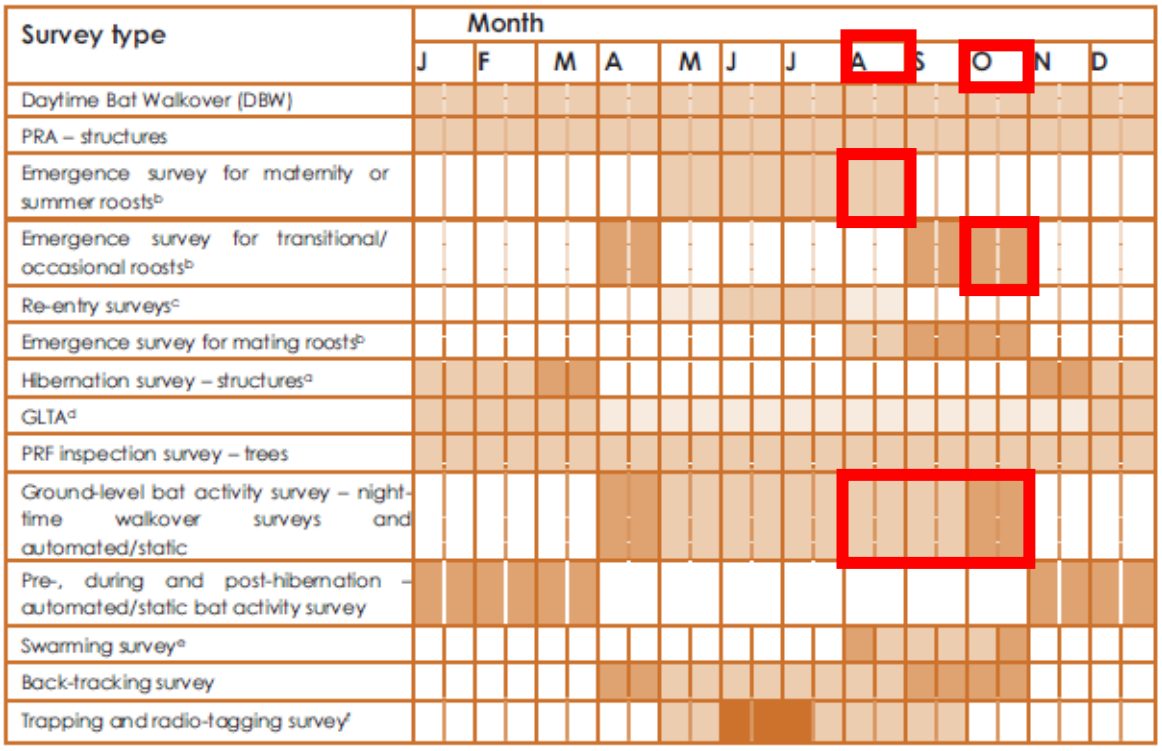
Initial Survey - August 2023: A bat emergence survey of the affected prefab, tank and containers within the school grounds was undertaken on 23rd August 2023 (commencing at 20:12 to 22:42, sunset 20:42). Weather conditions were optimal with temperatures of 16-17°C in calm conditions. This timing falls within the optimal survey period (May-August) for detecting maternity roosts, as per BCT Guidelines (2016) shown in Table 3.

Follow-up Survey - October 2025: Following the Request for Further Information identifying that Tree Group TG002 (previously confirmed as containing bat roosts) must now be removed for traffic safety requirements, a comprehensive follow-up survey was conducted on 25th October 2025. The survey ran from 17:50 to 20:20 (sunset at 18:20), providing 30 minutes pre-sunset monitoring and 2 hours post-sunset coverage.

Whilst October is late in the season and outside the optimal period for detecting maternity roosts, it remains within the acceptable timeframe for identifying transitional and occasional roost use, as defined in the Bat Conservation Trust Guidelines (2023), Table 3[23]. The timing was necessitated by the urgent requirement to assess TG002 following the RFI from Cork County Council. Weather conditions remained suitable at 10°C, calm and dry. The 2023 BCT guidelines were also followed for the assessment rating and classification, which is shown as Table 4.

[23] As demonstrated in comparable October surveys (e.g., Ardee Community School, October 2025), late season surveys remain valid for transitional roost assessment when using appropriate equipment.

Table 3 Recommended Survey Times for Survey Types described in Table 2.2. of the BCT 2023 Guidelines.



= optimal period = sub-optimal period

= weather or location dependent (i.e. may not be suitable due to spring and autumn conditions in any one year or in more northerly latitudes). Note that October emergence surveys are not acceptable in Scotland.

= it is not acceptable to trap bats when they are heavily pregnant and have dependent pups. Mothers need to optimise foraging due to the physiological demands of pregnancy and lactation, and pups need to be regularly fed. Interrupting these activities could potentially have an impact on breeding success in the year in question. The timing of birth can vary between years – it may be as early as the end of May or as late as the start of August, therefore caution should be exercised and local information gained on birth dates before trapping activities are carried out during the summer months. Any information gained and decisions made should be kept as a record.

a Not including trees.

b Please see Chapter 7 for recommended timings for surveys to give confidence in a negative result. For sites assessed as having low suitability, a survey should be carried out between May and August. For sites with moderate and high suitability, a proportion of the surveys should be carried out between May and August (to detect maternity roosts if present) but some of the surveys may be carried out later in the year in order to detect transitional and mating roosts. The survey season for presence/likely absence surveys is defined as May to September. Roost characterisation surveys may be appropriate in April and/or October depending on the need to characterise transitional/occasional roosts at these times.

c The time that bats return to their roosts is very variable and therefore re-entry surveys are no longer recommended as a standard approach. If they are carried out the constraints should be recognised.

d GLTAs can be sub-optimal in the spring, summer and autumn due to foliage obscuring parts of the tree. If all parts of the tree are visible then the survey can be carried out at any time. If parts of the tree are obscured by foliage then it is not possible to carry out a thorough survey and this limitation should be recognised and the impact on the results acknowledged. Please refer to Chapter 6 for more information.

e Different species show a peak in swarming activity at different times, e.g. Daubenton's bat activity tends to peak in August whilst Natterer's bat activity tends to peak in September (Tomlinson, 2020) and therefore surveying across the swarming season is likely to be important.

f Trapping and tagging in cooler conditions can make release of bats difficult, which should be a consideration if trapping is carried out in spring and autumn. Tagging of bats in April and sometimes early May should be avoided following a poor spring, if bats are in poor condition. Tagging of newly volant pups should be avoided. Tagging of bats should be avoided in October due to the risk that bats will enter hibernation with the tag still attached (bats will groom less often as they enter torpor more frequently). If a tag falls off during hibernation this could leave a bald patch if the fur has been clipped, which could have negative impacts for the hibernating bat. Please refer to Chapter 9 for more information.

Table 4 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of roost features within the landscape, to be applied using professional judgement (BCT Guidelines, 2023)

Potential suitability	Description Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to used by any roosting bats at any ti of the year (i.e. a complete absence crevices/suitable shelter at ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging b at any time of the year (i.e. no habitat that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).
Negligible[a]	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site like to be used as flight-paths or by foragir bats; however, a small element of uncertainty remains in order to accou for non-standard bat behavior.
Low	A structure with one or more potentic roost sites that could be used by individual bats opportunistically at ar time of the year. However, these potential roost sites c not provide enough space, shelter, protection, appropriate conditions[b] and/or suitable surrounding habitat t be used on a regular basis or by larg numbers of bats (i.e. unlikely to be suitable for maternity and not a class cool/stable hibernation site, but coul be used by individual hibernating bats[c]).	Habitat that could be used by small numbers of bats as flight-paths such a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that cou be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub
Moderate	A structure with one or more potentic roost sites that could be used by bats due to their size, shelter, protection, conditions[b] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity an hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used b bats for flight-paths such as lines of tre and scrub or linked back gardens. Habitat that is connected to the wide landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potentic roost sites that are obviously suitable use by larger numbers of bats on a more regular basis and potentially fo longer periods of time due to their siz shelter, protection, conditions[b] and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable	Continuous, high-quality habitat that is well connected to the wider landscap that is likely to be used regularly by ba for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape th is likely to be used regularly by foragin bats such as broadleaved woodland,

Potential suitability	Description Roosting habitats in structures	Potential flight-paths and foraging habitats
	hibernation site.	tree-lined watercourses and grazed parkland. Site is close to and connected to knov roosts.

a Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).

b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in t autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al*., 2016 and Jansen *et al*., 2022). Common pipistrelle swarming ha been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware c the potential for larger numbers of this species to be present during the autumn and winter i prominent buildings in the landscape, urban or otherwise.

Equipment - 2023 Survey: The equipment included 2 × Elekon Batlogger M detectors with two trained surveyors posted at opposite positions. Visual observations were aided by LED torches (AP Pros-Series 220 Lumens), a Seek Thermal Reveal Pro camera, and a RIDGID 36848 borescope for crevice inspection (up to 3m height).

Equipment - 2025 Survey: Advanced Audio-Visual Aid (AVA) equipment was deployed:

- Thermal Imaging: Pixfra Arc A625 Thermal Monocular Camera (640×512 pixels, <30mK sensitivity, 670m detection range) for comprehensive emergence monitoring (Plates 10-11)
- Night Vision: Nightfox Whisker Camera with IR illumination (100-150m range) for species identification (Plate 9)
- Acoustic Detection: 2 × Elekon Batlogger M2 detectors (10-192 kHz, GPS-integrated) for full spectrum recording

This equipment configuration ensures detection capability exceeding current best practice guidelines, with the thermal imaging providing definitive monitoring of any bat emergence from TG002.[24]

[24] Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). Bat Conservation Trust, London.

