southern scientific

services ltd

Ecological Report to Inform an Application for Derogation Licence

Under the European Communities (Birds and Natural Habitats) Regulations 2011–2021 pertaining to Lesser Horseshoe Bat (*Rhinolophus hipposideros*)

Requested For:	**Kerry County Council**
Prepared By:	**Timothy McCarthy B.Sc.** **Southern Scientific Services Ltd**
Our Reference:	**SSS-SKG-133**

Report Prepared By	Timothy McCarthy
Report Reviewed By	Monica Kane

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2 Introduction

2.1 Objective of Proposed Works

Southern Scientific Services Ltd (SSSL) have been appointed by Kerry County Council as Project Ecologist for the South Kerry Greenway (SKG) project. The project is being completed in stages over a 4-5 year period.

The works for which this derogation is sought pertains to the South Kerry Greenway (SKG) which, when constructed, will stretch from Caherciveen, to the village of Glenbeigh, will comprise an approximately 27km long trail with a two-way shared cycling and walking route for use by walkers and cyclists. For part of its route the greenway will occupy the footprint of the now dismantled and abandoned Great Southern & Western Railway's (GS&WR) branch line that operated between Killorglin and Valentia Harbour, in the period from December 1893 to January 1960 including the sections that ran through the old railway tunnels at Drung Hill. While some of the route will use the original railway track alignment, use will also be made of urban paths, forest roads, and minor diversions on adjacent land and while not aligned with the existing N70 the abandoned rail line closely follows its route.

2.2 Name & Qualifications of Staff

The following table details the qualifications and experience of the Ecologists involved in preparing the licence application.

Team Member	Relevant Experience
Monica Kane	Monica Kane has a BSc in Zoology from UCC, a MSc from NUIGalway, UCC, University of Helsinki, Utrecht University. She is a also a full member of CIEEM. Monica has been involved in preparing the previous licence applications for Lesser horseshoe bat for the SKG project.
Timothy McCarthy	Timothy has a BSc (Hons) degree in Zoology received from University College Cork (UCC). Timothy has been involved in a number of bat surveys in Kerry for the South Kerry Greenway and other projects.
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 been involved in numerous bat surveys, including Lesser Horseshoe Bat, for the South Kerry Greenway and other projects.

3 Background to Proposed Activity

A planning application for the South Kerry Greenway (SKG) was submitted to An Bord Pleanála by Kerry County Council (KCC) on the 29th of August 2018. The application was accompanied by an EIAR prepared by Fehily Timoney and Company along with planning application documentation prepared by Kerry County Council. Malachy Walsh and Partners (MWP) completed the Biodiversity Chapter of the EIAR and the Natura Impact Statement (NIS) along with all associated ecological surveys. The SKG project was granted planning in November 2020.

The SKG project has been in the making since 2003 when it was included in the Objectives of the County Development Plan. Since then, a number of bodies both voluntary, community or public have worked on bringing the project to fruition. In August 2013 the Department of Transport, Tourism and Sport announced approximately €6.5 million in funding to local authorities to deliver cycle routes under the National Cycle Network Local Authority Funding Scheme 2014-2016. Following on from the work completed by the local development companies KCC made an application for funding under the scheme and in April 2014 funding was approved by the Department of Transport, Tourism and Sport.

The project has the full backing of National Policy and the support of KCC and Transport Infrastructure Ireland (TII). The grant of planning and successful Compulsory Purchase Order (CPO) process has placed the project as a priority for the communities of South Kerry. It is of a significant scale and importance in terms of social, economic, heritage and tourism for the region. The delivery of the project in stages over the next number of years will see the re-awakening of a historic piece of long abandoned infrastructure in South Kerry which is vital for South Kerry's social and economic standing.

The overall objectives of the SKG are as follows:

- Increase the economic contribution of tourism to the Irish economy, by increasing the value of tourism service exports, that is, by generating increased levels of overseas revenue.
- Provide a catalyst for the economic regeneration of the local economy by:
    - Successfully delivering a world class visitor experience
    - Supporting a tourism sector that is profitable and will achieve a sustainable level of growth and delivers jobs
    - Facilitating local communities to play an enhanced role in developing tourism in their area, thereby strengthening and enriching local communities
    - Recognising, valuing and enhancing the natural environment as the cornerstone of Irish tourism
- Maximise the economic potential of the project by:
    - Attracting the maximum number of visitors
    - Optimising the amenity value of the route
    - Designing the route for all users including the elderly and disabled as well as families with children
- Maximising the safety of the route

The project will provide a sustainable tourism product capitalising on the beautiful scenery of the area. It will maximise tourism numbers by being accessible to all users including families and the elderly and, as a primarily segregated route, maximising safety.

The greenway has the potential to provide the critical mass of tourism necessary to make marginal proposals viable and to stimulate growth of additional tourism products.

It will also maintain and create a viable demand for local services such as shops, schools, post offices and transport linkages vital for the future of sustainable rural communities.

4 Proposed Activity for Which Derogation is Sought

4.1 Griffins Cottage

The cottage will be upgraded and managed as a dedicated bat roost under the guidance of the NPWS and Bat Conservation Ireland. Works will include the creation of a loft space, darkening of the interior, blocking of windows while retaining suitable bat access points, installation of secure doors, reduction of drafts and light ingress, repair of internal walls, prevention of predator access, and improved internal compartmentalisation. To further reduce disturbance, acoustic or sound-blocking panels will be installed to the rear of the cottage, along with a 2.5 m high matt-black timber fence around the rear and gable walls to create a dark corridor and restrict public access. A roofed canopy corridor will be provided over key bat entrance and exit points, and a locked access gate will be installed to facilitate monitoring by NPWS staff.

In the surrounding area, vegetation buffers, temporary hoarding, and replacement planting will be used to protect bat commuting routes during and after construction. Post-construction, native tree and shrub planting, including species such as alder, willow, hazel and holly, will be undertaken, with a minimum vegetation buffer provided along the N70 to reduce noise and light disturbance. All planting will be supervised and approved by the project ecologist. An information board will also be installed to raise awareness of Lesser Horseshoe bats and highlight the ecological importance of Griffin's Cottage.

