

Application for Derogation Licence

Supporting Document

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1. Introduction

1.1 Objective of the proposed works

The proposed development involves the construction of a nature education centre and all ancillary site development works at Torc Cottages, Killarney National Park, Killarney, County Kerry.

1.2 Survey team members and relevant experience

Team Member	Relevant Experience
Colette Murray	Colette has a BSc (Hons) degree in Zoology received from University College Cork (UCC) as well as a Master's Degree in Marine Biology, also from UCC. Colette has undertaken and led several bat surveys around Munster for a variety of projects. Colette currently holds derogation licences relating to Lesser horseshoe bat, Common pipistrelle and Soprano pipistrelle roosts.
Kate Handel	Kate has a BSc (Hons) degree in Botany received from University College Dublin (UCD) as well as a Diploma in Environment Sustainability & Climate. Kate has carried out and led a number of ecological surveys and projects including bat surveys.

2. Background to proposed activity

Southern Scientific Services Ltd was commissioned by Howff Architects, on behalf of NPWS, to carry out a bat survey at Torc Cottages, Killarney National Park, Killarney, County Kerry. This bat survey and subsequent report was requested by Kerry County Council as part of a Further Information Request (FIR) for planning application 24/60960 (see Appendix IV for a copy of the FIR). The purpose of the survey was to outline how bats, including Lesser horseshoe bat (LHB) currently use the site and wider area and to inform the design and location of the proposed bat house, as well as landscaping proposals and whilst taking into account tree removal, development and lighting proposals. If necessary, suitable mitigation will be proposed to ensure there is no impact on bat species as a result of the proposed development.

3. Proposed Activity to be covered by derogation

The planning application requests permission for the construction of a nature education centre and all ancillary site development works. The proposed development will consist of: (i) The demolition of existing shed structures; (ii) The change of use and conversion of former stable building to a nature education centre to include classrooms, science labs and supporting uses, including office, cloak room, sanitary facilities. The proposed development also provides for stores and plant rooms, pavilion

structure, bat house, and glass house; (iii) Integrated constructed wetland, surface water, wastewater and water infrastructure, including decommissioning / removal of 2 no. existing septic tanks and provision for 1 no. replacement septic tank; (iv) All ancillary site development works which include bin and bike stores, car parking, lighting, signage, and landscaping works; (v) The proposed development will be accessed from existing site entrance onto the N71 with no modification to entrances proposed, all at Killarney National Park, Torc (townland), Muckcross, Killarney, Co. Kerry.

2. Ecological survey and site assessment

2.1 Aim of Survey

This Bat Impact Assessment includes an internal survey for evidence of roosting bats, an emergence survey and a bat activity survey. The bat activity survey involved the deployment of a static detector on site. Each survey took place during the optimum time of year (May to September inclusive). The data collected will establish whether any bats are using the structure or the surrounding area, and to identify and implement measures to ensure that bats are not impacted by this proposed development.

2.2 Site location

The proposed development site ("site") is located in Killarney National Park, approximately 400 m northwest of Torc Waterfall, adjacent to the N71 road. It comprises an existing property, previously used as a stable and now partially renovated as a residential property on the eastern side of the building. Several shed buildings are located within the site boundary. Areas of grassland exist north of the building intended for renovation, as well as in the area where the integrated constructed wetland (ICW) is to be constructed.

The site is bounded directly to the south by a hedgerow, followed by the N71 road. Woodland habitat borders the western and eastern site boundaries. The northern boundary runs along the Owengariff watercourse and associated riparian vegetation, which flows east to west before entering Muckcross Lake approximately 150 m downstream. Pedestrian paths and private access roads intersect the site. The site is situated within the Killarney National Park SPA and directly beside the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC.



Figure 1: Proposed Site location in Killarney National Park, Killarney, County Kerry.

2.3 Relevant legislation

At both the European Union and Irish levels, bats are protected under a range of legislation aimed at conserving their populations and habitats. At the EU level, bats are protected under the *EU Habitats Directive (92/43/EEC)*, which designates bats as a species of European importance. Annex IV of the Directive lists all bat species as "strictly protected," prohibiting the capture, killing, or disturbance of bats, as well as the destruction of their breeding and resting sites. In Ireland, this is transposed into national law through the *Wildlife Act 1976* (and its amendments) and the *European Communities (Birds and Natural Habitats) Regulations 2011*. These laws require developers and landowners to ensure that any activities or projects do not harm bats or their habitats, and they mandate environmental assessments for any proposed development that may impact bat species.

Ireland's nine species of bats are all Red Data listed and receive protection through the Wildlife Act (1976 & 2000) and Annex IV of the EU Habitats Directive, under which it is an offence to intentionally disturb, kill or injure a bat or its resting place. This protection, therefore, encompasses the protection of bat habitats (Marnell, Kingston and Looney, 2009). This includes roost sites such as cavities in trees, cracks and crevices in buildings, both derelict and in use. Lesser Horseshoe Bats are further protected

under this act being an Annex II species. Annex II of the EU Habitats Directive lists animal and plant species of community interest that require the designation of Special Areas of Conservation (SAC's).

A total of 41 SAC's have been designated for the Lesser Horseshoe Bat, with 9 of these also selected for the Annex I habitat, "Caves Not Open to the Public" (*8310), this habitat is integrally linked to Lesser Horseshoe Bat as part of the habitat for the species.

2.4 Bats in the local area

An ecological desktop assessment was undertaken on the 5th of June 2025. The site is situated within the Killarney National Park SPA and directly beside the Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC. The Lesser Horseshoe Bat is listed as a Qualifying Interest for the Killarney National Park, Macgillicuddy's Reeks and Caragh River Catchment SAC and the development site lies within the core sustenance zone (CSZ) of known LHB roost sites. The site contains continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for foraging and/or commuting such as river valleys, streams, hedgerows, treelines, grazed parkland and woodland edge.

Table 1: Bat habitat suitability index.

Common Name	Scientific Name	Habitat Suitability Index
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	26
Brown long-eared bat	<i>Plecotus auritus</i>	36
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	29
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>	35
Lesser noctule	<i>Nyctalus leisleri</i>	28
Whiskered bat	<i>Myotis mystacinus</i>	7
Daubenton's bat	<i>Myotis daubentonii</i>	21
Nathusius's pipistrelle	<i>Pipistrellus nathusii</i>	0
Natterer's bat	<i>Myotis nattereri</i>	22

The Landscape Conservation for Irish Bats dataset was accessed via the online National Biodiversity Data Centre live mapping interface on the 6th of August 2025 (<https://maps.biodiversityireland.ie/Map>) to obtain background information on the suitability of the area for all of the Irish bat species. The area around the proposed development in Killarney National Park, Killarney, County Kerry has an overall Bat Suitability Index of 22.67 for all bat species according to the National Biodiversity Database online mapping system. This score indicates a moderate suitability for bats in the general area. The area was considered most favourable for Brown long-eared bat (*Plecotus auritus*) and Lesser Horseshoe bat

(*Rhinolophus hipposideros*) and least favourable for Nathusius's pipistrelle (*Pipistrellus nathusii*). The Habitat Suitability Indices score for each of these species is shown in Table 1.

In addition, records from the National Biodiversity Data Centre were assessed for the 1 km and 2 km grid square in which the site is located. This search revealed that the following bats were recorded within the 2 km grid square (V98S): Common Pipistrelle (*Pipistrellus pipistrellus*), Leisler's bat (*Nyctalus leisleri*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Brandt's bat (*Myotis brandtii*), Brown long-eared bat (*Plecotus auritus*), Lesser horseshoe bat (*Rhinolophus hipposideros*) and Natterer's bat (*Myotis natterii*). The following species have been recorded within the 1 km grid square (V9684): Common Pipistrelle (*Pipistrellus pipistrellus*), Leisler's bat (*Nyctalus leisleri*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Brandt's bat (*Myotis brandtii*), Brown long-eared bat (*Plecotus auritus*), and Natterer's bat (*Myotis natterii*).

2.5 Methodology

The basic methodology was that described by Kelleher & Marnell (2006) and Collins (2023). The field surveys were comprised of 2 parts: a preliminary roost assessment (PRA) and dusk emergency survey.

2.5.1 Preliminary roost assessment (PRA)

A PRA is a detailed inspection of the exterior and interior of a structure to look for features that bats could use for entry/exit and roosting and to search for signs of bats. The aim of this survey is to determine the actual or potential presence of bats and the need for further survey and/or mitigation. Evidence of bats might include live or dead specimens, bat droppings, urine splashes, fur-oil staining and/or squeaking noises.

2.5.2 Ground level tree assessment (GLTA)

A GLTA is a detailed inspection of the exterior of the tree from the ground to look for potential roost features (PRFs). The aim of the survey is to determine the available roosting resources and the need for further survey and/or mitigation. Surveyors systematically inspect the exterior of the tree during daylight hours. Torches and binoculars are used to illuminate shaded areas and focus in more detail. PRFs include features such as woodpecker holes, squirrel holes, knot holes, pruning cuts, tears and wounds as well as associated features such as mature ivy.