2.3.2 *Bat Activity Survey*

Activity surveys followed BCT best practice guidelines[4] to identify species present and activity patterns. Surveys began 30 minutes before sunset and continued for 2 hours post-sunset during favourable conditions (>10°C, dry). The detectors covered 10-192 kHz frequency range, capable of detecting all Irish bat species including Lesser Horseshoe bats recorded in 10km² grid square W45 (Figure 5).

Two surveyors were positioned strategically to maximise coverage of TG002 and surrounding features, with GPS-integrated detectors providing precise location data for all recordings. The AVA equipment positioning is shown on the activity map (see Section 3).

2.3.3 *Bat Potential Tree Assessment*

Trees were classified using the Bat Tree Habitat Key (BTHK, 2018) and Collins (2016) classification system, see Tables 5 and 6. Following the original assessment in 2023, the arboricultural report (Holly Arboriculture, September 2023) identified trees for removal including T2611, T2618, T2620 and T2621, all assessed as having negligible bat roost potential.

Critical Change Following RFI: The Request for Further Information now requires removal of Tree Group TG002, previously identified as containing confirmed bat roosts (Category 1 - High Potential). This fundamental change from the original plan (Figures 6-8, which show TG002 as retained) necessitates this derogation licence application. The revised layout requires TG002 removal to achieve mandatory traffic layout modifications as per Cork County Council, Cork National Road Design Office and TII requirements. Mandatory relocation of bus set downs within the school grounds.

Table 5 Classification and Survey Requirements for Bats in Trees[25]

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
Confirmed Roost	Evidence of roosting bats in the form of live / dead bats, droppings, urine staining, mammalian fur oil staining, etc.	A National Parks and Wildlife (NPV derogation licence application will required if the tree or roost site is affected the development or proposed arboricultu works. This will require a combination of ae assessment by roped access bat work (where possible, health and safe constraints allowing) and nocturnal surv during appropriate periods (e.g. noctur survey - May to August) to inform on t

[25] Bat Surveys for Professional Ecologists: Good Practice Guidelines (J., Collins (Bat Conservation Trust), 2016).

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
		licence. Works to tree undertaken under supervisior accordance with the approved go practice method statement provided wit the licence. However, where confirmed roost site(s) c not affected by works, work under precautionary good practice meth statement may be possible.
High Potential Category 1	A tree with one or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	Aerial assessment by roped access b workers (if appropriate) and / or noctur survey during appropriate period (May August). Following additional assessments, tree m be upgraded or downgraded based findings. If roost sites are confirmed and the tree roost is to be affected by proposals licence from the NPWS will be required. After completion of survey work (and t presence of a bat roost is discounted), precautionary working method stateme may still be appropriate.
Moderate Potentia Category 2	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch	A combination of aerial assessment roped access bat workers and / or noctur survey during appropriate period (May August). Following additional assessments, tree m be upgraded or downgraded based findings. After completion of survey work (and t presence of a bat roost is discounted), precautionary working method stateme may still be appropriate. If a roost site/s is confirmed a licence fr

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
	socket cavities, etc.	the NPWS will be required.
Low Potential Category 3	A tree of sufficient size and age to contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey required but precautionary working method stateme may be appropriate.
Negligible/No potential – Categ 4	Negligible/no habitat features likely to be used by roosting bats	None.

Table 6 Classification of Trees for Risk of Bat Roost Presence

Tree category and description (following scoping survey)	Secondary (non-specialist) survey recommendations	Secondary (specialist) survey recommendations
Known or confirmed roost	Initially consider if work to tree(s) can be avoided. If not, a specialist bat roost assessment should be undertaken to establish bat species, numbers and the nature of the roost.	
High/medium risk Trees with a suitable potential roost feature, or with several features with some bat roost potential.	• Secondary (non-specialist) assessment to examine potential roost features previously identified. If roosts cannot reasonably be ruled out a bat specialist should be consulted. • Following this assessment the tree could be up-graded or down-graded (see column 1 categories.	• Specialist bat roost assessment should be undertaken if work to a tree cannot be avoided. • Assessment to include techniques such as endoscope use and dusk/pre-dawn surveys should be undertaken. • Following this assessment the tree could be up-graded or down-graded.
Low risk Trees of sufficient size and age to contain bat roosts but with no obvious potential roost features seen during the scoping survey, or features seen with limited roosting potential only, e.g. small amounts of ivy.	No further assessment is required unless sufficient new evidence is found to upgrade the category.	None
Negligible/no risk Trees with apparently no potential to support bats.		
NOTE Risk equates to the likelihood of bat roost presence.		

Trees were classified using the Bat Tree Habitat Key (BTHK, 2018) and Collins (2016) classification system, with reference to the Arboricultural Report (Holly Arboriculture, September 2023)[26]. The original assessment utilised Table 5 (Classification and Survey Requirements for Bats in Trees) and Table 6 (Classification of Trees for Risk of Bat Roost Presence), which guided the initial categorisation of TG002 as Category 1 - High Potential based on confirmed roost presence. However, the RFI requirements fundamentally alter the tree retention strategy shown in these tables, necessitating removal of trees previously designated for retention.

[26] Holly Arboriculture (September 2023) *Arboricultural Impact Assessment for Gaelscoil Droichead Bandon & Coláiste na Toirbhirte*. Report prepared for CEIST.

Trees were assessed for Potential Roost Features (PRFs) including:

- Natural holes, cavities and woodpecker holes
- Cracks/splits in stems or branches
- Loose bark plates
- Ivy stems >50mm diameter
- Compression forks with included bark

Phase 1 inspections used LED torches, Celestron 12×56 binoculars and RIDGID borescope (3m reach). The assessment methodology followed Table 4 (Guidelines for assessing potential suitability of development sites for bats), though this primarily addressed buildings whilst our focus shifted to trees following the RFI. The October 2025 survey employed thermal imaging to detect any heat signatures within tree cavities, providing definitive assessment of current roost use beyond the standard methodologies outlined in Table 3 (Recommended Survey Times), which we extended into October as justified by BCT Guidelines (2023).

Plates of affected trees and structures are provided in Appendix A, including comprehensive photographic documentation from both 2023 and 2025 surveys, with thermal imaging outputs demonstrating the absence of bat emergence from TG002.