4.2 Drung Hill Tunnels Roost Enhancement

The Drung Hill Tunnels are located between 1.6km and 2km southwest of the Griffins Cottage LHB maternity roost. NPWS have confirmed that LHB have used the tunnels as hibernation roosts in the past – a single bat has been recorded periodically roosting in the tunnel. Following a meeting on-site on the 15th of July 2023 with two NPWS staff the following mitigation measures for the tunnels were recommended to create potential roosting space for bats:

Approximately every second alcove in the tunnels will be bricked up to create undisturbed and dark roosting places for LHB. As the alcoves are shallow, the bricks should be a maximum of 6 inches in width to maintain sufficient space for bats to fly in and land. A letter box opening should be placed in the centre of the bricked-up area;

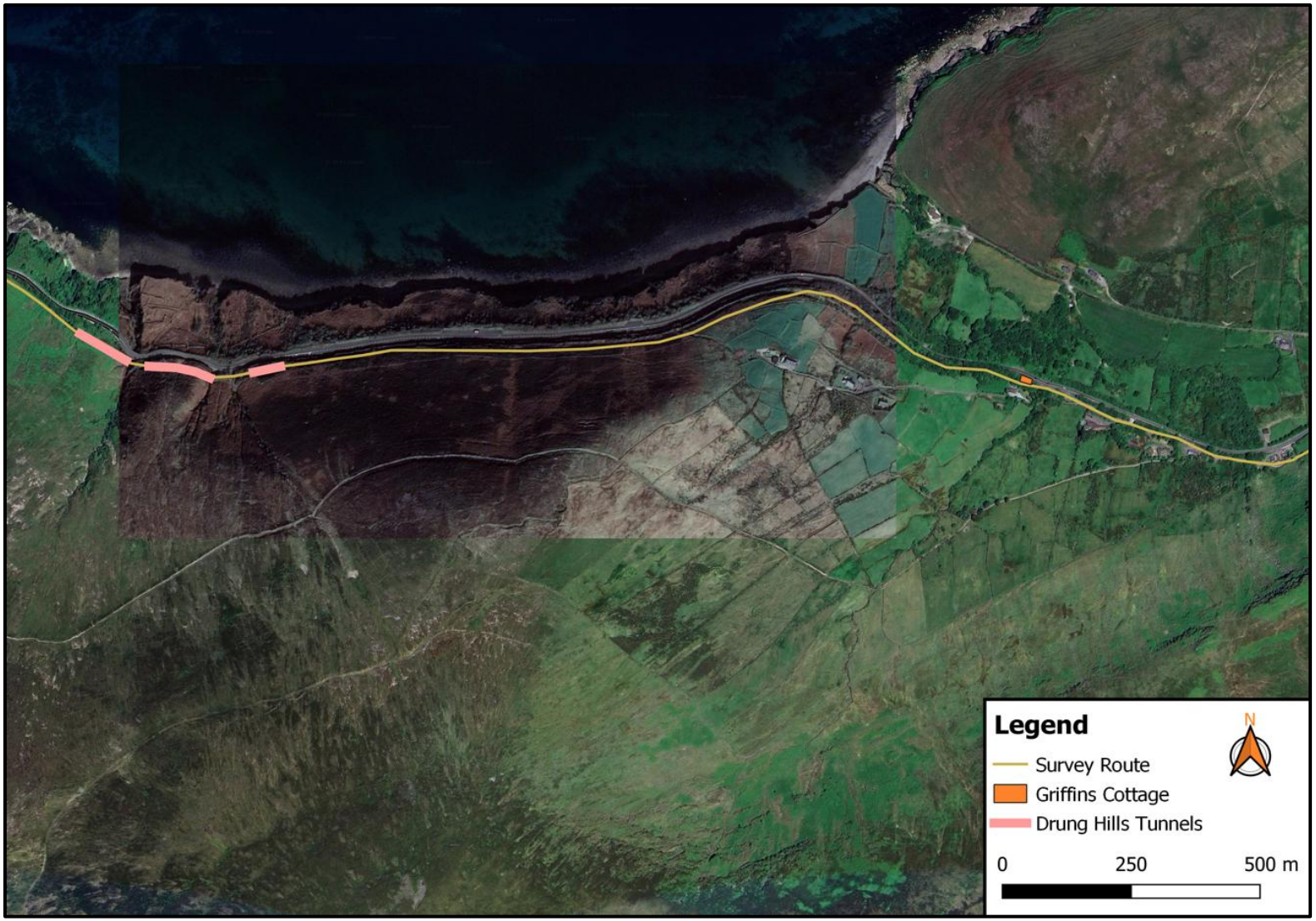

Figure 1. Location of Griffins Cottage, and Drung Hill Tunnels

4.3 Previously Awarded Licenses

Derogation licenses have previously been awarded for the South Kerry Greenway project. Due to the nature of the project, the works for which the derogations were sought were not carried out during the licence period. The previously awarded licences are listed below:

DER-BAT-2023-107

DER-BAT-2025-31

5 Ecological Survey & Site Assessment

Numerous ecological surveys have been conducted during the pre-planning and pre-construction phases to inform the SKG project. The bat surveys undertaken since 2014 are detailed in the following sections.

A survey of the Drung Hill Tunnels was conducted, on February 19th, 2014, by two ecologists with extensive experience in bat roost habitat and bat activity surveying, to determine if suitable hibernation roosting habitat for LHB was available. A similar survey was repeated in July and September 2014.

A significant constraint on seasonal roost site selection is the fact that LHB needs flight space and flying access, ideally, an opening of 300mm (wide) x 200mm (high), so that they can fly (instead of crawl) directly into the roost (BCT,2012).

Monthly roost surveys of the tunnels are currently undertaken since February 2024. Individual bats have been present in the months April & May.

During ecological surveys along the route corridor, conducted on the 28th of August 2017, an unoccupied house (referred to as Griffin's cottage) adjacent to the footprint of the proposed route, was identified as having low moderate potential as a summer roost site for LHB, owing to its condition and due to the presence of broken windows and a broken door which allowed access to the building and its location adjacent to a small area of immature deciduous woodland which extends westwards along the N70 for approximately 600m. Further inspection of the interior of the house was undertaken to determine whether the house was of potential value to bats. The building is located approximately 1.35 km to the east of the Drung Hill Tunnels and located approximately 335m outside of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC site boundary. At the time of the survey, the house was in a dilapidated state and was in a state of disrepair and it appeared that upgrading works had ceased and remain incomplete. The house was reinspected on November 30th, 2017.

This building was found not to provide the conditions suitable for hibernation and on inspection on November 30th the house was no longer occupied. As a result, it was not considered to constitute a hibernation site. However, its occupancy during the summer months means that there was potential for adverse impacts as a result of the proposed SKG.