2.5.3 Dusk emergence survey

The purpose of this survey is to determine whether any bat species were roosting in the building proposed to be renovated and extended. This involved the deployment of surveyors to observe, listen for and record bats in flight. Surveyors should be in position 15 minutes before sunset and remain in position for 1.5 to 2 hours after sunset. During this time surveyors will record bat numbers, species and activity type. Elekon Batlogger M bat detectors were used to detect bat passes throughout the survey. It should be noted that each bat pass does not correlate to an individual bat but is representative of bat activity levels. Data collected was analysed using Kaleidoscope Pro acoustics software. All auto ID recordings were manually checked and amended if necessary.

2.5.4 Static survey

Automated/static bat activity surveys involve bat detectors being deployed at fixed locations to record bat activity remotely in order to establish species richness, provide a measure of relative abundance and establish the importance of different landscape features to bats. The Song Meter Mini Bat 2 static detector was used to record bat passes. It should be noted that each bat pass does not correlate to an individual bat but is representative of bat activity levels. Detectors were left in-situ for 6 days at each location. The acoustic files were analysed using Kaleidoscope Pro acoustics software. All auto ID recordings were manually checked and amended if necessary.

2.6 Results

Table 2 Survey Information.

Survey Type	Date	Start time	Finish time	Weather Conditions
PRA	11/06/2025	21:00	21:41	N/A
	18/06/2025	20:25	20:48	N/A
GLTA	25/07/2025	12:00	13:30	N/A
Emergence	11/06/2025	21:41	23:01	Dry, overcast, 14 ° C at sunset and humid, survey abandoned at 23:00 due to heavy rain
	18/06/2025	21:17	23:30	Dry, light breeze, sunny and 13 ° C at sunset.

5.2.1 Preliminary roost assessment

PRAs were carried out on the 11th of June 2025 and the 18th of June 2025 to identify PRFs in the interior and exterior of the buildings within the site boundary. Torc Cottage and the associated outbuildings were inspected for signs and/or presence of roosting bats. The external walls and windows in the centre and western side of Torc Cottages contained multiple cracks in the walls and a gap around an east facing window, indicating possible entry/exit points. No cracks were noted on the external walls to the east of Torc Cottages, which is currently used as a dwelling house. Ivy was present on some external walls. The outbuildings also contained entry/exit points and potential for roosting bats. There was no evidence of dead insects, urine or droppings and no live or dead bats were observed. It was noted that the roof lining currently in place is unsuitable roosting material. See Appendix I for site photos of Torc Cottage and associated outbuildings.

5.2.2 Ground level tree assessment (GLTA)

A GLTA was carried out on the 25th of July 2025 to identify PRFs in the exterior of the trees that require removal as part of the proposed works. All trees that require removal as part of the renovation works and the implementation of the ICW were assessed for the presence of PRFs. PRFs were identified in a total of five trees that require removal due to the presence of holes, crevices and/or mature ivy. See Appendix V for the photographs of the trees containing PRFs as well as their location within the site boundary.

5.2.3 Dusk Emergence survey

After identification of PRFs in the exterior wall of the main Torc Cottage building as well as some outbuildings, an emergence survey was carried out on the 11th of June 2025. Surveyors were positioned to ensure all PRFs were in clear view from 15 minutes before sunset. A total of 15 Soprano pipistrelle bats were recorded emerging from the front of Torc Cottage, from a gap around a window frame and from a gap between the gutter and the roof. Bats were recorded immediately upon commencement of the survey at 15 minutes before sunset. The survey was abandoned 30 minutes prior to the completion time due to heavy rainfall. It was concluded that a repeat of the emergence survey was required in order to obtain more detail on the numbers and species roosting in the building.

The emergence survey was repeated on the 18th of June 2025, with specific focus on the confirmed entry/exit points identified during the previous survey and with an earlier start time of 30 mins before sunset to account for possible early emergence. On this occasion significantly more bats were recorded emerging from Torc Cottage, from the same entry/exit points. A total of 64 bats were recorded exiting

the building, comprised of 34 Leisler's bats and 30 Soprano pipistrelle bats. The most favoured exit point was from the gap between the gutter and the roof. During this survey very clear chittering was heard before the commencement of the emergence survey until the roost was fully vacated. The dusk emergence survey commenced at 9.15 pm on the 13th of May 2025 and concluded at 11.30 pm, 1.5 hours after sunset (9.45pm).



Figure 2 Location of roost/exit points at the front of the building, facing east.

Other species recorded commuting/foraging in the area during this survey include Daubenton's bat, Leisler's bat, Common pipistrelle and Lesser Horseshoe bat. These findings were confirmed through desktop analysis of sound files using Kaleidoscope Pro software. The roost entry/exit points are shown in Figure 4.

5.2.4 Static survey

Static detectors were placed in 2 separate locations for a period of 6 nights per location between June and July. Static detectors were placed in close proximity to Torc Cottage where the greatest potential impact on bats is anticipated due to a combination of disturbance (construction and operational phases) and potential habitat loss (roost/tree removal). Static 1 was placed in a hedgerow bordering the driveway to Torc Cottage at the front of the building. Static 2 was placed further west, in a hedgerow bordering the field directly north of Torc Cottage with the intention of gathering information on a potential flight path west of Torc Cottage. A total of 302 bat passes were recorded by Static 1 and 600 bat passes were recorded by Static 2. Static 1 and Static 2 both recorded a total of 8 species. The Whiskered bat was only recorded at Static 2 and the Natterer's bat was only recorded at Static 1. All 9 bat species resident in Ireland were recorded within the site boundary. Figure 5 shows the location of Static 1 and 2 in relation to the structures on site and the ICW boundary.

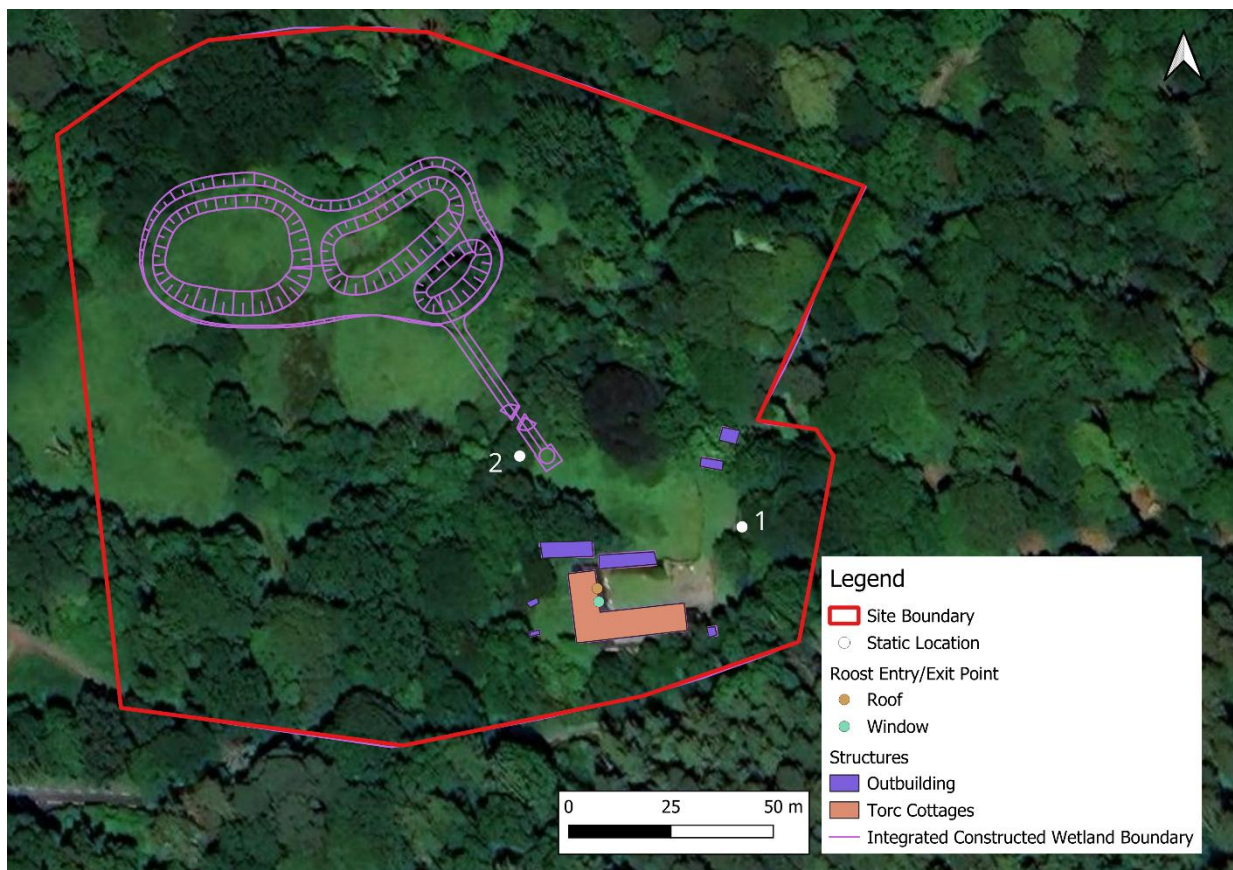


Figure 4 Map indicating the location of the static detectors as well as the location of the roost entry/exit points in Torc Cottage.

Table 3 Static detector locations and survey dates.