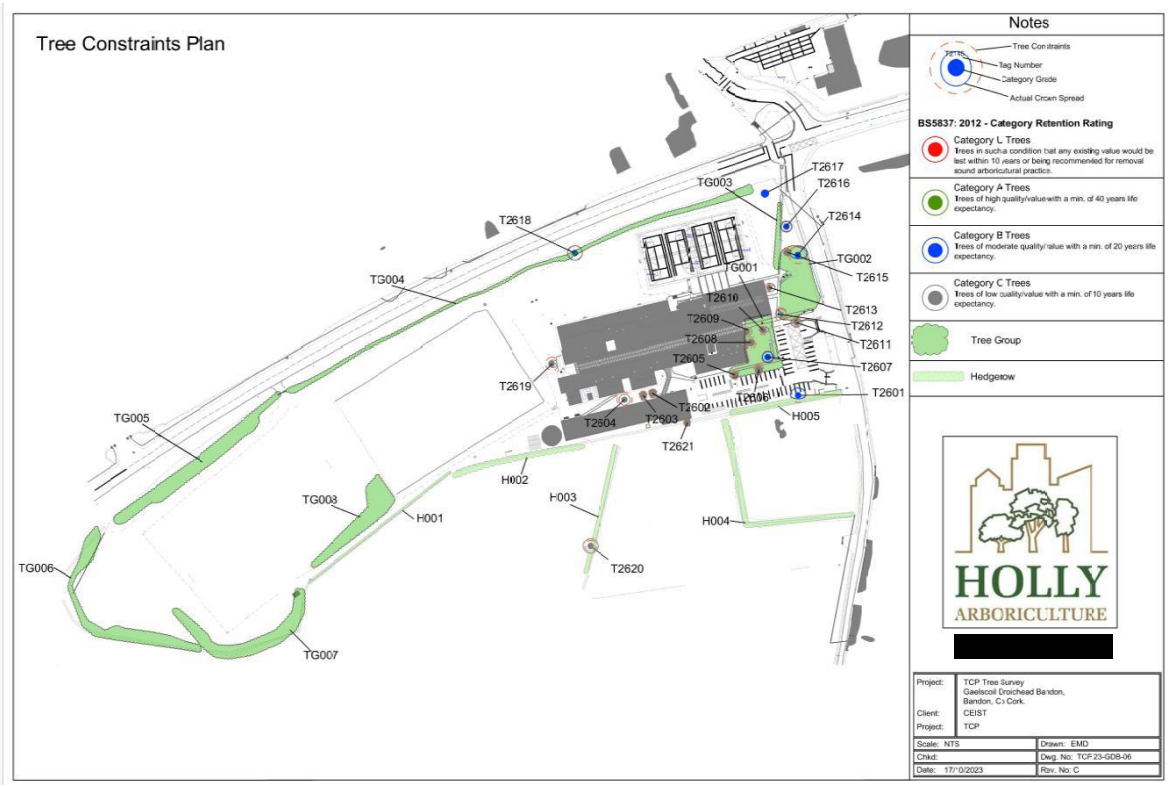


Figure 6 Tree Constraints Plan

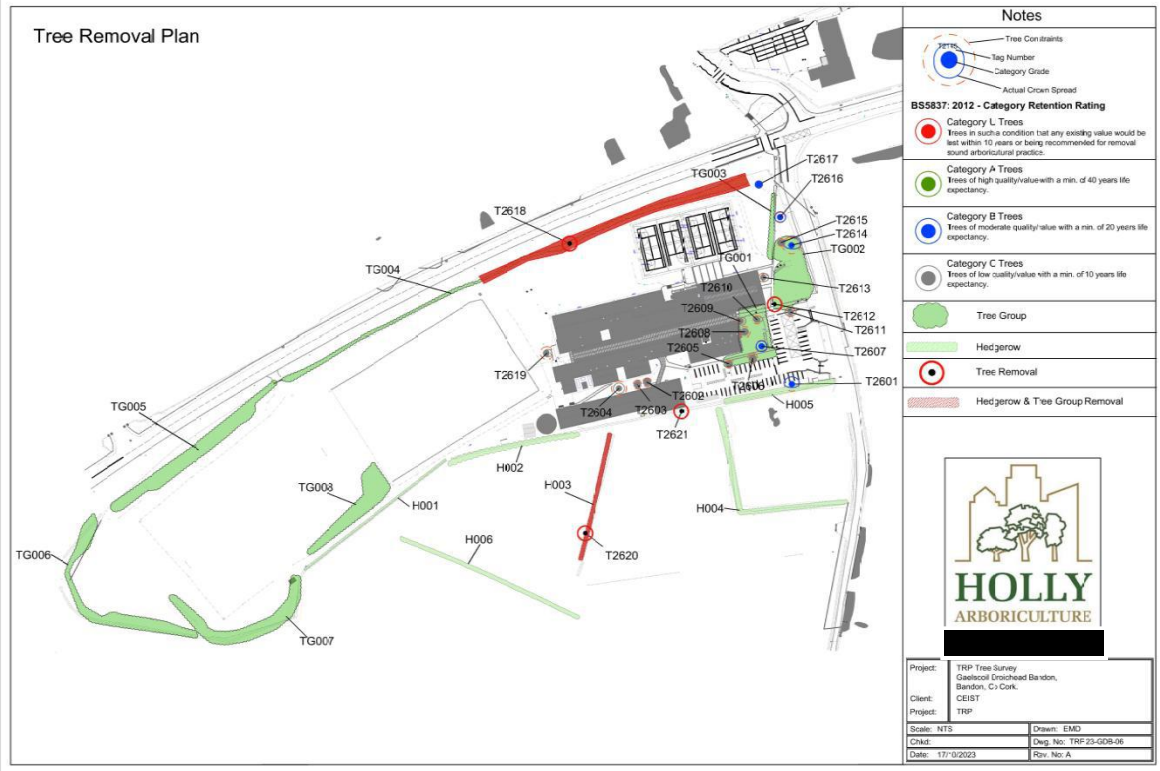


Figure 7 Tree Removal Plan - *Note: Now superseded by RFI requirements necessitating TG002 removal*

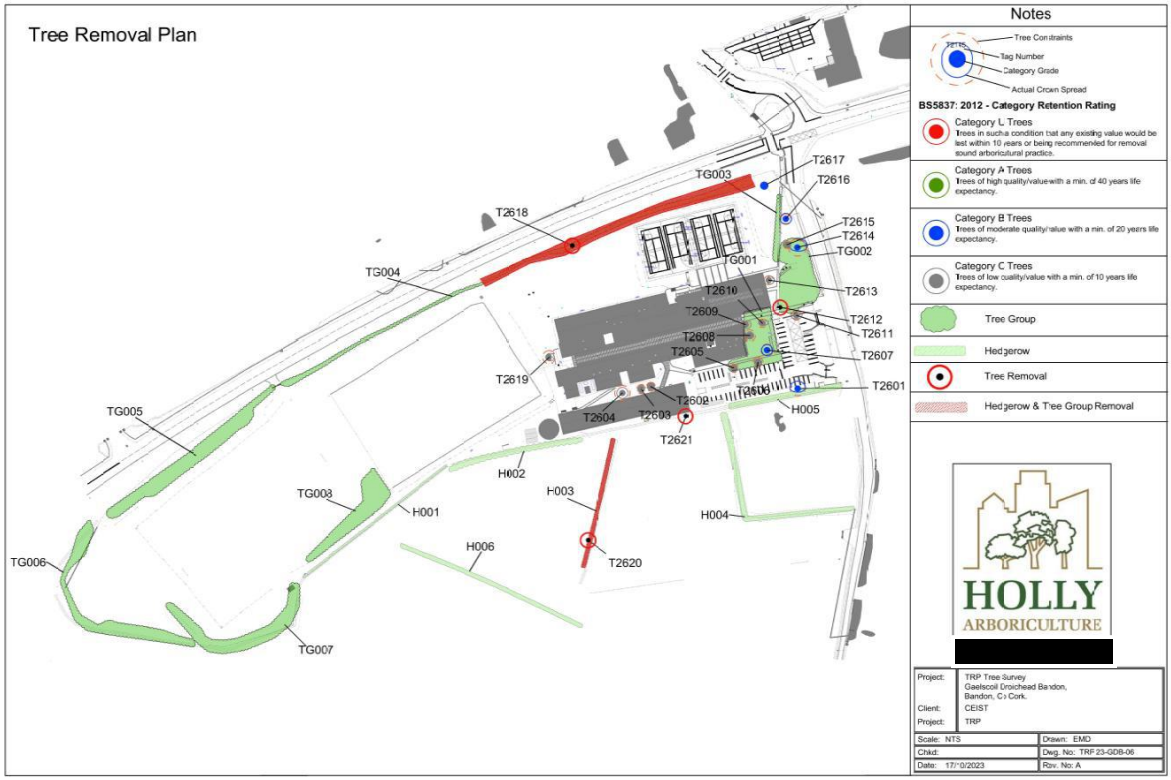


Figure 8 Tree Protection Plan - *Note: To be modified following TG002 removal requirement*

2.4 Landscape Evaluation

The ecological survey results were evaluated to determine the significance of identified features within the study area for bat habitats. The evaluation was based on an adapted importance scale that considers factors such as roosting potential, foraging areas, commuting routes, and the conservation status of bat species.

The criteria used to assess the ecological value and assign importance to the identified features for bats are as follows:

International Importance: Sites or features that support significant populations of bat species listed in Annex II of the EU Habitats Directive or are designated as Special Areas of Conservation (SACs) for bats.

National Importance: Sites or features that support nationally significant populations of bat species, are designated as Natural Heritage Areas (NHAs) or proposed NHAs for bat conservation, or contain maternity roosts or hibernacula of rare or threatened bat species.

County Importance: Sites or features that support resident or regularly occurring populations of bat species listed in Annex IV of the EU Habitats Directive, provide important foraging areas or commuting routes for bats, or contain roosts of county-level significance.

Local Importance (Higher Value): Sites or features containing suitable roosting habitats (e.g., mature trees, buildings with high potential), diverse foraging areas, or well-connected commuting routes that are likely to support a variety of bat species, including those of conservation concern.

Local Importance (Lower Value): Sites or features with limited roosting potential, fragmented foraging areas, or commuting routes that may support common bat species but are less likely to be used by rare or threatened species.

When evaluating the landscape for bats, it is essential to consider the specific habitat requirements of different species, as well as their roosting preferences and foraging behaviour. Factors such as the presence of suitable roosting sites (e.g., trees with cavities, buildings with crevices), the quality and diversity of foraging habitats (e.g., woodland edges, wetlands, species-rich grasslands), and the connectivity of commuting routes (e.g., hedgerows, treelines, rivers) should be taken into account.
The evaluation should also consider the wider ecological context of the site, including its connectivity to other important habitats, the presence of designated sites nearby, and the potential for cumulative impacts on bat populations.

By assessing the landscape features against these criteria, the overall value of the site for bats can be determined. This evaluation helps identify areas of higher ecological importance and guides the development of appropriate mitigation measures to minimise potential impacts on bat populations and their habitats.

It is important to note that this evaluation framework should be used in conjunction with other ecological considerations, such as the presence of other protected species or habitats, and legal requirements to ensure a comprehensive assessment

of the site's ecological value. The evaluation may also be refined based on the specific conservation priorities and local context of the study area.

3. RESULTS

3.1 Bat Emergence Survey

August 2023 Survey: No bats were observed emerging from the affected prefab building, tank and containers during the survey of 23rd August 2023. These structures were assessed as having 'Negligible' bat potential due to lack of roost features (as per Table 4) and confirmed with no bat emergence.

October 2025 Follow-up Survey: Critically, no bats were observed emerging from Tree Group TG002 during the comprehensive AVA equipment survey on 25th October 2025. Despite deployment of thermal imaging (Pixfra Arc A625 with 670m detection range) and night vision equipment, no heat signatures or visual detections indicated bat emergence from TG002. The thermal imaging outputs (Plates 10-11, Appendix A) show clear monitoring coverage with no bat activity originating from the tree group.

3.2 Bat Activity Survey

Results from both surveys are summarised in Table 7, with complete datasets in Appendix B. The August 2023 survey recorded moderate activity (69 passes), whilst the October 2025 survey showed reduced activity (13 passes), expected for late season conditions, see Figures 9 and 10.

Table 7 Combined Bat Results Data - 2023 & 2025

Species	Scientific Name	Aug 20 Passes	Oct 20 Passes	Peak Frequency (kHz)
Common Pipistrelle	Pipistrellus pipistrellus	42	2	46.5
Soprano Pipistrelle	Pipistrellus pygmaeus	24	10	56.0
Leisler's Bat	Nyctalus leisleri	3	1	25.0
Total		**69**	**13**	

Estimation of Individual Bats at TG002:

Based on field observations during the August 2023 survey and analysis of emergence patterns at TG002 (coordinates 51.74042, -8.73118):

- Common Pipistrelle: 4-5 individuals observed emerging and foraging (42 passes recorded)
- Soprano Pipistrelle: 2-3 individuals observed emerging (24 passes recorded)
- Leisler's Bat: Commuting passes only, not associated with TG002 roost

Total: 6-8 individual bats using TG002 in August 2023

This represents a small non-maternity roost, typical of transitional roosts used by males or non-breeding females. Visual observations confirmed emergence from TG002 immediately post-sunset (20:42), with individuals initially foraging within the canopy before dispersing across the site. The higher activity from Common Pipistrelle (42

passes) reflects the greater number of individuals (4-5) making multiple foraging passes.