This building was inspected on the 28th of August 2017. A total of 35 Lesser Horseshoe Bats (LHB) were recorded inside the house. A second visit to the house in the company of NPWS local ranger and DCO was undertaken on the 4th of September 2017, where a similar number of bats were recorded inside the house. A subsequent survey was undertaken on the 29th of November 2017 in the company of the NPWS local ranger, where it was found that all bats had vacated the building.

Based on the precautionary principle, and because the boundary of the Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC is situated approximately 300m to the southeast of the building, the bats present are considered to be part of this Natura 2000 site's resident population. Because roosting bats were recorded, NPWS was informed immediately and NPWS management are aware of the specific location.

Surveys in July 2023 carried out by local NPWS ranger have again confirmed the presence of LHB at the site in Griffins Cottage. On inspection, the building was found to have a number (approximately 45) of LHB hanging from the apex of the pitched roof. As mentioned previously young bats were observed and therefore the site is a confirmed LHB maternity roost.

Surveys in 2024 carried out by Dr. Tina Aughney confirmed the continued occupancy of LHB at the site. The interior of the building was inspected on 10 occasions between 1/2/2024 and 7/9/2024. A minimum of one Lesser Horseshoe bat was recorded during each survey with a maximum of 73 individual bats roosting during a visit in July (see table 1 below). The full report is presented in **Appendix B**.

Table 1: LHB observed within the building

No.	Date	Observed LHB
1	1/2/2024	1
2	15/2/2024	2
3	10/4/2024	3
4	17/4/2024	4
5	7/6/2024	35
6	13/6/2024	29
7	14/6/2024	27
8	20/6/2024	46
9	21/6/2024	43
10	7/9/2024	73

Monthly surveys of the Drung Hill Tunnels were conducted by Southern Scientific Services Ltd. staff throughout 2025. The results of these surveys are presented below

Table 2: Results of Monthly Drung Hill Tunnel LHB Surveys

Date	Ecologist	Tunnel 1 LHB present Y/N	Tunnel 2 LHB present Y/N	Tunnel 3 LHB present Y/N	Details
12/02/2024	DOL/LDD	No	No	No	
07/03/2024	CM/LDD	No	No	No	
23/10/2024	DOL/JW	No	No	No	
20/11/2024	DOL/JW	No	No	No	
11/12/2024	DOL	No	No	No	
16/01/2025	DOL/JW	No	No	No	
12/02/2025	TM	No	No	No	
02/04/2025	CM	No	Yes	No	Single Lesser Horseshoe identified at rest.
30/04/2025	TM/CG	No	Yes	No	Single Lesser Horseshoe identified at rest.

07/05/2025	TM	No	No	No	
01/07/2025	CG	No	No	No	
20/08/2025	TM	No	No	No	
24/09/2025	CG	No	No	No	
30/10/2025	MK	No	No	No	
26/11/2025	CG	No	No	No	
17/12/2025	TM	No	No	No	

6 Evidence to Support Derogation Tests

6.1 Test 1 – Reason for Derogation

As per the Derogation license application for which this Supporting information document has been drafted, the reason for which this derogation is sought is

"*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 overall objectives of the SKG project are as follows:

- Increase the economic contribution of tourism to the Irish economy, by increasing the value of tourism service exports, that is, by generating increased levels of overseas revenue.
- Provide a catalyst for the economic regeneration of the local economy by:
    - Successfully delivering a world class visitor experience
    - Supporting a tourism sector that is profitable and will achieve a sustainable level of growth and delivers jobs
    - Facilitating local communities to play an enhanced role in developing tourism in their area, thereby strengthening and enriching local communities
    - Recognising, valuing and enhancing the natural environment as the cornerstone of Irish tourism
- Maximise the economic potential of the project by:
    - Attracting the maximum number of visitors
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    - Designing the route for all users including the elderly and disabled as well as families with children
- Maximising the safety of the route

The project will provide a sustainable tourism product capitalising on the beautiful scenery of the area. It will maximise tourism numbers by being accessible to all users including families and the elderly and, as a primarily segregated route, maximising safety.

The greenway has the potential to provide the critical mass of tourism necessary to make marginal proposals viable and to stimulate growth of additional tourism products.

It will also maintain and create a viable demand for local services such as shops, schools, post offices and transport linkages vital for the future of sustainable rural communities.

The following sets out how this project is of significant interest and importance to the public and wider communities of South Kerry.

1.1.1 Sustaining local population

The SKG route travels between Glenbeigh and Cahersiveen through a mainly rural landscape with low population density with the exception of the towns of Glenbeigh and Cahersiveen. The railway line was once a lifeline to South Kerry and a vital transport link around which communities lived and relied upon for connectivity and commerce. The SKG will form a new connective link between towns and communities in this sparsely populated rural area. The route, like many other successful greenways will bring new tourism activity to the area and this will have localised benefits in terms of jobs and sustaining communities. It may also provide stability in areas where there is population decline and no immediate visibility for new economic or social stability.

1.2.1 Farm sustainability

The proposed scheme will provide the potential to promote farm diversification into agri-tourism by:

- providing additional direct employment opportunities through tourism development
- increasing direct demand for farm produce
- providing additional farm income by scheme maintenance
- providing an accessible recreational amenity for local use.

Farm sustainability and population support are positive outcomes for the proposed scheme in this part of South Kerry.

1.3.1 Health and wellbeing

The scheme provides a positive means of improving health and wellbeing for both the local population and visiting tourists. It is an excellent amenity in a very unique local setting along the coast of South Kerry. The views are stunning and the topography and landscape is varied along the route. Visitors and locals travelling along the route whether cycling, walking, running etc are experiencing fresh air, the environment, appreciating the heritage story of the former railway line and also gaining experience in the Local Towns and hinterlands of Glenbeigh and Cahersiveen. The off-road route gives potential for a wider engagement for this part of South Kerry for locals and tourists in a safe and engaging environment. The health benefits of cycling are universally recognised, and the promotion of cycling is enshrined at all levels of European and national policy. The Greenway will provide a safe predominantly segregated environment for cyclists and walkers and act as a stimulus to encourage greater participation in outdoor activity for locals and visitors to the area. Engagement in outdoor activities is a positive step in terms of wellbeing for the local communities along the route and for visitors.

1.4.1 Environment awareness

The re-use of this existing and abandoned infrastructure is positive in terms of sustainable development and bringing of value back to life. It provides a corridor or pathway for people to visit this part of South Kerry and experience the environment, the topography, the views and the flora and fauna long the route. The proejct will have information points along the route pointing out the features of importance in terms of ecology but also in terms of local geology and coastal features. The use of this greenway route will increase awareness on the environment in this part of South Kerry so is a positive aspect in terms of the environment. The project has been the subject of a very detailed Environmental Impact Assessment (EIA) Report and focussed ecological surveys. The design and re-

use of the existing railway line infrastructure minimises intrusion into the landscape with new infrastructure and makes the best use of what naturally exists.