Static Number	Location (ITM)	Location Description	Start Date	Finish date	Total Survey Days
1	X496270 Y584792	In a hedgerow bordering the driveway to Torc Cottage	11/06/2025	16/06/2025	6
2	X496208 Y584802	In a hedgerow west of the grassland area located north of Torc Cottages.	02/07/2025	07/07/2025	6

Figure 5 shows that the most commonly detected species for Static 1 were Common pipistrelles and Soprano pipistrelles. The most commonly detected species for Static 2 were Soprano pipistrelles and Leisler's bats. Moderate numbers of Leisler's bats were detected by Static 1. Moderate numbers of Brown long-eared bats, Daubenton's bats, Lesser horseshoe bats and Common pipistrelle were detected by Static 2. Small numbers of Brown long-eared bats, Daubenton's bats, Natterer's bats, Lesser horseshoe bats, Nathusius's pipistrelle and other *Myotis* species were detected by Static 1. Smaller numbers of Whiskered bats, Nathusius's pipistrelle and other *Myotis* species were detected by Static 2. These findings were confirmed through desktop analysis of sound files using Kaleidoscope Pro software.

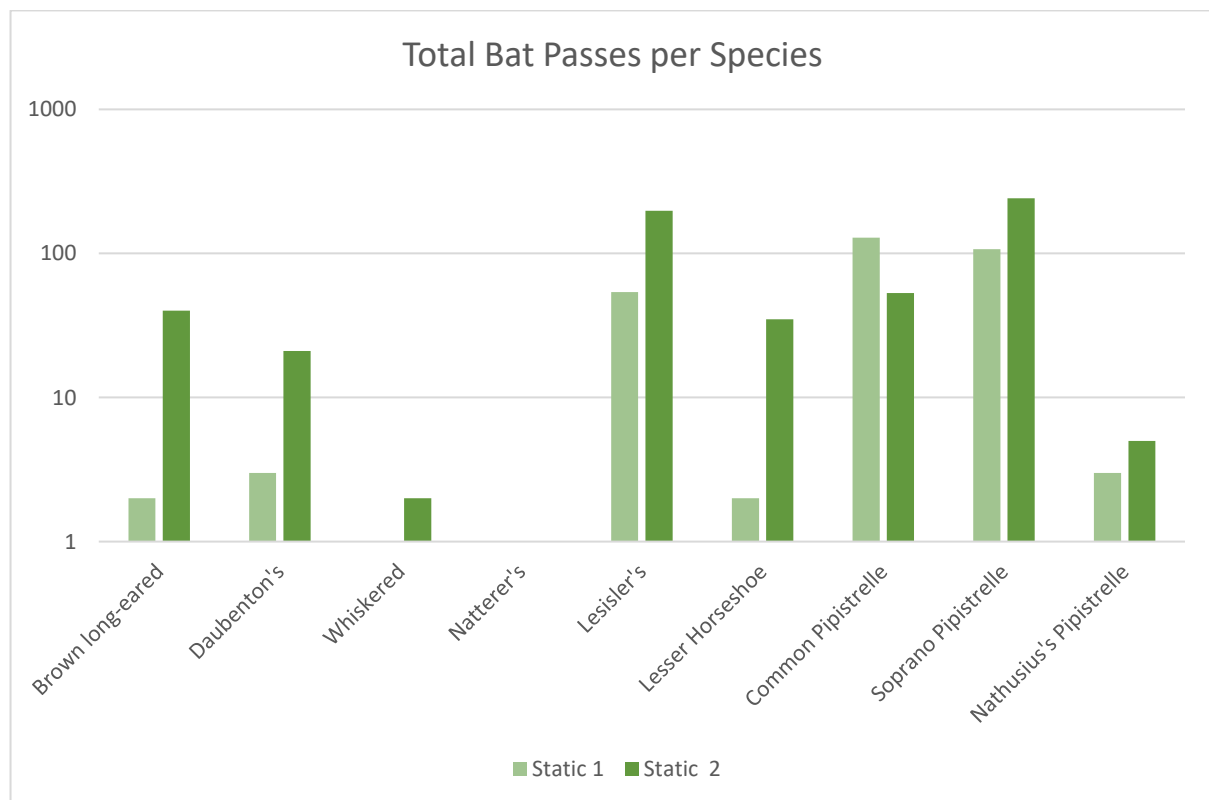


Figure 5 Number of bat passes detected by Static 1 and Static 2.

Table 4 Total number of bat passes per species per static.

Species	Static 1	Static 2
Brown long-eared	2	40
Daubenton's	3	21
Whiskered	0	2
Natterer's	1	0
Leisler's	54	198
Lesser Horseshoe	2	35
Common Pipistrelle	129	53
Soprano Pipistrelle	107	241
Nathusius's Pipistrelle	3	5
Total	301	595

2.7 Discussion

Soprano pipistrelle bats and Leisler's bats were detected emerging from the front of the building during the emergence surveys, indicating that a roost is present on site. Since no bats were observed inside the building, it can be deduced that the bats are roosting between the roof tiles and the internal wooden slats. Given the number of individuals recorded emerging during the emergence survey (> 20 individuals) and the nature of the structure, the roost can be considered a maternity roost for both species ((Reason and Wray, 2023)). Leisler's bats were not recorded during the first emergence survey on the 11th of June, however, this species is known to roost swap. One roost is often occupied for only a few days before the colony moves to another roost. The bats are very vocal prior to emergence and are particularly noisy on hot summer days, producing a loud metallic sounding call.

Although both static locations recorded 8 bat species, activity was significantly higher to the west of Torc Cottage (Static 2) where 600 bat passes were recorded in contrast to 302 for Static 1. The hedgerow to the west of Torc Cottage is considerably more sheltered from noise and light disturbance and, therefore, is more suitable for bats. Additionally, this western hedgerow provides a high-quality, continuous linear habitat that is well-connected to the wider landscape. Static 1 was placed in an area that is more exposed to human activity as it borders the driveway to the eastern end of Torc Cottage which is currently occupied. It can, therefore, be expected that more sensitive species such as Lesser horseshoe bat, will be recorded less frequently here. Common pipistrelle and Soprano pipistrelle, which are less sensitive to anthropogenic disturbance, were the most commonly recorded species by Static 1.

However, the mitigation below recommends that the roost be retained within the roof. A modified roof tile will be installed to allow the bats to access the roof cavity species between the tiles and the internal

wooden slats. Additionally, a bat box will be erected on the eastern facing wall at the front of the building, close to where the current entry/exit point is located. A space within the loft area will be modified for use as a Lesser horseshoe bat roost, given the presence of the species in the area. Tree roosts may also be damaged as a result of the project, through the removal of trees to accommodate the integrated constructed wetland. These trees will need to be removed through soft felling to allow bats to make their way out of the trees. This should ideally be carried out in September or October to avoid maternity or hibernation roosts.

Although not ideal for most species, there is potential for the building to be used as a hibernation roost due to the confirmed presence of a moderately sized maternity roosts, as well as the high level and diversity of foraging and commuting bats within the site boundary. To prevent disturbance to possible hibernating bats, the roof should be removed in sections under the supervision of an ecologist.

There is potential for disturbance for commuting and foraging bats in the area. However, mitigation recommends specific lighting for the operational phase of the project and limits the use of artificial light during the construction phase. Additionally, there will be limited removal of vegetation and hedgerows/treelines currently on site will be enhanced through the planting of native species to complement the current composition.

2.8 Mitigation

Given the presence of a roost on site, it is recommended that the following mitigation be implemented.

Subject of Mitigation Measures	Measure	How the measure will avoid/prevent/reduce impacts	Confidence in the likely success of the measure	Timescale for Implementation	Monitoring requirements
All ecological aspects of the proposed development .	An appropriately qualified and experienced contractor will be appointed to undertake the work and will be: - required to take account of the environmental sensitivities of the site; - required to comply with obligations to protect qualifying interests/special conservation interests of Natura sites - required to implement all aspects of the Bat Impact Assessment	Measure will ensure that: - the qualifications and experience of the appointed individual will be expected to understand and adhere to environmental regulations, ensuring that construction activities minimise negative impacts of the project and comply with relevant laws. - will have the expertise to identify potential environmental risks associated with the	Measures prescribed is best practice as prescribed by the Construction Industry Research and Information Association.	Measure will be in place from the commencement of works to the end of the construction phase.	The Developer is responsible for the appointment of a suitable qualified Contractor. The appointed Contractor shall undertake the work.

		construction activities and implement the measures to mitigate outlined in this report.			
Roosting bats.	Works on the building are not to take place between March 31 st and September 30 th .	There are Leisler's and Soprano pipistrelle bats roosting in the building. Bats can be found roosting in summer roosts between this time period. Working outside of this timeframe will allow the bats to have left the building and moved to a winter hibernation roost.	Measures prescribed by Bat Conservation Trust, 2023, the National Parks and Wildlife Service (NPWS) and as best practice and are proven technologies/methods .	Measures will take place in advance of, during and to the end of the construction phase.	The contractor will be responsible for the regular maintenance of these controls. The effectiveness of these controls will be regularly monitored by a suitably qualified ecologist.
Roosting bats.	A derogation license will be required in order to carry out works on the building.	As this building is a confirmed roost of an Annex IV species a derogation license will be required from National Parks and Wildlife Services (NPWS) to allow works to take place on the building.	Required by Law.	This license is to be applied for and received prior to any works on the building commencing.	The works are to be supervised by a suitably qualified bat ecologist. On completion of the works a report is to be submitted to NPWS detailing results of works and the success of applied mitigation measures. This is to be done by a suitably qualified ecologist.