Temporal Analysis - October 2025:

The timing of bat detections is crucial for roost assessment:

- First detection: 18:25 (Leisler's Bat) - 5 minutes post-sunset (18:20), commuting over site
- Main activity: 18:46-20:17 (Soprano Pipistrelle) - 26-117 minutes post-sunset
- No clustering at TG002 coordinates

This temporal pattern, with all detections beyond the typical 15-30 minute emergence window and no spatial clustering at TG002, confirms the tree group is not currently functioning as an active roost.

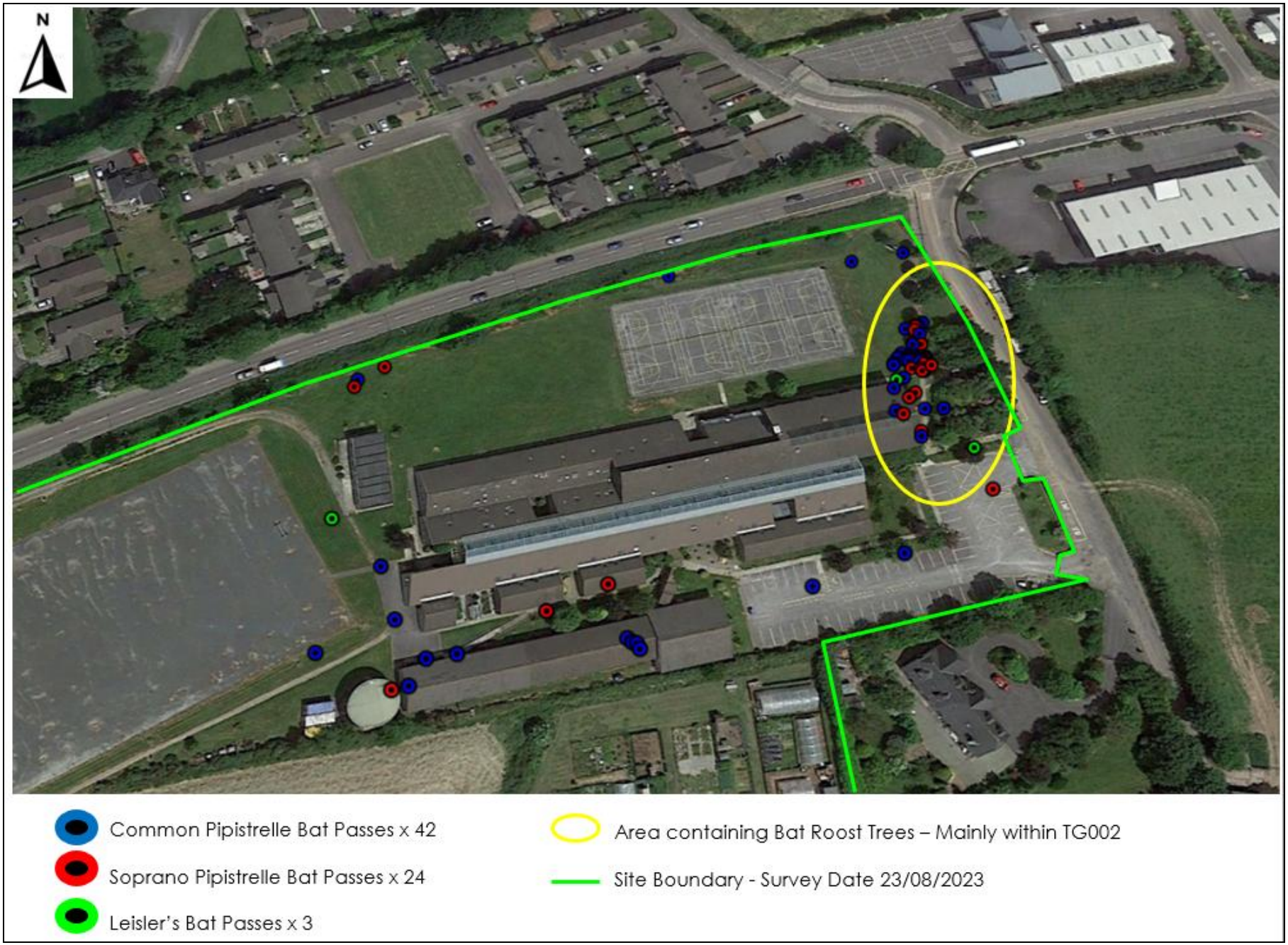


Figure 9 Bat Activity Map – August 23rd 2023

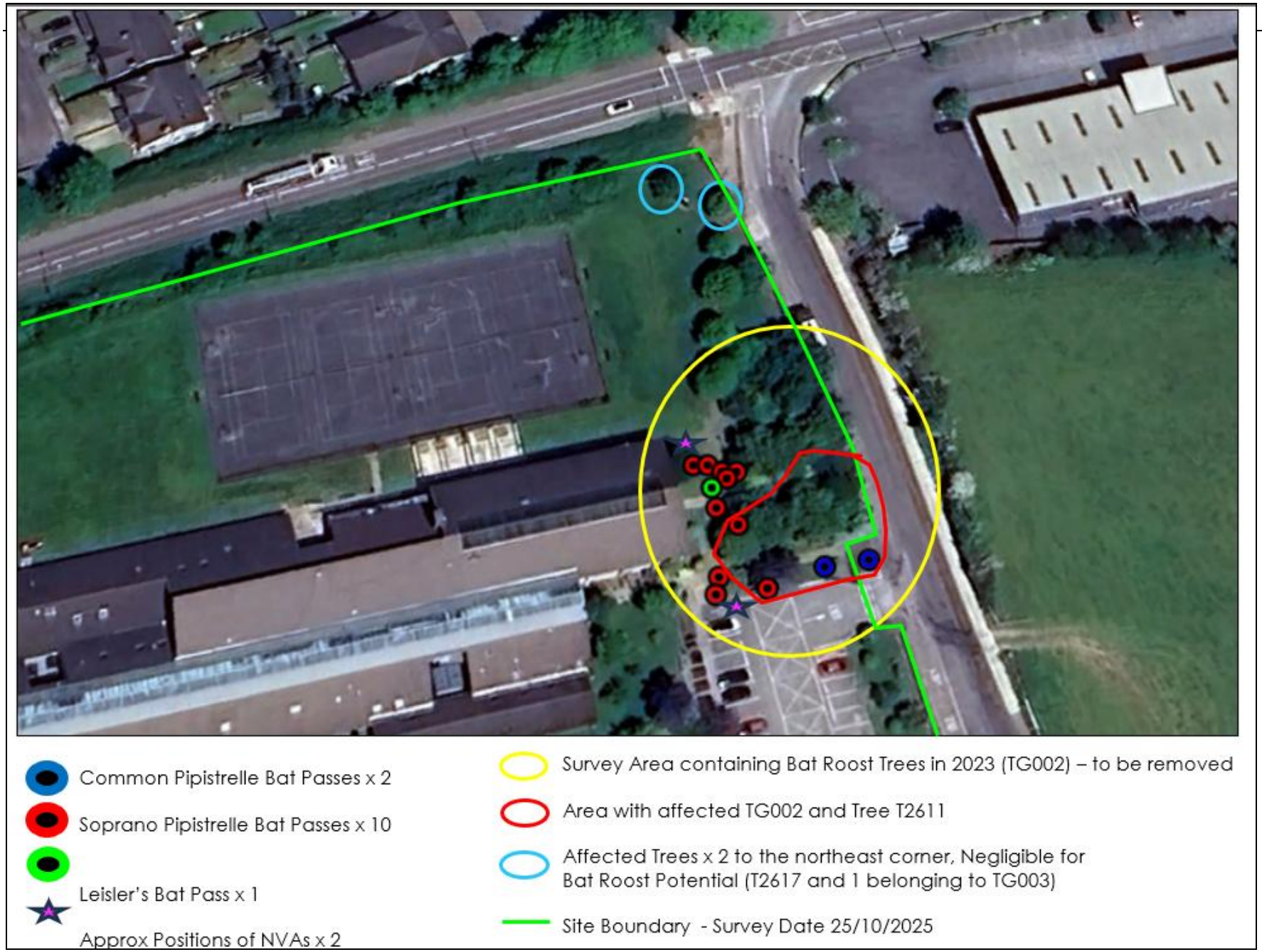


Figure 10 Bat Activity Map - October 25th 2025

3.3 Tree Roost Assessment Results

Initial Assessment (2023):

- Trees T2611, T2618, T2620 and T2621: 'Negligible' bat roost potential
- Hedgerows H003 and part of H004: 'Negligible' bat roost potential
- Tree Group TG002: Confirmed bat roost supporting 6-8 individual bats (4-5 Common Pipistrelle, 2-3 Soprano Pipistrelle)
- Tree Group TG003: Important commuting route from TG002

Critical Change Following RFI (2025): Following the Request for Further Information, the following trees must now be removed to achieve mandatory traffic layout modifications as per Cork County Council, Cork National Road Design Office and TII requirements:

1. Tree Group TG002 (yellow circle on Figure 10): Previously confirmed roost trees, now requiring removal as per RFI Ref: 25/05372.
2. Tree T2611 (within red circle on Figure 10): Located adjacent to TG002, 'Negligible' bat potential
3. Tree T2617 (blue circle, northeast corner): Oak with 'Negligible' bat potential, removal required for fire tender access
4. One Hornbeam at end of TG003 (blue circle, northeast): 'Negligible' bat potential, removal required for fire tender access (see Plate 5)

The October 2025 survey using AVA equipment confirmed:

- No bats emerged from TG002 or any other trees scheduled for removal
- No thermal signatures detected within any tree cavities
- All bat activity consisted of passes over the area (Figure 10)
- The 6-8 individuals previously using TG002 have relocated to alternative roosts

Total trees affected: TG002 (multiple trees), plus three individual trees (T2611, T2617, and one Hornbeam), all except TG002 having negligible bat potential. The retention of the remainder of TG003 maintains the important commuting corridor.