1.5.1 Culture and Heritage

The greenway includes the remains of significant elements of the former railway line and associated infrastructure and while it doesn't include protected structures, they are of local cultural heritage significance. These include features such as the line embankments and cut sections, the Drung Hill tunnels, small bridges, stone-built culverts and the extant rail buildings at Kells station.

The former line has been subject to a number of interventions since it closed in the 1960s, such as the removal of the tracks, a section removed by a road diversion, the construction of modern houses on its line and impacts by land improvement works. However, the rail line and its associated features survive as a relatively well-preserved landscape feature, although many sections have become overgrown and silted-in due to a lack of vegetation control and maintenance of drainage channels. As the railway line and many of its associated features are not protected, they are vulnerable to further impacts by localised developments, agricultural activity and general degradation by lack of maintenance.

The project will include repairs to the two rail viaducts at Valentia and Gleensk in order to repair and arrest ongoing corrosion damage to both of these Protected Structures and integration of the repaired railway viaducts into public accessible spaces as part of the greenway route is positive in terms of preserving and enhancing the heritage value of the original railway scheme.

The project will formalise the route of the railway line within the landscape and assist in halting the general decline of the physical remains of this element of the cultural heritage of the county.

1.6.1 Tourism and socio-economic benefits

Aside from the benefits for the local agricultural hinterland, the project will provide direct employment in the accommodation and food sectors of the local economy and, as an activity attraction, has the potential to extend the tourism season and provide increased year-round demand.

Government policy as outlined in 'Energising Ireland's Rural Economy' recognises the need for rural areas to capitalise on their indigenous assets in order to provide employment and rural regeneration. The route is located on and incorporates some of the most magnificent scenery of the world famous 'Ring of Kerry' tourist route. This is a unique local asset and one which can be utilised for the benefit of the local community.

1.7.1 Summary

The permitted South Kerry Greenway project is of significant value and public interest in the county of Kerry. The scheme will have positive effects in terms of the following:

- Sustaining local population
- Farm sustainability
- Health and wellbeing
- Environment awareness
- Culture and Heritage
- Tourism and socio-economic benefits

The project is of significant value in terms of social, economic and heritage and the delivery of the project will also enhance environmental awareness for locals and visitors over its lifetime. It is a good example of sustainable development making use of previously abandoned infrastructure

Finally, the greenway has been granted planning permission, Compulsory Purchase Orders have been completed on land along the proposed track, and a significant amount of construction work, for which a derogation license is not required has already been carried out. There has already been significant financial investment into the project and the works for which the derogation license is being sought will help to complete the project and allow for the full economic and social benefits this project will provide. It is the intention of KCC to open a section of the greenway in Kells in December 2025.

6.2 Test 2 – Absence of Alternative Solutions

2.1.1 Do-nothing

This is considered unsatisfactory as this would prevent the completion of the SKG project. The areas for which this derogation license are being sought are present along the greenway path, and if these works are not carried out, then the greenway will be segmented and not fit for purpose. Furthermore, due to the considerable financial investment already put into this project, including the purchasing of land by Kerry County Council, this option was deemed unsuitable. Additionally, the proposed works involve habitat enhancement works, and as such, if works are not carried out, the areas of suitable LHB habitat for which this derogation will degrade in quality, which will adversely impact LHB in the local area.

2.2.1 Proceed without mitigation

This is considered as unsatisfactory as previous surveys in the area for which this derogation is sought have identified LHB within both Griffins Cottage and the Drung Hill Tunnels. As such, if the project were to proceed it could negatively impact LHB populations in the local area.

2.3.1 Alternative Design Options

The mitigation measures and works outlined in this application were agreed upon with NPWS following consultation, and with the recommendations of Dr. Tina Aughney, in order to devise the optimum way to carry out works on the South Kerry Greenway while minimising short term impact on LHB and providing enhanced habitat in the long term. As such, any alternative design options would likely result in increased adverse impacts on LHB over the works proposed in this application.

6.2.3.1 Griffin's Cottage

The original plan would have seen Griffin's cottage demolished as it lay on the preferred route of the SKG. When a LHB roost was discovered in the cottage it was necessary to retain the cottage and find an alternative route. The cottage is directly adjacent to the N70 and the possibility of sharing this road with the SKG was not possible for safety reasons.

6.2.3.2 Drung Hill Tunnels

The option of bringing the greenway down from the railway line to the public road for this section and then bringing it back online again further west was considered. This option had a number of issues.

From a design point of view the vertical alignment and gradients required could not be achieved.

From a traffic and health and safety perspective bringing the required 3m wide greenway infrastructure down to road level was not desirable and would introduce risk to the users of the greenway.

Given the width of the road at this location it would not be possible to accommodate the required footprint of the greenway on the ground with a safe setback from the road corridor.

One of the options explored was to excavate into the vertical face at road level and create the required space for the greenway with a set back from the road. This would require a support structure to be in place for the vertical face above the greenway and in so doing would lead to a linear section of vertical face RC or Gabion structure at height to provide slope stability and support. This type of structure over an extensive height and length would be visually obtrusive and would also entail a significant area of habitat loss. Local drainage issues would need to be dealt with and any risk of destabilising the shelf above would have to be accommodated in the design and construction solution. The civil engineering works would be extensive.

This option was discounted for the following reasons:

- Vertical alignment and gradients required for the greenway could not be achieved.
- Health and Safety and public risk adjacent to a busy National Primary Road.
- Engineering solution to develop a setback space/corridor at road level to accommodate a greenway corridor would lead to a significant engineered vertical support structure along this length and this would have engineering constraints and potentially larger knock-on constraints upslope.
- From a visual perspective an extensive support structure at road level along this section of a scenic route would not be desirable.

6.3 Test 3 – Impact of a Derogation on Conservation Status

3.1.1 Proposed Mitigation at Griffins Cottage

6.3.1.1 Seasonal Timing of Works Adjacent to the LHB Roost at Griffins cottage

The main potential source of disturbance would comprise the rock breaking that will be required to the rear of the house to facilitate the construction of the Greenway (approximately 850m^3). Given that the roost site is a proven maternity site, in order to ensure that disturbance or displacement impacts on roosting bats are avoided, works in proximity to the bat roost will be timed to occur during the optimum period for carrying out works.