Roosting bats.	A bat emergence survey is to be carried out prior to works on the building commencing if works are to start before November 1st. Work on the roof will be supervised by an ecologist and will be carried out in sections to avoid disturbance to bats. Roof works should be carried out in spring or autumn to prevent disturbance to potentially hibernating bats.	This is to ensure that the bats have left the roost so that no bats will be harmed or disturbed by these works.	Measures prescribed by Bat Conservation Trust, 2023, the National Parks and Wildlife Service (NPWS) and as best practice and are proven technologies/methods .	Prior to works commencing.	This is to be carried out by a suitably qualified ecologist.
Roosting bats.	The trees highlighted for removal that contained potential roost features (PRFs) (see Appendix V) should be removed by soft felling where tree limbs are cut and left grounded over night to allow any bats to make their way out. This should ideally occur in September/October to avoid maternity or hibernating bats as much as possible (Bat Conservation Trust, 2018)	This is to ensure that no bats will be harmed or disturbed by these works.	Measures prescribed by Bat Conservation Trust, 2023, the National Parks and Wildlife Service (NPWS) and as best practice and are proven technologies/methods .	Prior to works commencing.	This is to be carried out by a suitably qualified ecologist.
Roosting bats.	Leisler's and Soprano pipistrelle bats: Due to the presence of a roost for both species the following is recommended: • NPWS have recommended that the roost be maintained within the roof cavity space. • The felt lining will be replaced with bitumen lining to best support bat species. • A raised slate can be installed to allow access to the space for bats (see Appendix VI).	This will provide roosting for Leisler's and Soprano pipistrelle bats that had previously been roosting within the building.	Measures prescribed by Bat Conservation Trust, 2023, the National Parks and Wildlife Service (NPWS) and as best practice and are proven technologies/methods .	These boxes are to be installed following the completion of works.	These boxes and their positioning on the building are to be approved by a suitably qualified ecologist.

	• A bat box will be installed on the eastern facing wall at the front of the building, where the entrance/exit point has been identified e.g. bat boxes suggested in https://www.batconservationireland.org/wp-content/uploads/2013/09/Leaflet_3_batboxes.pdf. • Works on the roof/roost should be complete before the spring season (1st of April) to ensure there is a roost available for the bats after hibernation. Lesser horseshoe bat: Due to the presence of LHB in the area, NPWS recommended modifying the loft space for use as a LHB roost. The following is recommended: • NPWS approval is required for the final design of the roost. • The loft/roost needs to be a sufficient space for in-flight movement within the roost. NPWS and Bat Conservation Ireland (BCI) recommend large open spaces, as these bats often fly within the roost before exiting. • The spaces should be unobstructed by constructional timbers. LHB need clear flight paths internally. Obstructions like beams or trusses reduce suitability. Use of king post or queen post designs (instead of multiple horizontal supports) is often recommended. • The roost should be in a roof space with an apex. An apex roof helps provide variable microclimates				
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	and increased flight space, both important for LHBs. • The recommended height from floor to the top of the apex is in excess of 2.8 meters with a recommended width and length of 5 meters. This provides sufficient thermal buffering and flight space. • Ideally one of the roof pitches should be positioned to optimise solar gain and create warmer roost conditions. • Ensure the loft has good insulation (sound, light and heat) and is draught-free to maintain suitable microclimate. • Adding horizontal ridge beams below the apex provides preferred roosting spots. • No external lighting at the entrance. The entrance being at a height of 3-4 meters to align with natural flight paths. I would suggest that the entrance will need to be at the rear of the building. • For LHB the entrance should be 30cm x 20cm. • There should be access built into the roost to allow for monitoring of the roost. • The roof lining in the building, the lining should be made of traditional bitumen.				
Bat flight paths	Retain the hedgerows and treelines bordering the site where possible. Fill any gaps with native hedgerow species similar to those present on site.	Retention will preserve existing commuting and foraging routes and further reduce disturbance to	Measures prescribed by Bat Conservation Trust, 2023, the National Parks and Wildlife Service (NPWS) and as best practice and are	Measures will take place in advance of the construction phase and will continue during	These control measures will be implemented and regularly inspected by the Environmental Officer. The contractor will be responsible for the regular maintenance of

		foraging habitat west of the site.	proven technologies/methods .	the operational phase.	these controls. The effectiveness of these controls will be regularly monitored by the project Ecologist and the Environmental Officer.
Lighting	• Light should only be erected where it is needed, illuminated during the period it will be used, and at the level that enhance visibility. • All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. A warm white light source (2700 Kelvin or lower) should be adopted to reduce blue light component if possible. Light sources should feature peak wavelengths higher than 550 nm if possible, to avoid the component of light most disturbing to bats. • Use the lowest levels of lighting permitted for health and safety. • Direct light away from the hedgerow/treeline bordering the site, where possible. • Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill. • Low level lighting less than 1 m should be used (including columns) as it is the higher projecting	The proposed development will result in an increase of introduced light to the site both during construction and once operational. Bat species are sensitive to light pollution and so the implementation of these mitigation measures will ensure there is no negative impacts of light pollution on the population of Bat species.	Measures prescribed by Bat Conservation Trust, 2023, the National Parks and Wildlife Service (NPWS) and as best practice and are proven technologies/methods .	Measures will be in place during the design phase from the commencement of the construction phase and will continue during the operational phase.	These control measures will be implemented and regularly inspected by the Contractor/Environmental Officer. The contractor will be responsible for the regular maintenance of these controls. The effectiveness of these controls will be regularly monitored by the project Ecologist and the Environmental Officer.

	lighting that is of concern, so the traditional high level street lighting is to be avoided. • Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered. • Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt. • Where appropriate, external security lighting should be set on motion sensors and set to as short as possible a timer (1-2 minutes approximately) as the risk assessment will allow. • Reduce light spill so that light reaches only areas needing illumination. Shielding or cutting light can be achieved through the design of the luminaire or with accessories, such as hoods, cowls, louvres and shields to direct the light. • From May to September inclusive construction works are not to take place from dusk to dawn. Artificial lighting is to be kept to an absolute minimum during this time. • Limit the times that lights are on to provide some dark periods for wildlife. • Limit light along the western boundary of the site.				
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2.9 Conclusion

Southern Scientific Services Ltd was commissioned by Jenny O' Leary of Howff Architects on behalf of NPWS to carry out a bat survey at Torc Cottages, Killarney National Park, Killarney, County Kerry in response to a RFI issued by KCC.

Emergence surveys revealed that Torc Cottage is currently being used as a maternity roost by both Soprano pipistrelle bats and Leisler's bats. Static detectors revealed that bat activity was significantly higher along the western boundary when compared to the east of the site, although a total of 8 species was recorded at both locations. Lesser horseshoe bat was recorded in both static locations, although more bat passes were recorded in the west.

The mitigation provided in Section 2.8 will ensure that bat populations in the area are not adversely impacted as a result of the proposed development.

3. Evidence to support the derogation tests

3.1 Test 1 – Reason for derogation

The proposed development involves the construction of a nature education centre and all ancillary site development works at Torc Cottages, Killarney National Park, Killarney, County Kerry. Renovation of the building will allow for the provision of an education centre within the national park, with reduced requirement for additional construction resources, reducing cost and carbon footprint and promoting green development.

Following an emergence survey, the building was identified as a roost for both Soprano pipistrelles and Leisler's bats. The roost was classified as a maternity roost for both Soprano pipistrelle and Leisler's bats due to the number of bats emerging (> 20 individuals of both species). The bats were recorded emerging from a gap around a window frame and from a gap between the gutter and the roof. It can be deduced that the bats were roosting in the roof cavity space as no bats were observed in the upper floor of the building. Although retention of the roost in-situ is recommended in the mitigation, the current roost will be damaged due to the required renovation works on the building, hence the reason for derogation.

3.2 Test 2 – Absence of alternative solutions

Do Nothing:

The building will be retained in derelict condition, preventing its use as an education centre within the national park. Without maintenance, it is expected that the building will eventually become unsuitable

for bat roosting due to the continued deterioration of the roof over time. The lining within the roof at present is known to be unsuitable for roosting bats, with many becoming stuck in the material as it begins to degrade.

Proceed without mitigation:

Commencing the project without implementing the suggested mitigation could result in direct harm and/or disturbance to Soprano pipistrelle and Leisler's bats that are currently using the building as a roost. Additionally, other bat species such as Lesser horseshoe bat, which was recorded foraging/commuting beside the building, could be disturbed as a result of a removal of habitat and/or implementation of unsuitable lighting.

3.3 Test 3 – Impact of derogation on conservation status

Soprano pipistrelle bats and Leisler's bats were detected emerging from the front of the building during the emergence surveys, indicating that a roost is present on site. Since no bats were observed inside the building, it can be deduced that the bats are roosting between the roof tiles and the internal wooden slats. Given the number of individuals recorded emerging during the emergence survey (> 20 individuals) and the nature of the structure, the roost can be considered a maternity roost for both species ((Reason and Wray, 2023)). Leisler's bats were not recorded during the first emergence survey on the 11th of June, however, this species is known to roost swap. One roost is often occupied for only a few days before the colony moves to another roost. The bats are very vocal prior to emergence and are particularly noisy on hot summer days, producing a loud metallic sounding call.