3.4 Landscape Evaluation

The site retains Local Importance (Higher Value) for bats despite TG002's changed status:

Roosting Value:

- TG002 historically supported 6-8 individual bats (August 2023)
- No current roost use documented (October 2025)
- Remaining mature trees along boundaries maintain potential roost features
- Provision of 6 woodcrete bat boxes (each supporting 15-30 bats) will provide capacity for 90-180 bats, far exceeding historical occupancy

Foraging and Commuting Value:

- Three species continue using the area (October 2025)

- TG003 retention maintains important commuting corridor
- Site provides 'Moderate' suitability for commuting/foraging (Table 4)
- Connectivity to wider landscape preserved through retained boundary features

The low number of individuals historically using TG002 (6-8 bats) and absence of current use strengthens the case that removal will not significantly impact the favourable conservation status of local bat populations, particularly with comprehensive mitigation measures in place.

4. DEROGATION ASSESSMENT

This section provides detailed assessment against the three tests required under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011, as outlined in NPWS guidance[27].

4.1 Test 1: Reasons for Derogation

This derogation application is made under Regulation 54(2)(c): *"In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment*."

The removal of TG002 is required exclusively for public health and safety reasons, specifically:

Traffic Safety at School Entrances:

The site currently serves Gaelscoil Droichead Bandon and Coláiste na Toirbhirte with a combined student population 972 pupils total (600-Colaiste + 372-Gaelscoil), plus staff and visitors. The Cork County Council RFI Item 3 & 6 require road layout modifications to extend the set-down northwards, resulting in removal of existing green areas (TG002).

School Transport Safety:

The Cork National Road Design Office has rejected bus bays on the N71, requiring all school buses to enter the site. The RFI (Item 4) specifically notes that longer school buses require adequate autotrack turning circles, which cannot be achieved with TG002 in place. The expansion of the existing set down at Coláiste na Toirbhirte is required to ease traffic congestion, ensuring all students may be dropped off safely on the school grounds.

Mandatory Safety Audit Compliance:

Item 11 of the RFI requires a Stage 1/2 Road Safety Audit in accordance with TII guidance (GE-STY-0124). The retention of TG002 would result in non-compliance with safety audit requirements, preventing planning permission and leaving existing substandard access arrangements in place.

[27] NPWS (July 2025) Applications for Regulation 54 Derogations for Annex IV Species - Guidance for Applicants Version 1.0.

Legal Obligations:

As a public authority, the school has statutory duties under the Safety, Health and Welfare at Work Act 2005 to ensure safe access. The planning authority cannot grant permission for development that fails to meet mandatory road safety standards[28].

This clearly satisfies the test for "public health and public safety" without need to consider other imperative reasons of overriding public interest[29].

4.2 Test 2: Assessment of Alternatives

In accordance with NPWS guidance, all potential alternatives have been systematically examined[30]. The European Commission guidance states that "an alternative solution cannot be deemed unsatisfactory merely because it would cause greater inconvenience or compel a change in behaviour"[31].

In addition the design team explored all possible design options at Stage 1. The design team included landscape architects as well as fire safety consultants.

The following alternatives were assessed:

Alternative 1: Do Nothing

Description: Withdraw planning application, retain existing access
Assessment: Fails to address existing safety deficiencies; school operates under substandard access conditions; no educational improvements delivered
Conclusion: Unsatisfactory - perpetuates safety risks

Alternative 2: Retain TG002 with Current Junction Design

Description: Keep original proposed layout with TG002 intact
Assessment: Cannot achieve 50m (item 6) sight distance required by RFI; fails to comply with RFI 25/0537, Cork County Council, Cork National Roads Design Office, and TII requirements
Conclusion: Unsatisfactory - non-compliant with mandatory safety standards

Alternative 3: Relocate Main Access North

Description: Move junction away from TG002.
Assessment: Topographical constraints; Additional entrances from the N71 road are not allowed. Bus set-down and a pedestrian entrance on the N71 were refused as per the RFI. Would require third-party land; increased distance from school buildings; sight lines still compromised by TG002's extent.

Moving junction North would require the removal of all trees on the eastern boundary (TG003 and TG002). Busses and school traffic need to enter the southern site as it is a primary school. Both CCC and DOEY highlighted the vulnerability of

[28] S.I. No. 600/2001 Planning and Development Regulations 2001, Article 23.
[29] European Commission (2021) *Guidance document on the strict protection of animal species of Community interest*, Section 3.2.1.
[30] NPWS (2021) *Guidance on Strict Protection of Certain Animal and Plant Species*, Section 3.
[31] European Commission (2021) *Guidance document*, paragraph 3-56.

primary school students walking to school during the design stage. Any road layout would compromise TG002 and TG003. The bat commuting corridor would be completely removed.
Conclusion: Unsatisfactory - technically unfeasible

Alternative 4: Relocate Main Access South

Description: Move junction southwards
Assessment: Conflicts with existing residential properties; inadequate space for bus turning; TG002 still obstructs northern sight lines
Conclusion: Unsatisfactory - physically impossible

Alternative 5: Partial Removal of TG002

Description: Remove only trees directly in sight lines
Assessment: Remaining trees would be isolated, windthrow risk; root damage during construction likely to destabilise retained trees; ongoing safety risk from weakened trees
Conclusion: Unsatisfactory - creates greater ecological impact and safety hazard

Alternative 6: Traffic Signals/Speed Reduction

Description: The junction with N71 is already a signalised junction, it is being modified and upgraded as per requirements in the RFI. Raised table are proposed to reduce speed in the area. These measures do not exclude the requirements for increased set-down and sight lines at the school entrances.
Assessment: TII will not accept substandard geometry with mitigation; Cork National Road Design Office has authority over N71; signals inappropriate for school junction
Conclusion: Unsatisfactory - not acceptable to road authority

Selected Alternative: Complete Removal of TG002

This is the only solution that achieves mandatory sight distance requirements whilst accommodating safe bus movements within the mandatory traffic layout modifications as per Cork County Council, Cork National Road Design Office and TII requirements.
The derogation is limited to the minimum necessary - TG002, plus three additional trees with negligible bat potential (T2611, T2617, and one Hornbeam from TG003).

In accordance with EC Guidance paragraph 3-55, we have assessed whether partial implementation of alternatives could reduce impacts. However, partial sight line compliance would not meet mandatory safety standards and would leave the school liable for any accidents resulting from substandard junction design. The provision of partial bus set-down on site has been explored with the remaining bus set-downs on N71, which was not accepted as per the RFI. This resulted in the expansion of the bus set-down within the site and the removal of tree group TG002.

4.3 Test 3: Favourable Conservation Status

The proposed works will not be detrimental to maintaining bat populations at favourable conservation status in their natural range[32]. This conclusion is supported by comprehensive survey data and robust mitigation measures.

Population Status:

Common Pipistrelle, Soprano Pipistrelle and Leisler's Bat are all listed as "Least Concern" in Ireland[33]. The 2019 Article 17 report confirms these species maintain favourable conservation status nationally[34]. The local population remains robust, with the 10km square (W45) supporting confirmed populations of all three affected species. The loss of one non-maternity roost containing 6-8 individuals represents <0.1% of the estimated local population, whilst compensatory measures provide capacity for 90-180 bats, ensuring net positive outcome for local populations.

Impact Assessment:

- August 2023 Survey: Confirmed roost in TG002 supporting 6-8 individual bats. The low number of individuals historically using TG002 (6-8 bats: 4-5 Common Pipistrelle and 2-3 Soprano Pipistrelle) represents a small non-maternity roost. The provision of 6 woodcrete boxes (capacity 90-180 bats) far exceeds the historical occupancy.
- October 2025 Survey: No bats using TG002 despite optimal detection (AVA equipment with 670m thermal range)
- Conclusion: TG002 not currently functioning as an active roost; removal will not displace roosting bats

Mitigation Measures Ensuring FCS:

Timing: Works restricted to 1st January- 28th February 2026 or 1st October 2026 to 31st December 2026 (hibernation period when tree roosts least likely occupied)[35]

- Supervision: Ecological Clerk of Works present during felling
- Soft Felling Protocol: 24-hour retention of felled trees allowing any undetected bats to escape
- Compensation: Six woodcrete bat boxes (1FF Schwegler or equivalent) installed prior to works
- Habitat Connectivity: Retention of TG003 treeline maintains commuting routes
- Lighting: Maintained at <1 lux in replacement roosting areas

Monitoring and Adaptive Management:

Post-construction monitoring of bat box uptake will be conducted in Summer 2026. Should monitoring identify unexpected impacts, additional boxes will be installed under ecological supervision.

[32] Regulation 54(2) of S.I. 477/2011.
[33] Marnell, F., Looney, D. & Lawton, C. (2019) *Ireland Red List No. 12: Terrestrial Mammals*. NPWS.
[34] NPWS (2019) *The Status of EU Protected Habitats and Species in Ireland. Article 17 Report*.

[35] Marnell et al. (2022) Bat Mitigation Guidelines for Ireland v2, Section 5.3.