Works to the cottage will be undertaken in the months of September, October and November or the spring months of March and April. If no bats are recorded hibernating in December (i.e. the weather is mild) then works can proceed into this month. However caution is required during December to February due to high potential of hibernating bats being present. Additional timing constraints are presented below in Section 3.1.3 as follows:

- Proposed works on the cottage to improve it as a roost for Lesser Horseshoe bats is undertaken prior to rock breaking operations and construction access works west of the cottage. This will ensure that the structure is stable and suitable for roosting bats with appropriate exit/ entrance points in place.
- Rock breaking is undertaken outside of the maternity season and the prime activity period for bats in the months May to August.

6.3.1.2 Conservation and Enhancement of the LHB Roost at Griffins cottage

The LHB summer roost site at Griffins cottage will be protected and enhanced during the winter months when bats have vacated the structure to hibernate underground. Enhancement of the house will be undertaken under direction from and in consultation with the NPWS and Bat Conservation Ireland (BCI) with the view to optimising the roost and encouraging LHB to return annually.

A meeting took place on the 15th of July 2023 with a NPWS Conservation Rangers and District Conservation Officer at the LHB Maternity Roost and the following enhancement measures for the roost were discussed:

- Install flooring on the existing first-floor beams to create a loft space for the bats.
- Darken the interior of the building by blocking up all windows, including the skylights, but leaving a letterbox entrance in the window at the rear of the house where bats are currently emerging.
- Install a new secure door with a letterbox opening.
- The minimum area for the letter box opening should ideally have an area of 2500cm^2 this can be a square opening of 50 cm x 50 cm or a rectangular opening with a minimum height of 20 cm but maintaining the same overall area.
- Install a wooden baffle inside the doorway and behind the rear exit window to further reduce light spill into the building. See the image of the baffle below taken from the Vincent Wildlife Trust LHB Conservation Handbook.
- Repair and secure internal walls.
- Install plywood (or other suitable material) on the upper floor of the chimney wall to further the compartmentalise the house.
- Remove any overhanging vegetation adjacent to the house to minimise risk of rats entering.
- For building maintenance, the gutters should be cleared of dead vegetation.

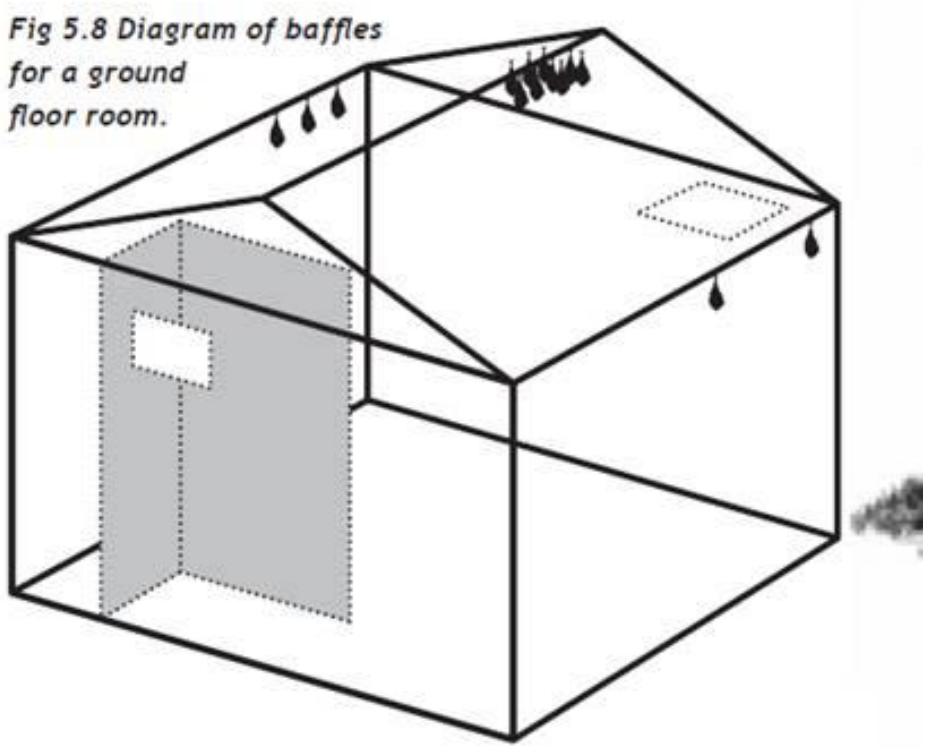

Figure 2: Recommendations provided by NPWS:

In addition to these and following a survey in February 2024, Dr. Tina Aughney proposed the following measures to enhance the cottage as a LHS bat roost aided by the figure below. Refer to **Appendix C** for the full recommendations report.

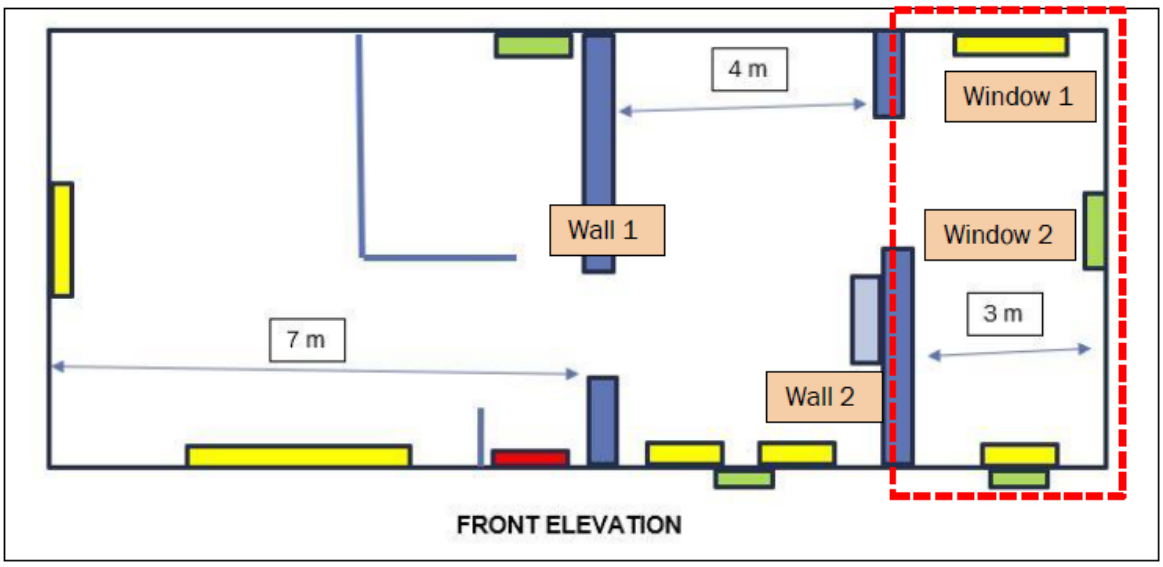

Figure 3: Drawing of internal layout (approximate) with Gable room highlighted by red dash box.