Although both static locations recorded 8 bat species, activity was significantly higher to the west of Torc Cottage (Static 2) where 600 bat passes were recorded in contrast to 302 for Static 1. The hedgerow to the west of Torc Cottage is considerably more sheltered from noise and light disturbance and, therefore, is more suitable for bats. Additionally, this western hedgerow provides a high-quality, continuous linear habitat that is well-connected to the wider landscape. Static 1 was placed in an area that is more exposed to human activity as it borders the driveway to the eastern end of Torc Cottage which is currently occupied. It can, therefore, be expected that more sensitive species such as Lesser horseshoe bat, will be recorded less frequently here. Common pipistrelle and Soprano pipistrelle, which are less sensitive to anthropogenic disturbance, were the most commonly recorded species by Static 1.

However, the mitigation below recommends that the roost be retained within the roof. A modified roof tile will be installed to allow the bats to access the roof cavity species between the tiles and the internal wooden slats. Additionally, a bat box will be erected on the eastern facing wall at the front of the

building, close to where the current entry/exit point is located. and that a space be modified for use as a Lesser horseshoe bat roost, given the presence of the species in the area. A space within the loft area will be modified for use as a Lesser horseshoe bat roost, given the presence of the species in the area. Tree roosts may also be damaged as a result of the project, through the removal of trees to accommodate the integrated constructed wetland. These trees will need to be removed through soft felling to allow bats to make their way out of the trees. This should ideally be carried out in September or October to avoid maternity or hibernation roosts.

There is potential for disturbance for commuting and foraging bats in the area. However, mitigation recommends specific lighting for the operational phase of the project and limits the use of artificial light during the construction phase. Additionally, there will be limited removal of vegetation and hedgerows/treelines currently on site will be enhanced through the planting of native species to complement the current composition.

The mitigation provided in Section 2.8 will ensure that bat populations in the area are not adversely impacted as a result of the proposed development.

4. Monitoring the impacts of the derogations

Derogations require the submission of a report to the NPWS on the activity carried out and details of numbers and species affected. To this effect, a report will be prepared addressing all conditions specified in the derogation licence, confirming that all mitigation measures were adhered to and implemented as specified in Section 2.8. A repeat bat activity survey will be carried out at a suitable time of year to establish whether bats are roosting in the bat box and investigate whether bat activity has changed around the site during the operational phase of the development.

5. References

- Collins, J., 2016. *Bat surveys for professional ecologists : good practice guidelines*.
- Collins, J. (ed.), 2023. *Bat Surveys for Professional Ecologists : Good Practice Guidelines (4th edition)*. Bat Conversation Trust.
- Kelleher, C. and Marnell, F., 2006. *Bat mitigation guidelines for Ireland*. [online] *Irish Wildlife Manuals, No.25*. Dublin, Ireland. Available at: <<http://www.warksbats.co.uk/pdf/Batmitigationguide.pdf>>.
- Lundy, M., Montgomery, W., Roche, N. and Aughney, T., 2011a. Landscape conservation for Irish bats & species specific roosting characteristics. *Bat Conservation Ireland*. [online] Available at: <http://www.batconservationireland.org/pubs/reports/Landscape_Conservation_Irish_Bats.pdf>.
- Lundy, M.G., Ian Montgomery, W., Dublin, S., Carden, R., Cassidy, D., Firth, J., Kingston, N., Looney, D., Lynn, D., Marnell, F., McFerran, D. and and, B., 2011b. *Landscape conservation for Irish bats & species specific roosting characteristics*. [online] Available at: <www.batconservationireland.org>.
- Marnell, F., Kingston, N. and Looney, D., 2009. Ireland Red List No. 3: Terrestrial Mammals. *National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland*.
- Reason, P.F. and Wray, S., 2023. *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.1*. Chartered Institute of Ecology and Environmental Management, Ampfield.

Appendix I Site Photos



Plate 1 Eastern facing wall at front of building.



Plate 2 Outbuildings.



Plate 3 Interior of building where roost was identified. Photo facing up towards loft facing west.



Plate 4 Ground floor of building below the identified roost.

Appendix II Raw Data from Emergence Surveys

Code	Species
NYCLEI	Leisler's
MYOMYS	Whiskered bat
RHIHIP	Lesser horseshoe bat
PLEAUR	Brown-long-eared bat
MYONAT	Natterer's bat
PIPPYG	Soprano pipistrelle
PIPIIP	Common pipistrelle
MYODAU	Daubenton's bat
PIP NAT	Nathusius's pipistrelle

Emergence Survey 11/06/2025:

Surveyor 1			Surveyor 2		
DATE	TIME	MANUAL ID	DATE	TIME	MANUAL ID
11/06/2025	21:41:41	PIPPYG	11/06/2025	21:43:51	PIPIIP
11/06/2025	21:41:48	PIPPYG	11/06/2025	21:44:52	PIPPYG
11/06/2025	21:42:05	NYCLEI	11/06/2025	21:45:24	PIPPYG
11/06/2025	21:42:19	PIPPYG	11/06/2025	21:45:35	PIPPYG
11/06/2025	21:42:23	PIPPYG	11/06/2025	21:45:40	PIPPYG
11/06/2025	21:42:34	PIPPYG	11/06/2025	21:47:25	PIPPYG
11/06/2025	21:43:06	PIPIIP	11/06/2025	21:47:28	PIPPYG
11/06/2025	21:43:23	PIPIIP	11/06/2025	21:47:56	PIPPYG
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11/06/2025	21:45:14	PIPPYG	11/06/2025	21:49:07	PIPPYG
11/06/2025	21:47:29	PIPPYG	11/06/2025	21:50:45	PIPIIP
11/06/2025	21:47:33	PIPPYG	11/06/2025	21:53:02	PIPPYG
11/06/2025	21:48:12	PIPPYG	11/06/2025	21:53:05	PIPPYG
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11/06/2025	21:58:30	PIPPYG	11/06/2025	22:11:32	PIPPYG
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11/06/2025	22:03:41	PIPIIP	11/06/2025	22:19:07	PIPPYG
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11/06/2025	22:05:38	PIPPIP	11/06/2025	22:41:33	NYCLEI
11/06/2025	22:10:38	PIPPYG	11/06/2025	22:41:35	RHIHIP
11/06/2025	22:11:14	PIPPYG	11/06/2025	22:47:05	RHIHIP
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11/06/2025	22:24:50	PIPPYG	11/06/2025	22:59:27	MYODAU
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11/06/2025	22:36:43	PIPPYG	11/06/2025	23:01:31	RHIHIP
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11/06/2025	22:58:40	MYODAU			
11/06/2025	23:00:07	NYCLEI			

Emergence Survey 18/06/2025:

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18/06/2025	22:45:45	PIPPYG
18/06/2025	22:45:51	PIPPYG
18/06/2025	22:46:55	PIPPYG
18/06/2025	22:48:57	PIPPYG
18/06/2025	22:49:12	PIPPYG

18/06/2025	22:49:26	PIPPYG
18/06/2025	22:49:29	PIPPYG
18/06/2025	22:51:37	MYOTIS
18/06/2025	22:52:41	PIPPYG

Appendix III Raw Data from Static Surveillance

Code	Species
NYCLEI	Leisler's
MYOMYS	Whiskered bat
RHIHIP	Lesser horseshoe bat
PLEAUR	Brown-long-eared bat
MYONAT	Natterer's bat
PIPPYG	Soprano pipistrelle
PIPIPI	Common pipistrelle
MYODAU	Daubenton's bat
PIP NAT	Nathusius's pipistrelle

Static 1			Static 2		
DATE	TIME	MANUAL ID	DATE	TIME	MANUAL ID
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11/06/2025	21:45:59	PIPIPI	02/07/2025	22:44:49	RHIHIP
11/06/2025	21:49:12	PIPIPI	02/07/2025	22:45:42	RHIHIP
11/06/2025	21:56:09	PIPIPI	02/07/2025	22:48:13	PIPPYG
11/06/2025	22:02:00	PIPPYG	02/07/2025	22:48:21	PIPPYG
11/06/2025	22:06:29	PIPIPI	02/07/2025	22:49:19	PIPPYG
11/06/2025	22:52:38	NYCLEI	02/07/2025	22:49:53	RHIHIP
11/06/2025	22:59:50	PIPIPI	02/07/2025	22:52:14	RHIHIP
11/06/2025	23:16:28	MYODAU	02/07/2025	22:53:14	RHIHIP
11/06/2025	23:42:08	PIPIPI	02/07/2025	22:55:27	RHIHIP
11/06/2025	23:48:19	PIPIPI	02/07/2025	22:58:31	RHIHIP
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12/06/2025	21:31:33	NYCLEI	02/07/2025	23:13:32	NYCLEI
12/06/2025	21:31:48	NYCLEI	02/07/2025	23:21:32	MYODAU
12/06/2025	21:31:55	NYCLEI	02/07/2025	23:28:37	NYCLEI
12/06/2025	21:37:56	NYCLEI	02/07/2025	23:37:17	RHIHIP
12/06/2025	21:38:23	NYCLEI	02/07/2025	23:56:48	NYCLEI
12/06/2025	21:38:42	NYCLEI	03/07/2025	00:04:09	PIPPYG
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12/06/2025	21:39:38	NYCLEI	03/07/2025	03:07:36	PIPPYG
12/06/2025	21:39:43	NYCLEI	03/07/2025	03:08:50	NYCLEI
12/06/2025	21:39:58	NYCLEI	03/07/2025	03:52:10	PLEAUR
12/06/2025	21:40:13	NYCLEI	03/07/2025	04:15:30	PIPIPI
12/06/2025	21:40:28	NYCLEI	03/07/2025	04:16:22	MYODAU
12/06/2025	21:40:44	NYCLEI	03/07/2025	04:17:53	MYOTIS
12/06/2025	21:41:07	NYCLEI	03/07/2025	04:20:09	PLEAUR