Net Impact on FCS:

The mitigation package ensures the net impact is neutral or potentially positive through provision of purpose-built roosting opportunities superior to natural tree cavities. The local bat population will maintain current distribution and abundance, with alternative roosting provided before any impact occurs. The favourable conservation status of affected species will be maintained[36].

5. MITIGATION & METHOD STATEMENT

5.1 Timing and Methodology of Works

The scheduling of tree removal operations has been carefully planned to minimise ecological impacts whilst ensuring compliance with wildlife legislation. Tree felling will be restricted to the winter period when both bats and birds are least likely to be affected by the works.

The approved timing window encompasses:

- *Period*: January-March 2026 or October-December 2026
- *Rationale*: Outside bird nesting season (March 1st - August 31st and during bat hibernation period when tree roosts are least likely to be occupied
- *Legal Compliance*: Adheres to Section 40 of the Wildlife Acts 1976-2023

This timing represents the optimal ecological window, as bats will be hibernating in more stable environments such as buildings or underground sites rather than tree roosts, which offer insufficient thermal stability for winter hibernation in Irish conditions.

5.2 Soft Felling Protocol

The soft felling methodology has been developed specifically to address the possibility that individual bats may occasionally use tree roosts even during winter months. This precautionary approach ensures any undetected bats have maximum opportunity to escape unharmed. The protocol follows established best practice from similar derogation licences nationwide.

The sequential felling process requires:

1. *Initial Disturbance:* Trees will be pushed lightly 2-3 times with 30-second pauses between each nudge to allow any bats to become active
2. *Controlled Felling:* Trees pushed to ground slowly using appropriate heavy plant machinery
3. *Retention Period:* Felled trees must remain in place for minimum 24 hours before removal/processing
4. *Critical Requirement:* Trees must NEVER be sawn up or mulched immediately after felling

Heavy plant operators will be briefed on these requirements before works commence, with the ECoW present to ensure compliance. The 24-hour retention

[36] Case C-674/17 (Finnish Wolf Case) establishing FCS requirements for derogations.

period is particularly crucial, as it allows any bats that may be present in deep torpor sufficient time to arouse and escape. This protocol has proven effective in numerous similar projects across Ireland.

5.3 Ecological Supervision

Professional ecological supervision throughout the tree felling operations ensures compliance with derogation conditions and provides immediate response capability should unexpected ecological issues arise. The appointed Ecological Clerk of Works will be an experienced ecologist with demonstrable expertise in bat ecology and derogation licence implementation.

The ECoW responsibilities include:

- Be present during all tree felling operations
- Inspect trees immediately before felling using visual assessment and endoscope where accessible
- Have authority to halt works immediately if bats discovered
- Oversee implementation of soft felling protocol
- Document compliance with derogation conditions through photographic records and site notes

The ECoW will maintain direct communication with the site foreman and have absolute authority to stop works if any bats are discovered or if protocols are not being followed correctly. A detailed method statement will be provided to all contractors before works commence, with instructions delivered on-site to ensure all personnel understand the ecological constraints.

5.4 Bat Box Scheme

The compensatory roost provision comprises six high-quality woodcrete bat boxes[37] that will provide superior roosting conditions compared to natural tree cavities. Woodcrete boxes offer excellent thermal properties, longevity (25+ year lifespan), and have proven successful uptake rates in similar mitigation schemes throughout Ireland.

Provision: 6 × Schwegler Woodcrete 1FF (or equivalent) bat boxes

These boxes have been specifically selected as they are suitable for both pipistrelle species recorded using TG002. Installation will occur before tree felling to ensure alternative roost sites are immediately available. The installation specifications have been developed to maximise likelihood of occupancy:

Installation Requirements:

- Install prior to tree felling works (December 2025/early January 2026)
- Height: 4-5m to prevent vandalism/predation whilst remaining accessible for monitoring
- Orientation: Variety of aspects (SE, S, SW) for microclimate choice throughout seasons
- Location: On mature retained trees maintaining <1 lux illumination
- Positioning: Adjacent to TG003 commuting route to ensure boxes are discovered by commuting bats
- Clear flight path: No obstructions 1m above/below box entrance

The variety of orientations ensures suitable microclimates are available throughout the active season, with southerly aspects providing warmth for maternity use and cooler aspects suitable for males and transitional roosts. Positioning near the retained commuting route significantly increases probability of discovery and colonisation.

5.5 Lighting Mitigation

The approved lighting design (Varming Consulting Engineers, July 2025) provides necessary safety illumination for the school using 12 × Philips Luma Gen 2 BGP701 40W luminaires on 6m columns, achieving average 12 lux illumination. While these specifications meet mandatory health and safety requirements for school premises, specific mitigation measures are required to maintain ecological functionality for bats.

Critical Dark Zones for Bat Boxes: The six compensatory bat boxes must be positioned in locations that remain unlit to ensure their effectiveness as alternative roost sites. These critical dark zones will be established by:

- Positioning boxes on mature trees in the northwest corner of the site, furthest from proposed lighting columns
- Utilising existing building shadows to create dark refugia on north-facing walls
- Installing boxes minimum 30m from nearest light column where feasible

[37] https://www.nhbs.com/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel

- Maintaining illumination levels <1 lux at all bat box locations (mandatory requirement)

Existing Lighting Compatibility: The Varming design already incorporates several bat-friendly features including controlled light distribution, time clock control, and photocell activation. The 40W LED luminaires, while necessary for safety, will be supplemented with the following ecological enhancements where operationally feasible:

- Timer override to switch off non-essential lights by 23:00 during bat active season (March-October)
- Directional shields on luminaires nearest to TG003 and bat box locations
- Retention of unlit corridors along western and northern boundaries where safety permits

Monitoring: Light levels at bat box locations will be verified post-installation to ensure <1 lux compliance. Should any box location exceed this threshold, it will be relocated to an appropriate dark zone.

5.6 Compensation Summary

The comprehensive mitigation package ensures the favourable conservation status of the local bat population through:

- *Roosting capacity*: 90-180 bats (6 boxes × 15-30 bats/box)
- *Historical use*: 6-8 individuals at TG002
- *Net gain*: >10× increase in roosting opportunities
- *Quality improvement*: Purpose-built boxes with superior thermal properties compared to natural cavities

This mitigation strategy has been designed to exceed the precautionary principle requirements, providing substantially more roosting capacity than historically present whilst maintaining foraging and commuting functionality across the site.

6. MONITORING AND VERIFICATION

6.1 Implementation Verification

Bat boxes will be installed prior to tree removal to ensure immediate availability of alternative roosts. Verification will occur as follows:

- *Pre-felling:* Installation of 6 woodcrete boxes in agreed locations

- *During supervised felling:* Ecologist will verify and document:
  - Boxes correctly installed (height, orientation, security)
  - Photographic record of each box location
  - GPS coordinates recorded
  - Soft felling protocol properly implemented
  - Any bats found handled per emergency procedures

6.2 Reporting

Within 14 days of works completion, the supervising ecologist will submit to NPWS:

- Confirmation of derogation compliance
- Photographic evidence of installed boxes
- Record of felling supervision
- Any deviations from method statement
- Details of any bats encountered

6.3 Adaptive Management

If during supervision any issues arise with box installation (e.g., selected trees unsuitable), alternative locations will be immediately identified and boxes relocated before felling commences.

7. MONITORING THE IMPACTS OF THE DEROGATION

Verification of Implementation

The derogation will be verified through the following protocol:

Pre-felling Installation (January-February 2026):

- Six woodcrete bat boxes installed one week before tree removal
- Ensures immediate availability of alternative roosts
- Photographic documentation and GPS coordinates recorded

During Ecological Supervision (Date of felling): The supervising ecologist will verify:

- Correct implementation of soft felling protocol
- Bat boxes properly installed (height 4-5m, SE-SW orientation, secure mounting)
- Compliance with all derogation conditions
- Appropriate handling of any bats discovered

Reporting to NPWS

A compliance report will be submitted within 14 days of works completion containing:

- Photographic evidence of installed bat boxes with GPS locations
- Confirmation of soft felling protocol implementation
- Record of ecological supervision
- Details of any bats encountered (if applicable)
- Any deviations from method statement

Corrective Measures

- If boxes are found incorrectly installed during supervision: immediate adjustment before felling commences.
- If bats discovered during felling: immediate work cessation and NPWS consultation per emergency protocol.
- This front-loaded mitigation approach (boxes installed before impact) ensures no gap in roost availability and represents best practice for non-maternity

roost replacement. No further monitoring is proposed as the affected roost is currently unoccupied (October 2025 survey) and replacement capacity exceeds historical usage by factor of 11-22.

8. CONCLUSION

This Bat Derogation Licence Application demonstrates that the proposed removal of Tree Group TG002 at Gaelscoil Droichead Bandon and Coláiste na Toirbhirte satisfies all three tests required under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011.

Test 1 is clearly satisfied through demonstrable public safety requirements. The mandatory 50m sight distance onto the N71 and safe accommodation of school buses serving 600+ students constitute imperative reasons of public safety that cannot be ignored.

Test 2 is met through systematic assessment of six alternatives, none of which achieve the mandatory safety requirements. The selected option represents the minimum necessary intervention, removing only TG002 and three trees with negligible bat potential.

Test 3 is satisfied through comprehensive mitigation ensuring favourable conservation status. The affected species (Common Pipistrelle, Soprano Pipistrelle, Leisler's Bat) are all "*Least Concern*" nationally. The small number of individuals historically using TG002 (6-8 bats: 4-5 Common Pipistrelle, 2-3 Soprano Pipistrelle) represents a minor transitional roost. Critically, the October 2025 AVA survey confirmed no current roost use, indicating the bats have already relocated naturally.