1. Internal wall (Wall 1) is required to be made stable and new door lintel inserted. The existing doorway gap should remain open post works.
2. All existing ground floor window frames (apart from one labelled as Window 1 – this will require a set of different works) should be removed and the space should be built up with modern concrete blocks and any gaps around the window frames should be filled to ensure that there are no drafts).
3. Advice is required on the best way to ensure that all of the existing dormer windows (apart from one labelled as Window 2 – this will require a different set of works) are draft free and blocked to prevent light entering. At a minimum, the internal area of the dormer windows should be covered with 1 inch plywood internally to reduce any light shining into the internal space of the building.
4. The existing front door (Red rectangle outline in blue) should be replaced with a more secure door and the base of the floor should be built up to prevent predators entering the cottage via the existing gap below the current door frame.
5. The upper sections of the 2nd original wall (wall 2 – where the chimney breast is located) should be built up to the rafters to create a separate room. This can be completed using a stud wall or concrete blocks. A door with a post box opening (dimensions of opening in door = 50cm X 50cm) should be positioned in the existing door area of this wall. This post box opening should be located near the upper section of the door, and this will allow bats to fly from the "Gable Room" to the rest of the cottage's internal space. This "Gable room" has been highlighted with a red dash box.
6. As per NPWS recommendations, existing timber beams (i.e. section of the cottage where loft floor timber beams are currently in place) should be floored with timber in order to create a loft space. The flooring should be strong enough to allow a surveyor to enter the loft space in order to count bats and to undertake maintenance works (e.g. removal of bat droppings). In order to reduce timber rotting as a result of bat dropping accumulation, it is recommended that the floor surface has 1-inch marine timber plywood or similar in order to increase durability for the decades to come (this could be a 2nd layer to the loft floor).
7. It is recommended that there are two lesser horseshoe entrances for bats into the internal space of the cottage. NPWS recommended that these two areas are the ground floor window named window 1 and the front door. However, I have reservations about using two ground floor exit/entrance points due to potential predation. Therefore, I propose that the gable window (Labelled as window 2 in the Gable room) which is located approximately 4m off the ground, should replace the proposed exit/entrance in the front door. As both of these exit/entrance points will be located in the new Gable room of the cottage (see point 5), it will reduce the degree of potential wind and light entering via the new exits/entrances throughout the building while ensuring that the rest of the cottage remains in darkness.
8. The existing window frame of window 1 (see plate 4) should be removed and built up with concrete blocks but leaving a post box opening (dimensions = 50cm X 50cm) and this opening needs to be located at the highest point of the existing window frame opening. Externally the new post box opening will need to be made predator proof and the easiest way to achieve this is to fix steel sheeting, securely, for 1m below the entrance and for a minimum of 50cm either side and above the exit/entrance with steel sheets. Fix an additional steel plate at an angle to the bottom of the exit/entrance creating a windowsill to prevent cats jumping directly through the opening.
9. For the 2nd exit/entrance point the dormer window in gable end of cottage (Red dash box in figure 2) will be used as the 2nd exit/entrance point for the Lesser Horseshoe bat colony. To complete this step, this window will be removed, and the opening will be built up the frame with concrete blocks but ensuring, again, that there is a post box opening (dimensions = 50cm X 50cm) within the space. This will also require predator proofing externally by placing steel sheeting around the post box opening.
10. A cooler room is to be provided on the ground floor for bats to move to during extreme temperature days. This is the ground floor room where there is currently a partially constructed modern concrete walls (below the existing timber beams). The first wall is a small 3 block high wall

to the left-hand side of the front door entrance (as you enter the cottage). This should be built up to the existing timber beams. In addition, the 2nd modern concrete wall that is currently built to within 30cm from the timber beams should also be finished.

11. Bat specialist is to liase with the construction contractor to ensure that the measures described above are strictly followed.
12. No internal plaster works are required. A rough finish is recommended to allow other bat species to roost within the cottage.
13. It is recommended that rubbish etc is cleared from the internal space of the cottage and externally gutterings and down pipes are fixed and cleared of vegetation.

6.3.1.3 Works in the vicinity of the LHB roost at Griffins cottage

In addition to conservation and enhancement works at the cottage, the following measures were recommended in relation to construction timing and works, cottage environs, and bat monitoring (refer to **Appendix C** for the full recommendations report):

1. Proposed works on the cottage to improve it as a roost for Lesser Horseshoe bats is undertaken prior to rock breaking operations and construction access works west of the cottage. This will ensure that the structure is stable and suitable for roosting bats with appropriate exit/ entrance points in place.
2. Rock breaking is undertaken outside of the maternity season and the prime activity period for bats in the months May to August.
3. A panel with noise insulation or sound blocking boards (to reduce the passage of sound between the rock breaking operations and the rear walls of the cottage) is erected to the rear of the cottage. As there is little space available to the rear of the cottage the insulation panel may need to be erected directly to the rear wall of the cottage. Sound blocking boards are typically acoustic plasterboard.
4. It is recommended that no temporary lighting is permitted to the rear of the cottage during rock-breaking works and that any lighting used during the construction of the greenway is turned off when daytime operations are completed.
5. A passive static detector (set to record 24 hrs/day) is to be deployed throughout the rock breaking works coupled with a temperature data logger to monitor potential impacts of noise and vibration on roosting bats. A minimum of monthly visits are recommended to undertake an internal count of roosting Lesser Horseshoe Bats and to download SD cards and re-deploy static unit. However, during the rock- breaking phase, this should be increased to a site visit once every 2 weeks but if monitoring results highlight the need for more regular visits, this should be set as a precautionary recommendation.
6. It is recommended that a minimum amount of vegetation removal is undertaken to reduce potential impacts, and this should be undertaken under supervision by the project ecologist.
7. It is recommended that temporary planting and/or hoarding is recommended on either side of the cottage where vegetation removal has been undertaken and where it is planned to be undertaken to ensure that there is a tall structure to mimic tall vegetation. This will ensure the integrity of existing commuting routes. This is required until new planting is satisfactorily established.
8. Monitoring of the Lesser Horseshoe Bat colony is recommended during renovations works and during the construction phase of the project by the project bat specialist.