12/06/2025	21:41:22	NYCLEI	03/07/2025	04:26:46	PIPPYG
12/06/2025	21:41:34	NYCLEI	03/07/2025	04:27:16	PIPPYG
12/06/2025	21:41:50	NYCLEI	03/07/2025	04:30:47	PIPPIP
12/06/2025	21:42:04	NYCLEI	03/07/2025	04:34:24	MYOTIS
12/06/2025	21:42:23	NYCLEI	03/07/2025	04:35:21	PIPPYG
12/06/2025	21:42:36	NYCLEI	03/07/2025	04:35:38	PIPPYG
12/06/2025	21:45:05	NYCLEI	03/07/2025	04:37:06	PIPPYG
12/06/2025	21:45:50	NYCLEI	03/07/2025	04:37:21	PIPPYG
12/06/2025	21:53:02	NYCLEI	03/07/2025	04:37:35	PIPPYG
12/06/2025	21:54:45	PIPPIP	03/07/2025	04:38:02	PIPPYG
12/06/2025	21:57:38	PIPPIP	03/07/2025	04:38:29	PIPPYG
12/06/2025	21:59:35	NYCLEI	03/07/2025	04:42:11	PIPPYG
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12/06/2025	22:04:14	PIPPYG	03/07/2025	04:43:59	PIPPYG
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12/06/2025	22:04:37	PIPPYG	03/07/2025	04:44:21	MYODAU
12/06/2025	22:04:54	PIPPYG	03/07/2025	04:44:34	PIPPYG
12/06/2025	22:05:05	PIPPYG	03/07/2025	04:44:48	PIPPYG
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12/06/2025	22:05:42	PIPPYG	03/07/2025	04:45:09	PIPPYG
12/06/2025	22:08:02	PIPPYG	03/07/2025	04:45:18	PIPPYG
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12/06/2025	22:10:35	PIPPYG	03/07/2025	04:47:17	PIPPYG
12/06/2025	22:17:03	NYCLEI	03/07/2025	04:48:56	PIPPYG
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12/06/2025	22:18:34	PIPPYG	03/07/2025	21:45:49	NYCLEI
12/06/2025	22:18:46	PIPPYG	03/07/2025	22:02:49	PIPPYG
12/06/2025	22:20:25	PIPPYG	03/07/2025	22:10:41	PIPPYG
12/06/2025	22:21:26	PIPPIP	03/07/2025	22:14:28	PIPPYG
12/06/2025	22:56:37	NYCLEI	03/07/2025	22:15:05	PIPPYG
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12/06/2025	23:43:57	NYCLEI	03/07/2025	22:27:15	PIPPYG
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13/06/2025	00:11:56	NYCLEI	03/07/2025	22:44:14	PIPPYG
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13/06/2025	00:14:06	PIPPYG	03/07/2025	22:57:44	PIPPYG
13/06/2025	00:14:22	PIPPIP	03/07/2025	23:03:27	PIPPYG
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13/06/2025	00:20:43	PIPPYG	03/07/2025	23:15:52	NYCLEI
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13/06/2025	00:26:55	PIPPIP	03/07/2025	23:33:58	PIPPYG
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13/06/2025	00:32:31	PIPPIP	04/07/2025	00:13:28	PLEAUR
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14/06/2025	22:59:07	PIPPIP	04/07/2025	03:07:00	PIPPYG

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14/06/2025	23:36:37	NYCLEI	04/07/2025	03:41:32	NYCLEI
14/06/2025	23:37:57	PIPPIP	04/07/2025	04:04:18	PIPPYG
14/06/2025	23:41:37	NYCLEI	04/07/2025	04:14:03	PIPPYG
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15/06/2025	01:36:07	PIPPIP	04/07/2025	04:28:13	MYODAU
15/06/2025	01:44:01	PIPPIP	04/07/2025	04:32:59	MYODAU
15/06/2025	01:47:35	NYCLEI	04/07/2025	04:45:08	PIPPYG
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15/06/2025	04:30:32	PIPPIP	04/07/2025	04:58:07	PIPPYG
15/06/2025	04:33:12	MYODAU	04/07/2025	05:03:55	PIPPYG
15/06/2025	04:42:14	NYCLEI	04/07/2025	05:08:49	PIPPYG
15/06/2025	04:45:17	PIPPYG	04/07/2025	05:15:18	NYCLEI
15/06/2025	04:48:23	PIPPIP	05/07/2025	22:09:24	NYCLEI
15/06/2025	04:48:46	PIPPYG	05/07/2025	22:09:35	PIPPYG
15/06/2025	04:57:58	PIPPIP	05/07/2025	22:10:21	PIPPYG
15/06/2025	04:59:49	PIPPYG	05/07/2025	22:10:30	PIPPYG
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15/06/2025	05:09:31	PIPPIP	05/07/2025	22:23:19	NYCLEI
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15/06/2025	05:15:04	PIPPIP	05/07/2025	22:23:49	NYCLEI
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15/06/2025	22:28:53	NYCLEI	05/07/2025	22:26:25	NYCLEI
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15/06/2025	22:40:32	PIPPIP	05/07/2025	22:28:01	NYCLEI
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15/06/2025	22:41:52	PIPPIP	05/07/2025	22:31:59	NYCLEI
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15/06/2025	23:42:34	PIPPIP	05/07/2025	22:41:35	RHIHIP
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15/06/2025	23:59:48	NYCLEI	05/07/2025	22:45:38	RHIHIP
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16/06/2025	00:15:45	PIPPYG	05/07/2025	22:46:59	RHIHIP
16/06/2025	00:17:38	PIPPIP	05/07/2025	22:47:23	NYCLEI
16/06/2025	00:18:29	PIPPIP	05/07/2025	22:47:45	PLEAUR
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16/06/2025	00:49:03	PIPPYG	05/07/2025	22:48:57	NYCLEI
16/06/2025	00:57:38	PIPPIP	05/07/2025	22:50:30	RHIHIP
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16/06/2025	01:25:53	PIPPIP	05/07/2025	23:11:30	NYCLEI
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16/06/2025	01:30:05	PIPPYG	05/07/2025	23:19:47	MYODAU
16/06/2025	01:31:15	PIPPIP	05/07/2025	23:19:58	NYCLEI
16/06/2025	01:36:12	PIPPIP	05/07/2025	23:20:14	NYCLEI
16/06/2025	01:46:08	PIPPIP	05/07/2025	23:22:35	PIPPIP
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16/06/2025	02:25:19	PIPPIP	05/07/2025	23:37:07	NYCLEI
16/06/2025	02:42:57	PIPPYG	05/07/2025	23:37:15	NYCLEI
16/06/2025	02:43:19	PIPPYG	05/07/2025	23:37:40	NYCLEI
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16/06/2025	03:05:08	NYCLEI	05/07/2025	23:39:24	NYCLEI
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16/06/2025	04:26:36	PIPPIP	05/07/2025	23:46:37	PIPPYG
16/06/2025	04:33:56	PIPPYG	05/07/2025	23:46:46	PIPPYG