The mitigation package provides:

- Six woodcrete bat boxes with 90-180 bat capacity (far exceeding historical occupancy)
- Optimal timing (January-March or October-December 2026)
- Soft felling protocol with 24-hour retention period
- Ecological supervision throughout works
- Dark zones maintained at bat box locations (<1 lux mandatory)
- Proposed works include a landscape design which promotes planting of native tree and hedging as per landscape report and planting plan submitted with application.

The net impact on the local bat population will be neutral to positive, with purpose-built roosting opportunities replacing natural tree features. The comprehensive survey data (August 2023 and October 2025), combined with robust mitigation measures and verification during ecological supervision, ensures that the favourable conservation status of all affected species will be maintained.

The derogation is therefore justified, proportionate, and compliant with all legal requirements under the Habitats Directive and national legislation.

APPENDICES

APPENDIX A

Plates 1 Prefab building for removal – 'Negligible' Bat Roost Potential.

Plate 2 Tank and Containers for removal – 'Negligible' Bat Roost Potential.

Plates 3 Examples of some of the trees for felling with – 'Negligible' Bat Roost Potential.

Plates 4 Tree Group TG003, initially to be felled, now mostly retained as an important bat commuting route, except for one tree at the end of the treeline and also Tree T2617 to accommodate fire tender access to the north of the building with two trees will need to be removed, see Plates 5.

Plates 5 Tree (Hornbeam) affected at the end of Treeline TG003 (on the left) and T2617 (Oak) on the Right, Both with 'Negligible' Bat Roost Potential and positioned near Bright Roadside Lighting (October 2025).

Plates 6 TG002 affected, shown below from October 25th 2025 Survey

Plates 7 TG002 affected, shown below from October 25th 2025 Survey

General Site Photos

Plates 8 General site photos, Buildings with negligible bat potential. No bat emergence detected during the surveys undertaken in August 2023 from any affected prefabs, tank or containers for removal/demolition

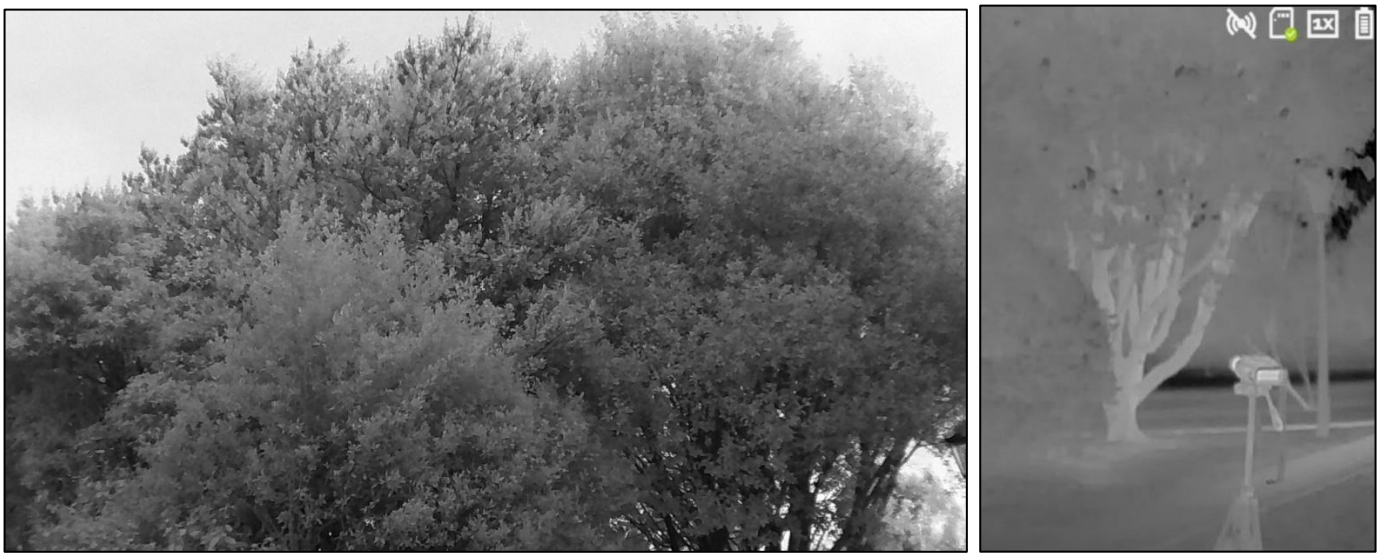


Plate 9 Digital night vision with IR illumination, Supplementary to thermal imaging – No Bats were recorded emerging from this vantage point. Thermal camera took photo on right of the IR camera (October 25th 2025).

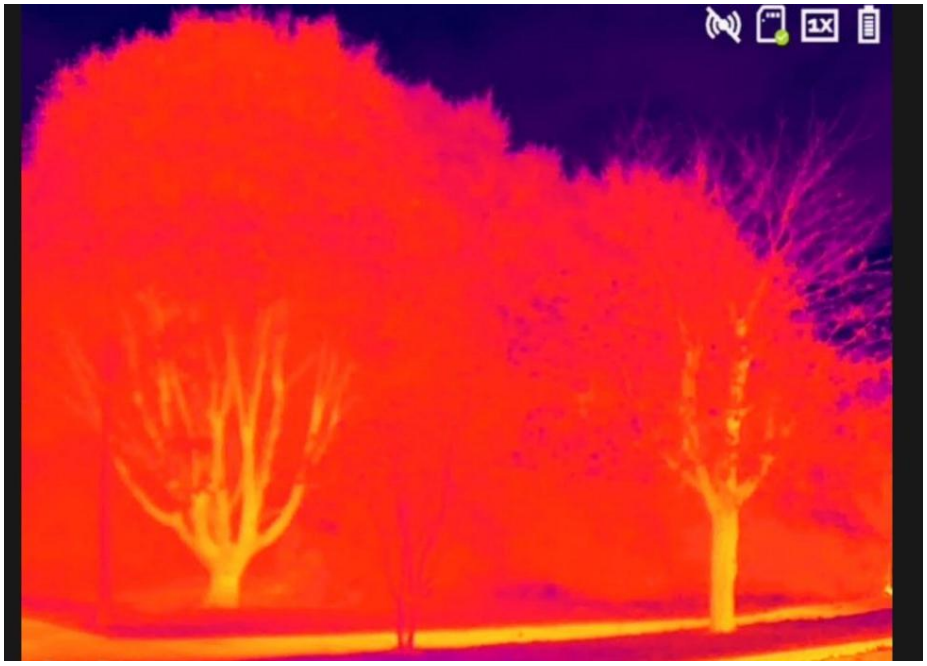


Plate 10 Thermal Imaging equipment (using the Pixfra Arc A625 Thermal Monocular) for Comprehensive emergence monitoring. No bat emergence noted (October 25th 2025).

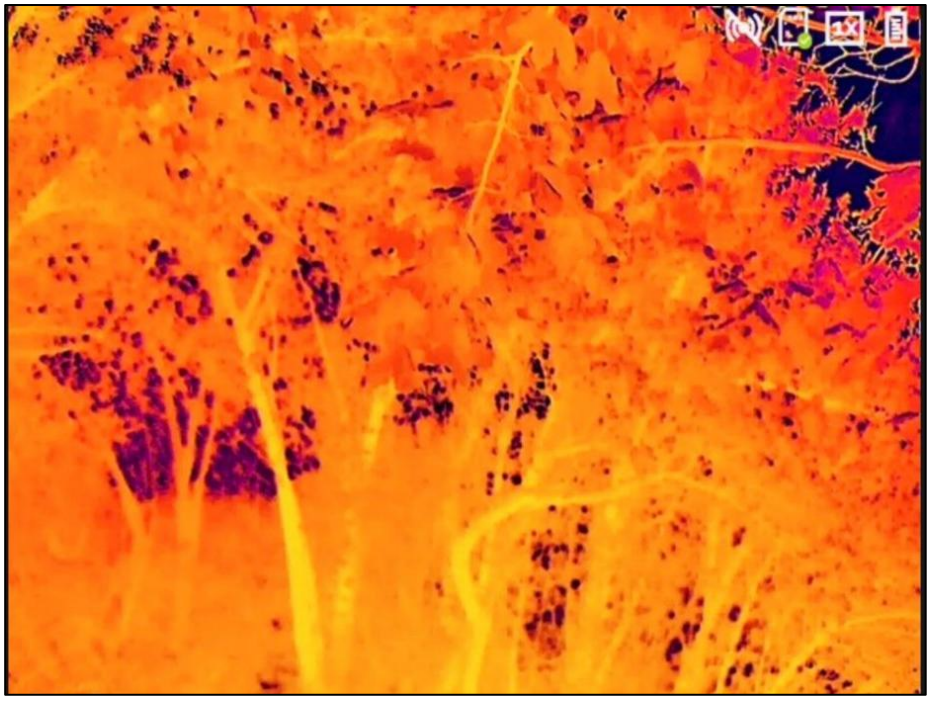


Plate 11 Thermal Imaging equipment (using the Pixfra Arc A625 Thermal Monocular) for Comprehensive emergence monitoring. No bat emergence noted (October 25th 2025).