6.3.1.4 Landscaping and Other Measures

Following bat surveys completed in the cottage environs in 2024, the following additional measures were recommended in relation to fencing, access, landscaping, planting and monitoring (refer to **Appendix C** for the full recommendations report):

1. A 2.5m/8ft tall timber fence should be constructed around the rear and gables of Griffins Cottage during the construction phase of the project. This is recommended to buffer the cottage from greenway usage, potential maintenance works and protecting the ground floor exit/entrance for bats. This fence should be constructed 1m from the walls of the cottage and will provide a dark corridor around the cottage for bat usage. The final colour of this fence should be matt black to increase a dark corridor effect.
2. A canopy enclosure is required for the section of the proposed 2.5m fence. This canopy will be an enclosed cover fitted on top to the 2.5m fence and connected to the wall of the cottage. Thereby creating a "roofed corridor" directly over the exit/entrance point at rear of the cottage. The length of this roof should be 5m, with exit point in the centre of the "roofed corridor" it is recommended that these works are undertaken as soon as it is possible to build the 2.5m fence around the cottage post-rock-breaking phase.
3. A locked gate should be inserted in the fence (front or gable of the cottage) to allow NPWS staff etc access to the cottage for monitoring purposes. This should be undertaken as part of the greenway construction phase in vicinity of the cottage as soon as physically possible (i.e. once 3m timber fence is in place, locked gate should also be put in place).
4. It is important to ensure that there is restricted access to the cottage by greenway users in order to reduce any disturbance.
5. It is recommended that summer (in liaison with NPWS, a minimum of two counts is required during the Lesser Horseshoe Bat Monitoring Summer season) and winter counts (in liaison with NPWS, a minimum of two counts is required during the Lesser Horseshoe Bat monitoring Winter season) of roosting bats is undertaken annually until the greenway construction in vicinity of the cottage is completed.
6. The perimeter of the greenway along the N70 requires a buffer of vegetation and/or temporary timber hoarding panels. It is recommended that the panels extend 2m beyond vegetation removal. This buffer is required from the existing bridge (east of the cottage) to west of the cottage for the length of existing linear woodland. This buffer should be 1.5m high.
7. It is recommended that static surveillance surveys are undertaken annually during the construction of the greenway to ensure that any buffers used are working (Spring and Summer, minimum of 1 week surveillance to compare to such surveys undertaken in 2024).
8. Planting is to be undertaken under the supervision of the project ecologist and exact planting protocols (i.e. splitting of planting during and post-construction) to be determined by the project ecologist.
9. The southern perimeter of the greenway should be replanted with native trees and shrubs. Species such as alder, grey willow, hazel and holly are to be used. Project ecologist is to be consulted regarding planting mix. This planting should be undertaken in the appropriate planting season (November to March) post-greenway construction. This planting should be undertaken from the existing bridge (east of the cottage) to west of the cottage for the length of existing linear woodland.
10. N70 perimeter of greenway, where permitted, should have a minimum of 2m vegetation buffer of planting to provide commuting habitat for bats and to buffer such habitat from road traffic and maintenance works. Where there are gaps for vegetation these should also be planted. It is recommended that the wall height is increased to 1.5m to reduce vehicle noise disturbance and potential disturbance from vehicle lights during the night. The extent of the buffer will be

determined in consultation with the proposed ecologist to ensure that there are no gaps in roadside vegetation.
11. The planting mix is to be approved by the project ecologist.
12. No lighting is recommended along the greenway.
13. An information board is recommended to be erected on the fence around Griffins Cottage to provide information on Lesser Horseshoe Bats.

3.2.1 Proposed Mitigation at Drung Hill Tunnels

The Drung Hill Tunnels are located between 1.6km and 2km Southwest of the Griffins Cottage LHB Maternity Roost. NPWS have confirmed that LHBs have used the tunnels as hibernation roosts in the past. Following a meeting on-site on the 15th of July 2023 with two NPWS staff the following mitigation measures for the tunnels were recommended to create potential roosting space for bats:

- Approximately every second alcove in the tunnels will be bricked up to create undisturbed and dark roosting places for LHB. As the alcoves are shallow, the bricks should be a maximum of 6 inches in width to maintain sufficient space for bats to fly in and land. A letter box opening should be placed in the centre of the bricked-up area (see figure 3 below);
- The minimum area for the letter box opening should ideally have an area of 2500 cm^2. This can be a square opening of 50 cm x 50 cm or a rectangular opening with a minimum height of 20 cm but maintaining the same overall area.
- A gap will be left at the bottom of each alcove to clear any inappropriate material that may be put through letter box openings (e.g. waste from Greenway users).
- As per the EIAR, there should be no lighting in the tunnels at nighttime.
- SSSL will conduct monthly surveys of the tunnels to check for roosting bats during hibernation months.

Enhancement works in the Drung Hill Tunnels should be carried out during the summer months at the tunnels to avoid the winter hibernation period – 1st May to 1st September (Kelleher et al., 2006). NPWS propose to survey the tunnels next Jan / Feb 2024 to identify the most suitable alcoves in each tunnel for enhancement.