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16/06/2025	04:35:50	PIPPYG	05/07/2025	23:53:35	PLEAUR
16/06/2025	04:37:02	PIPPYG	06/07/2025	00:06:23	NYCLEI
16/06/2025	04:43:04	PIPIPI	06/07/2025	00:11:58	PLEAUR
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16/06/2025	04:50:08	PIPIPI	06/07/2025	00:25:28	NYCLEI
16/06/2025	04:51:53	PIPPYG	06/07/2025	00:30:15	MYODAU
16/06/2025	04:54:11	PIPPYG	06/07/2025	00:37:08	PIPPYG
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16/06/2025	22:50:53	PIP NAT	06/07/2025	01:16:46	PIPPYG
16/06/2025	23:03:42	RHIHIP	06/07/2025	01:17:33	PIPPYG
16/06/2025	23:12:50	RHIHIP	06/07/2025	01:23:44	PIPPYG
16/06/2025	23:24:53	PIPIPI	06/07/2025	01:24:54	NYCLEI
16/06/2025	23:29:21	PIPPYG	06/07/2025	01:33:48	PIPPYG
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16/06/2025	23:51:25	PIPPYG	06/07/2025	02:05:48	PIPPYG
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17/06/2025	00:28:47	PIPPIP	06/07/2025	03:19:48	PIPPYG
17/06/2025	00:29:08	PIPPIP	06/07/2025	03:35:16	PIPPYG
17/06/2025	00:31:35	PIPPYG	06/07/2025	03:41:18	PIPPIP
17/06/2025	00:40:55	MYODAU	06/07/2025	03:45:48	PIPPIP
17/06/2025	00:49:20	PIPPYG	06/07/2025	03:49:08	PLEAUR
17/06/2025	00:54:26	PIPPYG	06/07/2025	03:49:26	PIPPYG
17/06/2025	01:18:46	PIPPYG	06/07/2025	03:56:04	MYODAU
17/06/2025	01:24:08	PIPPYG	06/07/2025	04:05:54	PIPPYG
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17/06/2025	01:36:14	NYCLEI	06/07/2025	04:22:34	PIPPIP
17/06/2025	01:38:10	PIPPIP	06/07/2025	04:29:24	MYODAU
17/06/2025	01:38:59	PIPPIP	06/07/2025	04:30:44	NYCLEI
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17/06/2025	01:48:18	PIPPYG	06/07/2025	04:43:55	PIPPYG
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17/06/2025	01:52:22	PIPPIP	06/07/2025	04:45:25	PIPPYG
17/06/2025	02:11:08	PIPPIP	06/07/2025	04:45:34	PIPPYG
17/06/2025	02:11:39	PIPPIP	06/07/2025	04:52:48	PLEAUR
17/06/2025	02:25:52	PIPPYG	06/07/2025	05:03:48	PIPPYG
17/06/2025	02:28:17	PIPPIP	06/07/2025	05:05:15	PIPPYG
17/06/2025	02:31:20	PIPPIP	06/07/2025	05:09:11	PIPPIP
17/06/2025	02:37:07	PIPPYG	06/07/2025	05:09:31	PIPPYG
17/06/2025	02:39:47	PIPPYG	06/07/2025	05:11:37	PIPPYG
17/06/2025	02:50:32	PIPPYG	06/07/2025	22:10:31	PIP NAT
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17/06/2025	03:22:02	PIPPIP	06/07/2025	22:33:35	RHIHIP
17/06/2025	03:23:33	PIPPIP	06/07/2025	22:35:44	MYODAU
17/06/2025	03:25:35	NYCLEI	06/07/2025	22:35:54	NYCLEI
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17/06/2025	04:16:58	PLEAUR	06/07/2025	22:39:57	NYCLEI

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17/06/2025	21:51:57	NYCLEI	06/07/2025	22:41:53	NYCLEI
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17/06/2025	22:25:42	PIPPYG	06/07/2025	22:44:47	NYCLEI
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17/06/2025	22:43:17	PIPPYG	06/07/2025	22:51:54	NYCLEI
17/06/2025	22:45:22	PIPPIP	06/07/2025	22:52:05	NYCLEI
17/06/2025	22:54:32	RHIHIP	06/07/2025	22:52:10	NYCLEI
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17/06/2025	23:19:07	RHIHIP	06/07/2025	22:53:41	NYCLEI
17/06/2025	23:19:15	RHIHIP	06/07/2025	22:54:22	NYCLEI
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17/06/2025	23:39:55	NYCLEI	06/07/2025	23:21:28	MYODAU
17/06/2025	23:52:57	NYCLEI	06/07/2025	23:24:23	PIPPIP
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			06/07/2025	23:31:24	NYCLEI
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			07/07/2025	00:35:46	PIPIPI
			07/07/2025	00:36:03	PIPPYG
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			07/07/2025	00:41:00	PIPIPI
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			07/07/2025	00:53:24	NYCLEI
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			07/07/2025	01:11:37	PIPPYG
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			07/07/2025	01:16:02	PIPPYG
			07/07/2025	01:17:34	PIPPYG
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			07/07/2025	01:24:07	PIPPYG
			07/07/2025	01:30:01	NYCLEI
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			07/07/2025	22:54:04	RHIHIP
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			07/07/2025	22:57:25	NYCLEI
			07/07/2025	22:57:38	NYCLEI
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			08/07/2025	04:51:35	PIPPIP
			08/07/2025	04:52:18	NYCLEI
			08/07/2025	04:52:45	NYCLEI
			08/07/2025	04:53:00	NYCLEI
			08/07/2025	04:53:23	NYCLEI
			08/07/2025	04:55:05	PIPPYG
			08/07/2025	04:57:39	PIPPYG
			08/07/2025	05:02:06	PIPPYG
			08/07/2025	05:18:36	NYCLEI
			08/07/2025	05:22:04	NYCLEI

Appendix IV BCT Guidelines (2024) Table 4.1

Bat Conservation Trust

Table 4.1. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

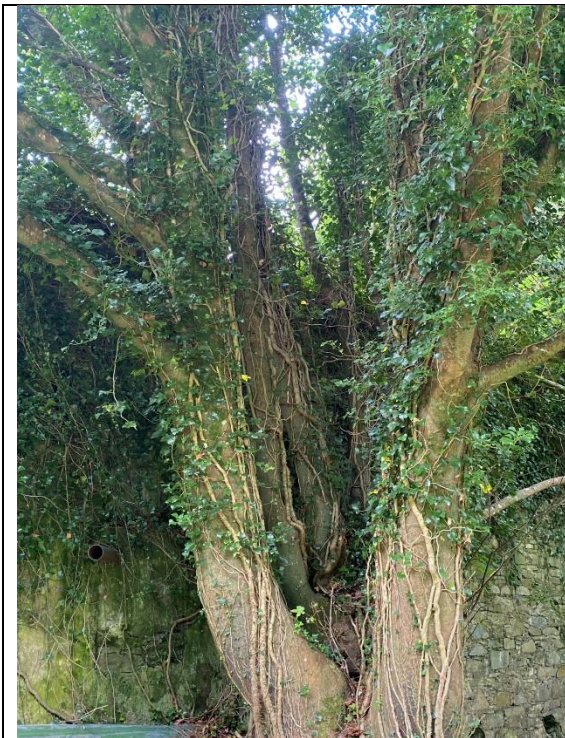
Potential suitability	Description	
	Roosting habitats in structures	Potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats 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 likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).	Habitat that could be used by small numbers of bats as flight-paths such as 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 could 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 potential 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 and 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 by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^b and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats 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 that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known 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).

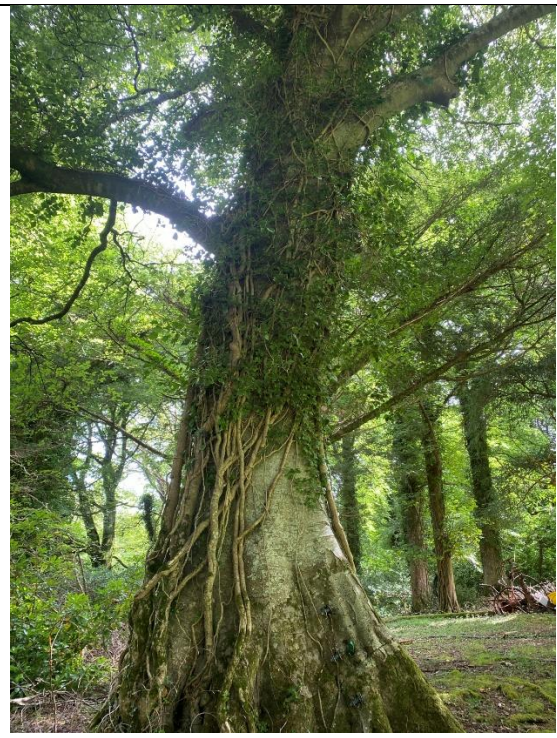
b For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the 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 has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of 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 of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.

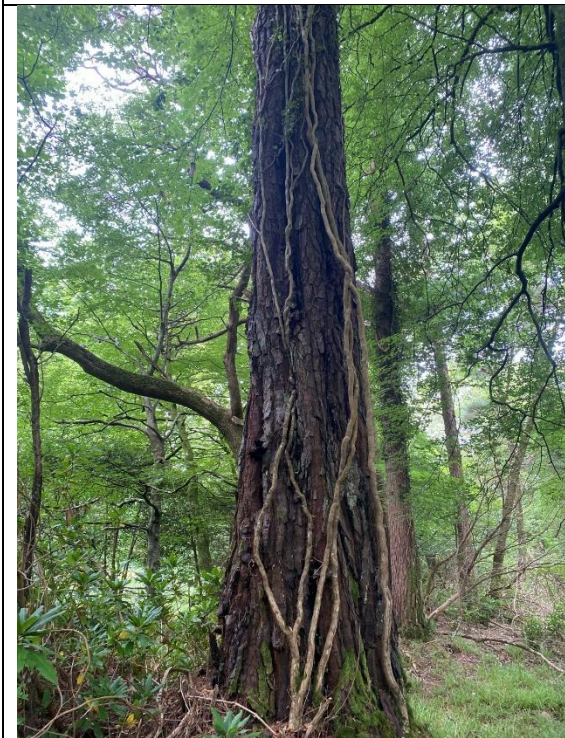
Appendix V GLTA Photos and Maps



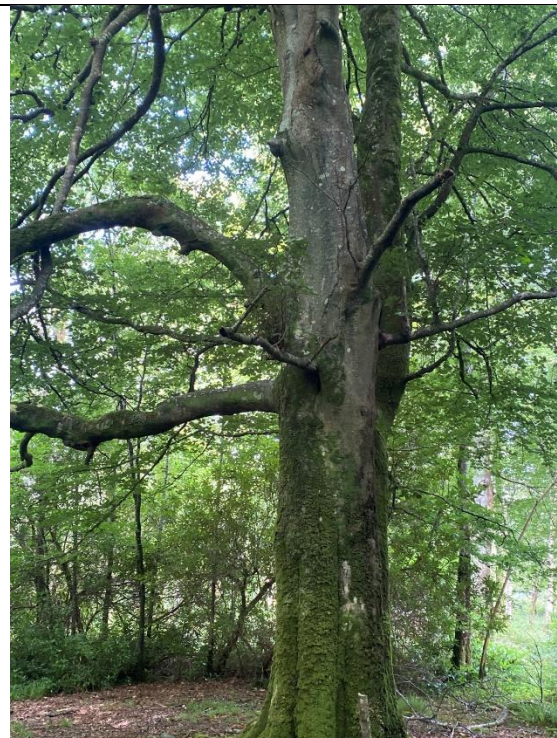
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2