APPENDIX B

23/08/2023	Species Text	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Temperature [°C]	Latitude [WGS84]	Longitude [WGS84]
20:59:39	Soprano Pipistrelle	12	58.9	73.4	58.4	4	90	17	51.73996	-8.73227
21:01:54	Leisler's Bat	6	20.7	21	20.1	12.3	733	17	51.74047	-8.7313
21:03:46	Common Pipistrelle	16	46.6	58.9	46	4	90	17	51.73995	-8.73162
21:05:54	Soprano Pipistrelle	16	61.2	81.8	58.8	3	90	17	51.74058	-8.73123
21:06:48	Common Pipistrelle	15	47.2	72.8	45.9	3	70	17	51.74085	-8.73124
21:07:31	Common Pipistrelle	5	47.4	54.7	46.8	2	116	17	51.74083	-8.73143
21:07:33	Common Pipistrelle	19	45.4	73.1	44.8	3	75	17	51.74048	-8.73127
21:08:23	Common Pipistrelle	3	47.7	53.5	46.5	2.4	1084	17	51.74061	-8.7312
21:08:27	Common Pipistrelle	22	47	61.9	45.7	4	85	17	51.74078	-8.73212
21:09:24	Soprano Pipistrelle	34	57.1	77.8	56.2	3	100	17	51.74052	-8.7312
21:09:31	Soprano Pipistrelle	20	57.4	72.9	56.7	3	85	17	51.7405	-8.7312
21:09:50	Common Pipistrelle	26	46.5	64.8	45.9	4	64	17	51.74047	-8.73321
21:11:10	Leisler's Bat	1	22.3	25	21.7	1.3	0	17	51.74011	-8.7332
21:11:56	Common Pipistrelle	9	49.8	57.8	48.5	5	90	17	51.74054	-8.73124
21:12:05	Common Pipistrelle	16	48.5	72.6	47.7	5	70	17	51.74054	-8.73125
21:12:19	Common Pipistrelle	22	48.2	58.1	47.3	3	90	17	51.7398	-8.73317
21:12:38	Common Pipistrelle	3	45.5	61.8	44.9	4.2	98	17	51.74053	-8.73125
21:13:33	Soprano Pipistrelle	9	58.5	67.4	56.4	3	60	17	51.74053	-8.7312
21:13:38	Soprano Pipistrelle	23	57.3	74.4	56.2	3	75	17	51.74053	-8.73119
21:13:45	Soprano Pipistrelle	17	59.6	91.8	57.7	3	83	17	51.74052	-8.73117
21:13:50	Soprano Pipistrelle	4	57.2	63.1	56.5	3.3	116	17	51.73973	-8.73291

23/08/2023	Species Text	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Temperature [°C]	Latitude [WGS84]	Longitude [WGS84]
21:14:40	Soprano Pipistrelle	7	56.3	70	55.4	3	113	17	51.7399	-8.73246
21:14:49	Common Pipistrelle	19	47.9	70	47	3	75	17	51.7405	-8.7312
21:14:57	Soprano Pipistrelle	18	54.7	66.7	54	3	80	17	51.74051	-8.73121
21:15:09	Soprano Pipistrelle	16	58.4	74.6	57.5	4	70	17	51.74053	-8.73124
21:15:34	Common Pipistrelle	6	48.4	59.9	47.2	3	60	17	51.74055	-8.73127
21:15:57	Common Pipistrelle	2	49.3	51.7	48.6	5.6	79	17	51.74054	-8.73128
21:16:04	Common Pipistrelle	23	48.8	67	47.7	3	83	17	51.74053	-8.73129
21:16:12	Common Pipistrelle	20	46.7	68.4	46	3	85	17	51.74052	-8.73131
21:16:16	Common Pipistrelle	152	47.9	71.3	46.7	3	90	17	51.74052	-8.7313
21:16:34	Leisler's Bat	1	23.2	24.1	21.4	4.6	0	17	51.74029	-8.73105
21:16:34	Common Pipistrelle	28	46.5	67.8	45.9	5	80	17	51.74053	-8.73126
21:16:56	Common Pipistrelle	33	46.2	66.5	45.5	3	84	17	51.74053	-8.73121
21:17:22	Common Pipistrelle	53	46.7	71.8	45.7	4	80	17	51.74054	-8.73122
21:17:29	Soprano Pipistrelle	20	58.7	71.4	57.7	3	95	17	51.74058	-8.7312
21:17:31	Common Pipistrelle	87	47	72.4	45.8	4	80	17	51.74053	-8.73121
21:17:48	Common Pipistrelle	18	46	63.9	45.3	3	85	17	51.74054	-8.73119
21:18:05	Common Pipistrelle	93	49.4	73.3	48.3	3	75	17	51.74054	-8.73123
21:18:08	Common Pipistrelle	11	46.6	65.4	45.5	6	65	17	51.74039	-8.73121
21:18:21	Common Pipistrelle	43	49.6	70.5	48.7	3	80	17	51.74057	-8.73123
21:18:32	Common Pipistrelle	6	49.5	67.2	48.5	5	80	17	51.74062	-8.73125
21:18:57	Common Pipistrelle	44	49.6	72	48.7	3	90	17	51.74045	-8.73131

23/08/2023	Species Text	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Temperature [°C]	Latitude [WGS84]	Longitude [WGS84]
21:19:06	Common Pipistrelle	35	48.2	68.9	47	3	85	17	51.7404	-8.73114
21:19:10	Common Pipistrelle	37	48.7	69.9	48	3	84	17	51.74039	-8.73131
21:19:33	Soprano Pipistrelle	25	58.6	77.8	57.5	3	85	17	51.74038	-8.73128
21:19:59	Soprano Pipistrelle	10	56.8	68.5	55.1	3	98	17	51.74043	-8.73126
21:20:11	Soprano Pipistrelle	4	55.4	61.2	54.8	4	135	17	51.74051	-8.73124
21:20:32	Soprano Pipistrelle	31	57.3	84	55.3	3	74	17	51.74054	-8.7312
21:21:27	Common Pipistrelle	47	47.9	65.9	46.5	3	90	16	51.74063	-8.7312
21:23:01	Soprano Pipistrelle	13	56.6	62.6	56	3	70	16	51.74063	-8.73121
21:23:38	Soprano Pipistrelle	5	60.7	69.3	58.1	3	258	16	51.74063	-8.73122
21:23:41	Soprano Pipistrelle	5	57.2	64.4	56.5	3	170	16	51.74062	-8.73122
21:24:42	Soprano Pipistrelle	109	56	72.3	55.3	4	90	16	51.74044	-8.73124
21:25:13	Soprano Pipistrelle	30	55.4	62.9	54.5	5	85	16	51.74033	-8.73123
21:26:18	Soprano Pipistrelle	40	57.2	71.8	56.7	5	75	16	51.74051	-8.73312
21:27:41	Common Pipistrelle	4	48	51.9	47.4	3	90	16	51.74	-8.73301
21:36:00	Soprano Pipistrelle	11	54.7	58	54.2	9	180	16	51.74018	-8.731
21:37:58	Common Pipistrelle	25	47.9	64.3	47.3	3	90	16	51.73988	-8.73294
21:38:30	Common Pipistrelle	5	50.2	64.7	49.2	3	231	16	51.73973	-8.73286
21:48:45	Common Pipistrelle	21	48.1	65.8	47.2	4	70	16	51.73979	-8.73282
21:59:11	Common Pipistrelle	22	47.6	63.7	47	5	90	16	51.7398	-8.73273
22:00:12	Common Pipistrelle	15	49.3	74.8	48.4	3	80	16	51.73984	-8.7322
22:10:21	Common Pipistrelle	31	49	69.5	47.9	3	80	16	51.73983	-8.73219

23/08/2023	Species Text	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Temperature [°C]	Latitude [WGS84]	Longitude [WGS84]
22:20:31	Common Pipistrelle	14	49.3	60.8	48.5	3	76	16	51.73982	-8.73217
22:23:48	Common Pipistrelle	18	47.1	67.7	46.1	3	85	16	51.74064	-8.73119
22:26:16	Common Pipistrelle	18	47.5	68.5	46.8	4	90	16	51.74003	-8.73132
22:26:29	Soprano Pipistrelle	25	58	66.1	57.4	3	76	16	51.74045	-8.73321
22:30:42	Common Pipistrelle	18	48.6	72	47.7	3	75	16	51.73981	-8.73216
22:37:15	Common Pipistrelle	1	46.4	46.7	46.4	6.6	0	16	51.74032	-8.73123

25/10/2025	Species Text	Calls [#]	Mean Peak Frequency [kHz]	Mean Max Frequency [kHz]	Mean Min Frequency [kHz]	Mean Call Length [ms]	Mean Call Distance [ms]	Temperature [°C]	Latitude [WGS84]	Longitude [WGS84]
18:25:22	Leisler's Bat	3	23.1	23.6	22.5	9	290	10	51.74041	-8.7312
18:46:03	Soprano Pipistrelle	11	56.9	73.3	56	3	125	10	51.74043	-8.73118
18:54:02	Soprano Pipistrelle	18	57.9	94.3	56	4	83	10	51.74043	-8.73115
19:04:12	Soprano Pipistrelle	14	57.2	67.4	56.7	3	80	10	51.74026	-8.73109
19:05:27	Soprano Pipistrelle	3	56.3	59.3	55.6	4	78	10	51.74042	-8.73117
19:08:12	Soprano Pipistrelle	6	56.6	62	55.9	4	80	10	51.74025	-8.73119
19:16:51	Common Pipistrelle	18	47	60.6	46.1	5	90	10	51.74029	-8.73097
19:18:27	Common Pipistrelle	3	46.3	54.4	45.3	3.4	576	10	51.7403	-8.73088
19:37:26	Soprano Pipistrelle	8	57.9	86.6	56.8	3	115	10	51.74044	-8.73124
19:46:48	Soprano Pipistrelle	14	57.1	62.7	56	6	80	10	51.74035	-8.73115
20:08:20	Soprano Pipistrelle	49	56.4	73.5	55.9	4	80	10	51.74028	-8.73118
20:17:31	Soprano Pipistrelle	13	57.2	69.8	56.3	3	80	10	51.74038	-8.73119
20:17:34	Soprano Pipistrelle	5	56.2	64.1	55.4	3.8	63	10	51.74044	-8.73121