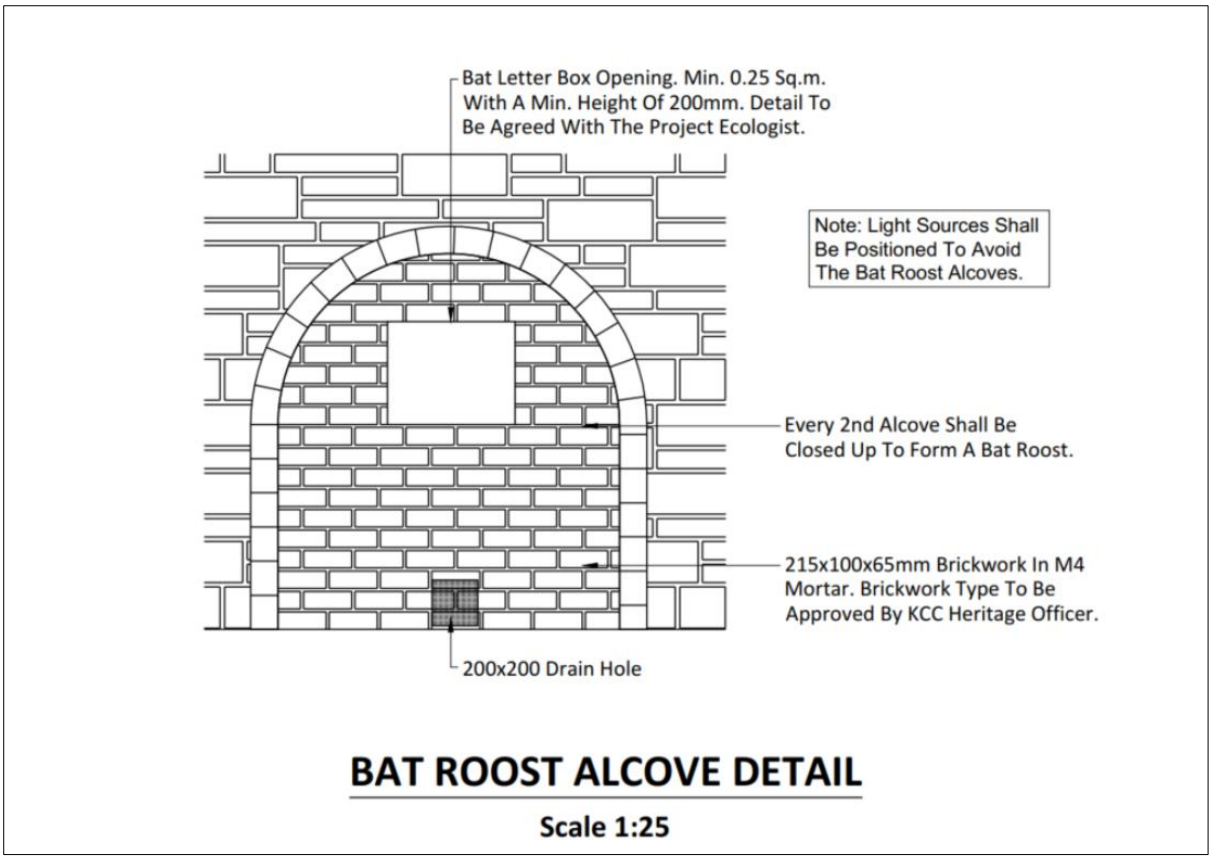

Figure 4. Proposed Works on Bat Roost Alcoves in Drung Hill Tunnels

3.3.1 Impact of Derogation

Given the mitigation outlined above and that the majority of the works are for habitat enhancement, it can be determined that while the permitted project may have minor short term impacts on Lesser Horseshoe Bat in the area, in the long term it will result in positive effects on the local Lesser Horseshoe Bat population. The proposed mitigation will result in habitat quality enhancement at both Griffins Cottage and in the Drung Hill Tunnels. According to the latest NPWS 2025 status report, significant range expansion and positive short-term and long-term population trends provide grounds for genuine optimism about the future prospects of this species. Overall, the trend is considered to be improving. However, until the distribution gap is bridged in West Limerick/North Kerry, the species' Range, and therefore the Over-all Status assessment, remain Inadequate (NPWS, 2025). It is considered that the conservation status of LHS bat will not be negatively affected by the SKG activities and works outlined in this report. It is considered that the protection and improvement of Griffins cottage LHS bat maternity roost together with the creation of potential roosts at the Drung Hill Tunnels will contribute positively to the long-term health of the local LHS bat population. In the absence of the mitigation and enhancement measures outlined above, then the local LHS bat population could be negatively affected.

7 Monitoring Impacts of Derogation

In order to monitor potential impacts of this derogation, multiple surveys will be carried out over a period of time to be agreed upon with NPWS, in order to monitor the numbers of bats utilising both locations during the breeding and non-breeding seasons. Monitoring outlined in Appendix C shall also be undertaken.

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Appendix A: Site Photos

Plate 1 – Photograph of Griffins Cottage c.2019

Plate 2 – Photograph of Griffins Cottage July 2023 – view west from N70

Plate 3 – Photograph of Drung Hill Tunnels (view east to middle tunnel).

Plate 4 – Photograph of Drung Hill Tunnels (View west to westernmost tunnel).

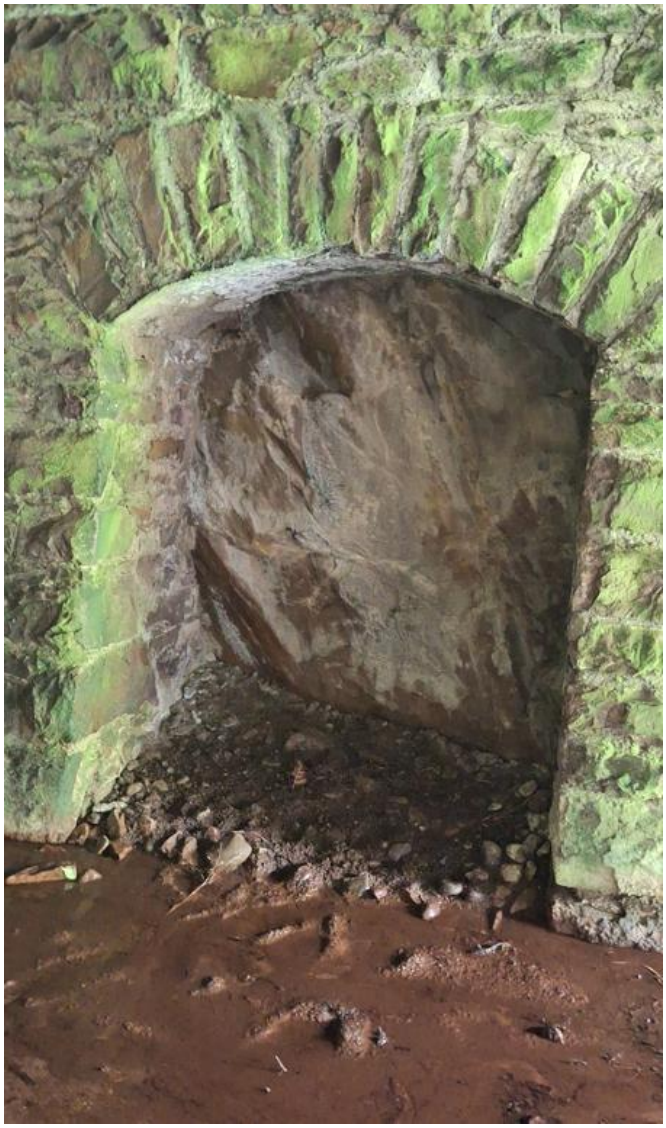

Plate 5 – Photograph of alcove in one of the tunnels.

Appendix B: Spring and Summer Bat Surveys, 2025, Dr. Tina Aughney

Appendix C: South Kerry Greenway Recommendations Report for Lesser horseshoe bat derogation licence application, Dr. Tina Aughney