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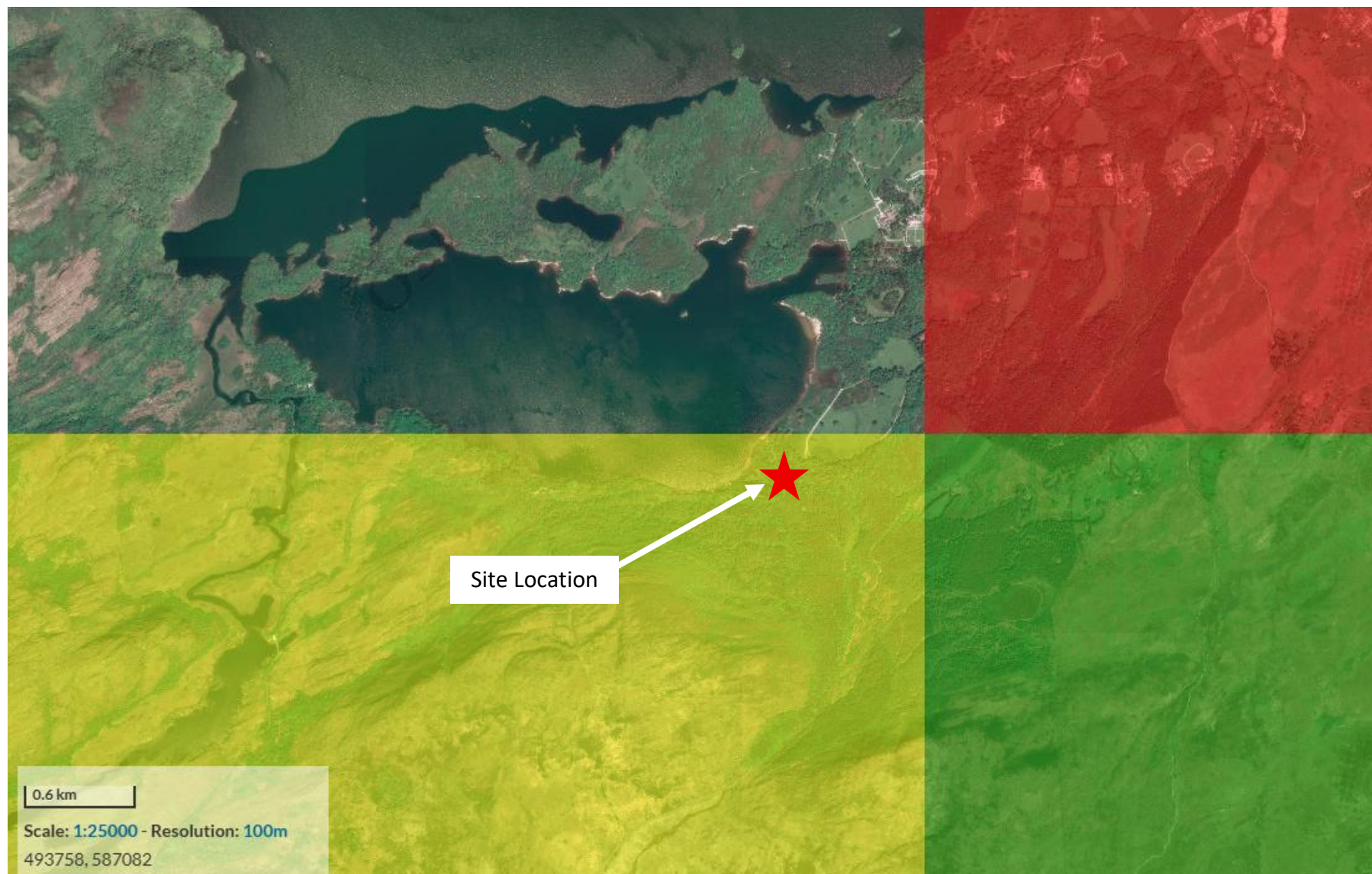
4

	
5	

Appendix VI Roof tile for bat access



Appendix VII NBDC Bat Landscapes



Appendix VII Drawings and Plans

Torc Cottage
Killarney National park

LEGEND:

- Road edge

Kerb

Fence

Path

Solid White Line

Solid Yellow Line

Wall

Building Outline

Building Canopy

Surface Channel

Breakline

Surface Change

Bank Bottom

Bank Top

Gate

Crash Barrier

Telecom Line

Overhead Line

Contour Line

Hedge Line

Vegetation Line

Concrete

ACO Drain
- RS

Road Sign

SV

Sluice Valve

WM

Water Meter

Hyd

Fire Hydrant

Gully

Control Station

IC

Inspection Chamber

EB

Electricity Box/Mini Pillar

LP

Lamp Post

EP

Electricity Pole

TP

Telegraph Pole

Man Hole

Tree

TL

Traffic Light

AV

Air Valve

+56.132

Spot Level

+56.132

Ridge

+56.132

Eave

+56.132

Finished Floor Level

+56.132

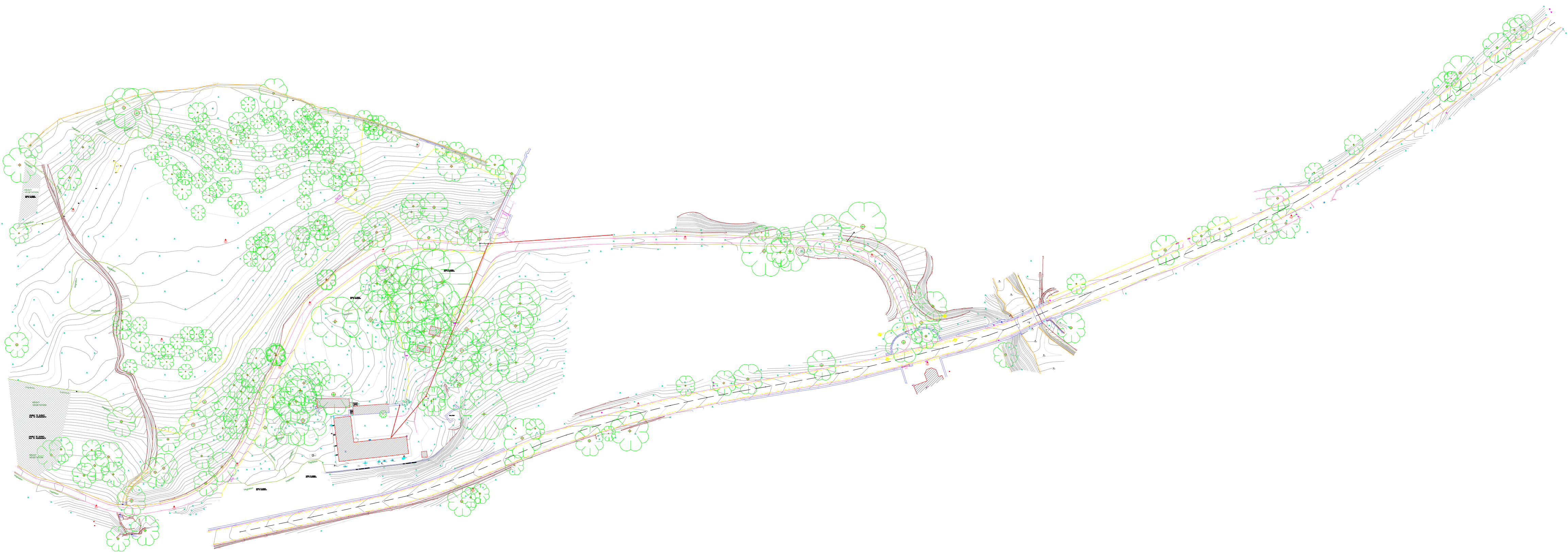
Soffit Level

BOL

Bollard

Wall Top

Invert Level



PROJECT: Torc Extended Topo

CLIENT: Howff Architects

DWG. TITLE: 2025.026

Revisions:

Notes:

THIS SURVEY IS PREPARED FOR THE CLIENT AT A SPECIFIC TOLERANCE REQUIRED BY THEM AT THE TIME OF THE SURVEY. LAND & AERIAL SURVEYS TAKE NO RESPONSIBILITIES FOR ANY SURVEYING ADDITIONS MADE BY ANY THIRD PARTIES.



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SCALE: 1:1000	COORD. SYSTEM: IRISH TRANSVERSE MERCATOR	GEOID: MALIN HEAD DATUM 2015 GEOID
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SURVEYED:	ISSUED:	SIZE:
08/07/2025	17/07/2025	A1

SURVEYORS: IM/KP	CAD DRAWING: IM	CHECKED BY: CM	
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